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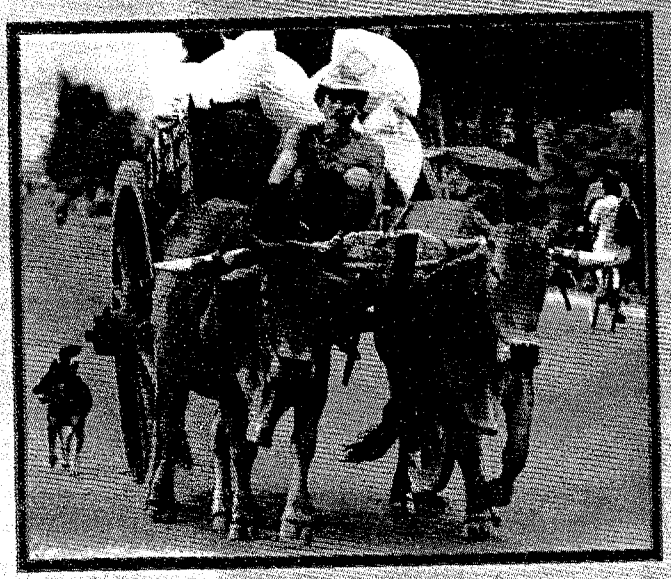
USAID Food Security Performance Measurement Workshop

December 11-12, 1995

Arlington, Virginia



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USAID'S FOOD SECURITY PERFORMANCE MEASUREMENT WORKSHOP

December 11-12, 1995
Rosslyn, VA

Sponsored by:
U.S. Agency for International Development

- Bureau for Policy and Program Coordination, Center for Development Information and Evaluation (PPC/ CDIE)
- Bureau for Humanitarian Response, Office of Food for Peace (BHR/FFP)
- Bureau for Global Programs, Field Support and Research, Center for Economic Growth (G/EG), and Center for Population, Health and Nutrition (G/PHN)
- Bureau for Africa (AFR)
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in collaboration with the MSI/PRISM Project, with funding by PPC/CDIE.

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USAID FOOD SECURITY PERFORMANCE
MEASUREMENT WORKSHOP
December 11-12, 1995

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- "Selections from the FAM Analysis of FY96 Development Project Proposals," FAM
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The Government Performance And Results Act Of 1993

- Focuses government on managing for **results**
- Enhances **accountability** over government programs
- Emphasizes **strategic** planning and goal setting
- Exchanges **managerial flexibility** for performance accountability
- Builds upon CFO Act's requirement of **performance measurement**

Under The GPRA All Government Agencies Are Required To:

- Define long-term general goals
- Set specific annual performance targets
- Report annually their actual performance as compared to targets

> "This law simply requires that we chart a course for every endeavor that we take the people's money for, see how well we are progressing, tell the public how we are doing, stop the things that don't work, and never stop improving the things that we think are worth investing in."
>
> - *President Clinton, upon signing the Government Performance and Results Act, August 3, 1993*

MISSION-DRIVEN RESULTS-ORIENTED BUDGETING

Summary of the Government Performance and Results Act (S.20)

PILOT PROJECTS

DATE	ACTION
FY 1994, 1995, and 1996	OMB designates at least ten agencies as pilot projects in performance measurement, preparing annual performance plans and program performance reports for one or more major functions of the agency.
FY 1995 and 1996	OMB designates at least five agencies (chosen from those above) as pilot projects in managerial accountability and flexibility, including proposed waivers in administrative procedural requirements and controls.
May 1, 1997	OMB reports to the President and Congress assessing the benefits, costs, and usefulness of the performance measurement and managerial accountability and flexibility pilots, identifying any significant difficulties and recommending legislative changes.
FY 1998 and 1999	OMB designates at least five agencies (at least three chosen from flexibility pilots) as pilots in performance budgeting. Such budgets shall present the varying levels of performance that would result from different budgeted amounts. This information shall be included, as an alternative budget presentation, in the OMB budget submission for FY 1999.
March 31, 2001	OMB reports to the President and Congress on the performance budget pilot projects, including the feasibility and advisability of including a performance budget as part of the overall budget submission.

Strategic Planning, Annual Performance Plans and Reports, and Managerial Accountability and Flexibility

DATE	ACTION
September 30, 1997	Each Agency shall submit to OMB and the Congress a strategic plan for program activities, including a comprehensive mission statement, general goals and objectives, how the goals and objectives are to be achieved, how operational goals relate to strategic goals, identification of key external factors, and program evaluation plans.
FY 1999	Each Agency shall prepare an annual performance plan covering each program activity set forth in the budget of that agency. Such plans will establish performance goals, describe operational processes to achieve these goals, establish performance indicators, provide a basis for comparing actual and planned program results, and describe the means used to verify and validate measures. The president's Budget Submission to Congress shall include a Federal Government performance plan based on these Agency submissions.
FY 1999	OMB may waive administrative procedural requirements, including specification of personnel staffing levels, limitations on compensation or renumeration, and prohibits or restrictions on some funding transfers in return for specific individual or organizational accountability to achieve a performance goal.
March 31, 2000 (and not later than march 31st of each succeeding year)	Each agency shall submit to the President and congress a report on program performance for the previous fiscal year. These reports will review success in achieving planned performance goals, evaluate current performance plans in light of this progress, explain and describe any discrepancies between planned and actual accomplishments, assess the effectiveness of any administrative/managerial waivers, and summarize program evaluation findings.

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

GUIDELINES FOR STRATEGIC PLANS

February 1995

FROM THE ADMINISTRATOR

The *Guidelines for Strategic Plans* which accompany this letter are the product of more than a year of intensive external and internal consultations on how best to operationalize USAID's vision of managing for results. They build on the broad agency goals enunciated in the *Strategies for Sustainable Development*: encouraging broad-based economic growth, building democracy, stabilizing world population and protecting human health, protecting the evironment, and providing humanitarian assistance.

These guidelines provide detail for **all** the Agency's operating units, including Missions and Bureaus in how to develop and implement a comprehensive and integrated approach to achieving these inter-related goals. They reiterate our commitment to a widely participatory process in design and implementation, and to the importance of looking towards our Agency's impact on people's lives rather than simply our impact on governments. They emphasize the central role of strategic planning based on a clearly enunciated set of policy objectives, and the importance of measuring progress toward these objectives in order to inform our decisionmaking process.

Many things in these guidelines are, of course, not new. The Agency has been working toward many of these objectives for years, and the valuable experience developed by Agency personnel in the course of this process has played a major role in informing the development of these guidelines. Still, as our experience and our willingness to measure success has grown, I believe you will find in this document many substantive improvements, and a far more integrated approach to sustainable development, than in earlier policy guidance documents. To the

extent that these *Guidelines* differ from earlier policy directives, and even in some details from the *Strategies for Sustainable Development*, this document should be seen as the Agency's current guide for best practices.

I also recognize that sustainable development is a dynamic process in which we all continue to learn and improve our approach daily, and that these guidelines are far from perfect. I welcome comment and feedback from those on the front lines of sustainable development which PPC can use in refining and improving the guidelines when they are updated next year.

I have directed PPC and the operating Bureaus to use these guidelines as the standard against which mission and bureau strategic plans should be judged. As such, they will play a key role in Washington's review process as we move towards greater operational autonomy at the operational level.

The *Guidelines for Strategic Plans* are an important agency document, and I urge all Agency senior managers to read them in their entirety. In doing so, I would hope that you will discover new opportunities for cross-sectoral synergies and for better ways to achieve our common objectives. I need to know whether they are in fact serving this purpose, and I hope you will let me know directly.

I. ACHIEVING RESULTS: THE STRATEGIC MANAGEMENT PROCESS

USAID has embarked on an ambitious effort to shift its focus of attention from directing ***inputs*** to managing for ***results***. Building on the Agency's strategy statements, which identify five priority areas, these Implementation Guidelines are part of the new programming process that emphasizes clear strategic objectives and that marshall USAID resources, both financial and human, to achieve results. Efforts are underway to develop an agency-wide strategic plan which will encompass the strategies articulated by the various branches of USAID, focused around these five principal themes of sustainable development.

The Agency now requires, under the *Agency Directive on Setting and Monitoring Program Strategies* (May 1994), that each operational unit (i.e. mission or USAID/W office) develop a strategic plan that distinguishes areas of focus, implementation modalities and evaluation criteria for progress. These strategic plans are the underpinning both for allocating resources and for assessing performance. This enables the Agency to direct resources to where they are most likely to contribute toward achieving the Agency's priority objectives. These Guidelines are designed to facilitate USAID's ability, at all levels, to develop strategic plans that are consistent with the Agency's focus on sustainable development.

Participation is key to the development of strategic and action plans. As a results-oriented organization, USAID "begins with the customer" to ensure that the development effort contributes to change processes that are consistent with the values and priorities of people who will have to sustain them. The Agency should use a variety of methods to ascertain the perspectives of its potential "customers" or intended beneficiaries. To ensure that the strategic direction of USAID's assistance is congruent with the needs of host country counterparts and that the programs and changes achieve lasting results through local ownership, USAID must consult and collaborate with a broad range of development partners. These include national and local governments, local institutions and associations of different sorts, and nongovernmental organizations working with and advocating the perspectives of the poor.

Country Strategic Plans. The principal purpose of these Guidelines is to help shape the development of country strategic plans, which lie at the heart of this new programming process. All operational units are expected to have a strategic plan in place at all times. These multi-year plans (typically 5-8 years) will establish the basic framework for programming USAID assistance and demonstrating results of our programs.

The mission strategic plan should encompass *all* USAID assistance to a country, *including centrally managed field support resources and non-emergency food aid.* The plan must clearly articulate the types of support the mission program requires from USAID/W. The plan describes the key features of the assistance environment and outlines a USAID program strategy (including strategic objectives, key problems to be

addressed, programmatic approaches, performance indicators, baselines and targets, key assumptions, and essential research required). Missions should develop their plans in coordination and active collaboration with their local counterparts, both governmental and non-governmental, as well as with appropriate representatives from USAID/W (i.e. regional bureaus and the Global Bureau).

In the current reality of decreasing international development assistance resources, USAID missions should pay special attention to developing their plans within the context of a broad donor collaboration effort. Missions should seek donor consensus on sustainable development priorities, policies and programs in order to maximize the effective coordinated use of scarce resources. Mission plans should identify to the extent possible the scope of the development problems to be addressed by the donor community, and the estimated resources available by sector and program. Plans should explicitly identify how they will complement other donor resources, particularly focusing on technical leadership and collaboration in the priority USAID areas. Joint donor conditionality and policy reform should be included in the document, where relevant.

Regional and Central Strategic Plans. Strategic plans are also required for USAID/W offices and bureaus, including G and BHR, which manage substantial portfolios of program-funded activities. These plans should be developed by the operational unit which has programmatic management responsibility for those activities, and shall cover all activities handled by that unit (i.e. Office of Health and Nutrition for child survival). These will look different from country strategic plans, but have the same purpose of articulating clear objectives and identifying performance indicators and targets that can be used to assess progress and to hold managers accountable for achieving agreed upon results.

Annual Action Plans. The document on which annual reviews will be based will be the annual action plans. They will be developed by all operating units, based on the strategic plans. The missions, in collaboration with the Global and Regional Bureaus and with PPC, will develop and revise plans for approval by USAID/W. These plans will feed into the agency-wide budget planning and allocation process. The action plans will describe actions and resources required to implement the unit's strategic plan in the current fiscal year and the two successive budget years. Based on USAID/W guidance concerning resource availabilities and the Administration's priorities, these will be updated annually, providing a rolling set of three-year plans for strategy implementation.

USAID/W Review and Approval. All strategic plans and action plans will be reviewed and approved by USAID/W (PPC, M, and operating bureaus). Assessment of the plans will include: clarity, logic and feasibility of the strategy; compliance with Agency policy and guidelines; clear delineation of expected results and evidence of results performance; and appropriateness in light of expected resource availabilities. The strategic plan will provide the basis for the "management contract" between the field and Washington.

Performance Monitoring. Using

strategic objectives, performance indicators and targets identified in the strategic plans and action plans, each operational unit will conduct progress reviews at least once a year to determine whether satisfactory progress is being made toward achieving its strategic objectives. USAID/W will conduct periodic program performance reviews of the Agency's major portfolios to identify any emerging issues which may warrant senior management attention. These will be supplemented by periodic in-depth assessments. Drawing on the results of progress reviews, the Agency will prepare an annual consolidated report on program achievements.

II. USAID GOAL: SUSTAINABLE DEVELOPMENT

Sustainable development is a dynamic process, not a fixed objective. It requires building lasting individual, institutional and societal capacity to respond to changing circumstances, new needs and evolving opportunities.

Countries where sustainable development is occurring are those in which human and financial resources and the institutions to effectively manage social change (including disasters and and emergencies) exist. To be fully sustainable, development must be increasingly reliant on indigenous resources and capabilities.

Conditions that indicate a lasting indigenous capacity to manage social change effectively and to sustain development progress include:

- ***Population growth which is within the economic and ecological carrying capacity of countries and regions and that permits maintenance of healthy and productive populations;***
- ***Responsible stewardship of the natural resource base;***
- ***Broad-based participation in political and economic life;***
- ***Rising living standards, reduced food insecurity and poverty, and broadly available social benefits for current and future generations;***
- ***Effective local capacity to prepare for and respond to natural and manmade disasters.***

Progress in these areas is interrelated: experience demonstrates that sustained progress is most unlikely in only one or two areas if no progress is achieved in the others. For this reason, USAID assistance will look for synergies, where progress in one area will reinforce progress in others. Therefore, to the maximum extent possible, country strategies should be integrated at the macro level, building on an analysis of overall development progress and a careful assessment of the ways in which USAID's priorities support broad based development.

This does not mean that USAID country programs are expected always to include activities addressing development constraints in all five priority areas. Strategic plans should show where USAID can provide vital support and assistance that will enable people to solve their own critical problems; how these USAID-funded efforts fit together; and how they relate to what

other donors and indigenous institutions are doing.

Throughout these analyses, USAID places a high priority on equity and distributional dimensions of development. How do performance, prospects and opportunity relate in particular to poor, disadvantaged and marginalized groups, particularly women? Supporting clear, timely and sustained improvements in the capacities of these disadvantaged groups to participate fully in expanding opportunities should be an important objective in designing USAID programs.

In situations in which host government institutions and priorities themselves pose significant obstacles to achieving sustainable development, strategies may need to actively support those elements of society that are pursuing alternative approaches and who may ultimately be effective in opening up previously unresponsive government institutions or in serving as alternative development channels. Increased programming through host country and international NGOs may be vitally important in this effort.

III. DEVELOPING USAID STRATEGIC PLANS

Within the framework of USAID priorities, country strategic plans should assess *opportunities* and *constraints*, and identify *strategic objectives*. The Agency defines a strategic objective as the most significant development result which can be achieved within the time period of the strategic plan and for which the operational unit will be held accountable. These objectives will establish the context for specific USAID activities and the standards against which their success will be judged.

Although the final strategy document itself should be brief, it should be based on careful analysis of the factors noted below. Where these key indicators suggest a serious development constraint, the presumption is that country strategic plans must show how USAID will help address them, absent a compelling argument to the contrary (e.g. scarcity of AID resources; other donor activities; absence of a supportive policy stance or sufficient capacity on the part of the recipient). This presumption is particularly strong with regard to USAID global priorities of population, global warming, biodiversity, and the HIV/AIDS epidemic. However, this does not preclude USAID activities and strategic objectives in areas where these indicators suggest that conditions are not quite as acute as long as a clear rationale can be put forth as to why such activities are of particular importance to the overall strategy.

Key Factors in Population and Health. The presence of <u>any</u> of the following key factors indicates a critical constraint to sustainable national development exists within this sector. If this is the case, the country strategy must give serious consideration to formulation of strategic objectives which address family planning, reproductive health and child survival:

- Annual total GDP growth less than 2% higher than annual population growth over the past ten years.

- Unmet need for contraception (i.e., women who do not currently wish to become pregnant but are not current-

ly using contraception) at or above 25% of married women of childbearing age.

- Total fertility rate above 3.5.

- Under five mortality rate at or above 150 per thousand live births.

- Maternal mortality ratio at or above 200 maternal deaths per 100,000 live births.

- Prevalence of STDs at or above ten percent among women aged 15-30.

- Stunting (height for age at least two standard deviations below mean) found in at least twenty-five percent of children under 5.

In addition to these factors, efforts to combat the global HIV/AIDS epidemic require analysis of a separate set of factors. If the STD indicator or either of the following factors are present, then priority consideration should be given to development of a strategic objective directed at the prevention of HIV/AIDS:

- General HIV prevalence in low risk groups at or above one percent.

- HIV prevalence in a high risk group at or above ten percent.

Global Population and Health Priority Countries. USAID has identified global population growth as an issue of strategic priority for the agency as a whole. In addition to the analyses noted above, particular attention will be given to the development of strategies directed at family planning, child survival and reproductive health in those countries which have the largest total unmet need for contraception (see Annex A for further discussion).

Key Factors in the Environment. The presence of any of the following factors indicates severe environmental degradation. Strategic plans that will help address the root causes of these problems should receive serious consideration. Many of these factors in many countries are not currently measured; expert judgement will often be required in lieu of actual data.

- Quantifiable losses in GDP of 5% or more due to natural resource depletion (deforestation, depletion of fisheries, soil erosion, overgrazing of rangeland) and/or pollution (work time lost from disease and death, environmental restrictions on industrial activity and transport, costs of mitigation and remediation).

- Rapid rate of degradation (e.g. 1% p.a.) of key ecosystems, e.g.:
  - -- deforestation.
  - -- conversion of wetlands.
  - -- loss of coral reefs.
  - -- conversion of savannah.

- Unacceptable environmental health risks, e.g.:
  - -- annual mean concentration of fecal coliforms in highly used water bodies exceeds 1000 per 100 milliliter sample.
  - -- annual mean concentrations of suspended particulate matter and sulfur dioxide in major urban areas exceed 300 and

100 micrograms per cubic meter, respectively.

However, existence of severe problems is not a necessary condition for missions to identify environmental strategic objectives. Other key factors that also need to be considered include:

- Economic, ecological, and public health significance of undegraded resources (e.g. standing forests, wetlands, coral reefs, watersheds, topsoil, surface waters) and degree of potential threat.

- Public health and ecological implications of trends of urbanization, industrial development, and population/demographic changes.

- Priority given to strengthening environmental policies and programs by local partners, both governmental and non-governmental.

Global Climate Change and Biodiversity Priority Countries. USAID has identified global climate change and the loss of biodiversity as priority issues that are global in scope; issues where action in once country directly affects all others. For global climate change, USAID has identified ten key countries or regions: Brazil, India, Indonesia, Kasakhstan, Mexico, Philippines, Poland, Russia, Ukraine and Central Africa. Absent compelling arguments to the contrary, strategic plans for these countries should identify as an objective or sub-objective the reduction in rates of growth of greenhouse gas emissions. For biodiversity, USAID is currently in the process of identifying high-priority regions for biodiversity conservation. Subsequent guidance will address this issue.

Key Factors in Democracy. If any of the following factors are present, then serious consideration should be given to formulating strategic objectives to address political and institutional constraints to sustainable development:

- Incidents of torture and disappearances in countries where, for various reasons, the agency has decided to proceed with a sustainable development program - a determination should be based on Embassy reporting, Department of State country reports, UN documents, and information provided by credible human rights groups;

- Elections in which not all political parties participate or where the results of the last election were not accepted by the competing parties;

- Government denial of permission for political parties, labor unions, civic action groups and the independent media to register or operate freely;

- More than 50 percent of the population does not believe that the judiciary is independent or that they can effectively utilize the judiciary to resolve disputes;

- Women constitute less than three percent of elected national officials or women turnout in elections is less than 80 percent that of men; and

- Failure to prosecute military and police officials accused of serious human rights abuses.

Existence of other problems in the democracy sector also might suggest a USAID response, particularly where continuation of the problem would have consequences for programs in other sectors. This would include:

- A legislature in which a majority of the members have never served before;

- A weak legal system, which acts to discourage investment and other business dealings; and

- An overly centralized system for policy formulation and implementation.

Key Factors in Economic Growth. Presence of any of the following indicates severe economic growth problems, and suggests that serious consideration should be given to programs to address the root causes.

- Incidence of poverty greater than 30%, widespread food insecurity, and per capita income below $500.

- Annual per capita economic growth less than 1.5% over past ten years .

- Persistent macroeconomic instability, as indicated by continuing need for IMF assistance and major adjustment programs over past 5-10 years.

- Inadequate health care as indicated by life expectancy of less than 61 years.

- Illiteracy above 40 percent, and female illiteracy greater than 1.25 times the total.

- Primary education enrollment rates less than 85%, or ratio of girls enrolled less than 80% of total ratio.

Key Factors in Humanitarian Assistance. Humanitarian assistance is integral to sustainable development, and strategic plans must recognize the critical linkages between development and humanitarian assistance programs. Effective grassroots development programs are often the best long-term means for addressing humanitarian concerns and preventing disasters. In preparing strategic plans USAID should assess a country's vulnerability and capacity to respond to natural and manmade disasters and examine factors such as food insecurity and extreme poverty which place vulnerable groups at high risk.

In countries which are "disaster prone" and have limited response capability, careful consideration should be given to developing objectives to reduce vulnerability through disaster prevention, mitigation and preparedness measures. Factors which characterize these countries include:

- Historical incidence of recurrent major natural disasters resulting in significant loss of life, infrastructure, and capital resources.

- Political and social instability and/or

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history of civil strife.

- Inadequate emergency management procedures and resources dedicated to prevention, mitigation, and preparedness.

- Poorly controlled industrial and nuclear processes which pose serious environmental threats.

Formulating humanitarian assistance objectives should also be considered when there are significant groups at high risk and requiring immediate assistance as a result of the following factors:

- Significant food insecurity and levels of acute malnutrition.

- Natural disasters or civil strife which have resulted in major population dislocations, loss of jobs and income, destruction of property, or substantially reduced food production and availability.

Countries in Post-Crisis Transitions. Aiding countries which are in a transitional situation after emerging from a national conflict, a political upheaval, or a natural disaster is a new priority under the Agency's Humanitarian Assistance Strategy. In identifying these countries and establishing strategic objectives careful consideration will be given to factors such as the need to demobilize and reintegrate troops and to resettle refugee populations, restoration of basic security and infrastructure, and the strengthening of economic and administrative structures and political institutions.

IV. CRITERIA FOR ASSESSING STRATEGIC PLANS

Clear results commensurate with costs. Strategies should identify expected program outcomes in clearly measurable terms; explain how these impacts directly contribute to the achievement of strategic objectives and agencywide goals; explain how these outcomes will be achieved within projected imputs; and demonstrate that these results bear a favorable relationship to costs.

People-level impact. USAID seeks to build the capacities and expand the opportunities of the poor majority of the developing world. Strategies should show (in specific and measurable terms) how the social, economic, environmental and political changes USAID supports will clearly help improve the lives of these disadvantaged populations.

Broad systemic changes. USAID strategies should be designed to have broad systemic impact, rather than consist exclusively of isolated, self-contained interventions. Such systemic impacts are likely to include changes in social rules and policies influencing public and private resource allocations, possibly through demonstrating the success of innovative approaches.

Tractable problems with reasonable prospects for success. Not all development problems can be solved. For example, it is not realistic to expect to eliminate all poverty. Furthermore, even when significant need is clearly established, opportunities for USAID assistance to be used effec-

tively are not always present. Lack of political commitment, inappropriate policy frameworks or the absence of any recognized successful approach may all limit the opportunities for productive USAID investments. USAID will ask whether there are proven models or approaches to address particular problems successfully. Where there is no demonstrably successful approach, USAID strategies should be carefully constructed as experiments, complete with specification of anticipated results and a clear process to learn from the experience.

Integration. USAID objectives identified by strategic plans should be mutually supportive of the common objective of sustainable development. The strategy should provide the framework that integrates discrete activities at the strategic level and highlights complementary impact; integration should be given consideration as a tool to achieve the development goals of the operating unit rather than as an objective in itself. Strategic programs should look beyond individual projects to cross-cutting, systemic effects that create or exploit identified synergies.

Participation. Strategic plans should be developed in a participatory manner, drawing on the insights and experiences of a wide range of USAID development partners, particularly those truly representing segments of society that are currently marginalized. Activities should be designed, implemented and evaluated in collaboration with "customers" (intended beneficiaries) and partners, so as to complement and support communities' own self-development efforts and to engage broad commitment to the development changes.

Research. Strategic plans should include the identification of research plans to be addressed to solve key development constraints, and research-related performance indicators and targets should be appropriately identified as part of the overall strategic plan. Research should not be conducted for the single purpose of capacity building but should where possible contribute to building indigenous capacity to identify problems, propose and test clear and rational solutions, and carry out necessary actions.

USAID comparative advantages. USAID will not attempt to address needs that are being adequately addressed by another donor or donors. Country strategies should show how USAID's field-based structure, experience and technical expertise provides an important advantage for our assistance efforts

Partnerships. Strategic plans should how USAID will vigorously pursue opportunities to collaborate on mutually supportive activities (and avoid duplication and overlap) with other development efforts. This includes programs of other public and private entities, including bilateral donors, international financial institutions, private voluntary organizations, higher education institutions and private sector donors.

Sustainable improvements. USAID strategies must show how results can be sustained, including human capacities and prospects for institutional, political and financial sustainability over the long term. Improvements in social indicators that are

wholly and permanently dependent on USAID assistance, without realistic prospects for independence, do not constitute sustainable development.

REFERENCES: Supplementary Guidance

These Guidelines build on, and should be read in the context of a series of directives which have been issued over the past year. These include:

(i) the Administrator's Statement of Principles on Participatory Development (dated November 16, 1993), emphasizing USAID's renewed commitment to building opportunities for participation into development processes at all levels;

(ii) the Administrator's "Framework Cable" (STATE 023472 dated January 28, 1994) which outlines idea of a strategic plan as central to programming USAID funds;

(iii) the "Guidance for FY96 Programming Process" (STATE 104235 dated April 20, 1994) which mandates strategic plans as fundamental to the programming process; outlines generic requirements for strategic plans, annual action plans, and AID/W review process; and includes feedback on results to help guide allocation of funds based on performance; and

(iv) the Agency Directive on Setting and Monitoring Program Strategies (May 31, 1994) which formally establishes strategic plans from operating units as the basic framework for programming assistance and reporting the results of USAID programs.

INFORMATION

USAID/General Notice
PPC/CDIE
11/01/95

SUBJECT: Reengineering Transition Guidance Cable No. 10: Reengineered USAID Performance Monitoring and Evaluation Systems

I. Overview

This message provides guidance on the reengineered USAID performance monitoring and evaluation (PM&E) systems which became effective October 1. For more detail, please refer to Chapter 203 of the Automated Directives System (ADS). PM&E is one of the three key functions of USAID's new operations systems. It is an essential aspect of our ability to achieve development results more effectively and efficiently. Monitoring and evaluating our performance is a key management approach which we will be using to gauge our progress, guide our programming and resource allocation decisions, and report on results to our stakeholders. The new PM&E policy and procedures reflect the Agency's four core values: managing for results; empowerment and accountability; teamwork and participation; and customer focus. They build upon past experience and "best practices" in PM&E. What is different now is that some of these "best practices" in PM&E are being made "standard practices" that all operating units and the Agency as a whole are required to follow. The new guidance requires that:

- all operating units managing program funds monitor and report once a year on performance through the Results Review and Resource Request (R4);

- evaluations be carried out only when needed to meet specific management information needs and not be conducted automatically at some arbitrary point in the program cycle;

- a participatory approach involving customers, partners and stakeholders be used in all phases of program performance monitoring and evaluation. In particular, a customer focus should be reflected in the framing of objectives, choice of performance indicators and measurement of performance.

The remainder of this message summarizes key aspects of the new PM&E policies and procedures.

II. Why Monitor and Evaluate Performance?

As a learning organization, USAID requires the collection and analysis of performance information to improve:

- the planning and implementation of development assistance

- the effectiveness of management decisions
- learning from experience
- joint planning and programming
- accountability and our ability to respond to reporting requirements

Furthermore, the Government Performance and Results Act of 1993 requires that all federal agencies establish performance monitoring systems that measure progress towards the program goals and objectives identified in strategic plans, conduct program evaluations, and report on results in an annual performance report.

III. USAID's PM&E Policy

To effectively manage for results, the Agency must regularly collect, review, and use information on its performance. At Agency and operating unit levels, this information will play a critical role in planning and management decisions. For example, performance information will be used to:

- improve the effectiveness and performance of development activities
- guide decisions on resource allocations
- revise and plan new strategies
- decide whether to abandon programs, strategies or objectives that are not working
- determine when consideration should be given to graduating or exiting programs
- document impacts of assistance and share and use lessons learned
- develop shared visions, common understanding of successful approaches and plan more effectively for the future with our development partners

Sources of performance information include (1) performance monitoring systems, (2) evaluations, and (3) other studies or reports such as research, customer surveys, experience of other development organizations and informal sources such as unstructured feedback from partners and customers.

IV. Distinctions Between Performance Monitoring and Evaluation

Performance monitoring and evaluation are distinct yet complementary functions. USAID has used evaluations as management tools for decades. Program performance monitoring is much newer within USAID. With reengineering, all operating units managing program funds are required to monitor and report annually on performance. Evaluations support and complement the monitoring system. Performance monitoring is the on-going process of collecting and analyzing data to measure performance. Performance monitoring focuses on the achievement of expected results. It involves the analysis of how changes in specific performance indicators compare with those expected and specified in performance targets. Performance monitoring alerts managers to problems or successes, e.g. when targets are either not being reached or exceeded. For example, performance monitoring could alert a program manager to the fact that a particular strategic objective directed at increasing men's and women's incomes was only increasing women's incomes. It would not tell the manager why this was happening or what to do to increase men's incomes. That is where an evaluation would be needed. Evaluation is a structured analytical effort undertaken, when needed, to answer specific management questions about the performance of programs or activities. Evaluations may be initiated when performance monitoring data indicate unexpected results (i.e. when programs fail to meet their targets; exceed expectations or benefit different segments of the target population unequally).

Evaluations can provide information on why or how results were achieved or not, and draw lessons and recommendations for management actions. Evaluations can also be used to test the basic development concepts underlying our strategies (i.e. is change occurring as we expected, are our interventions efficient, etc.). They can be used to explore unintended results and issues of program relevance, effectiveness, efficiency, impact, and/or sustainability.

V. Performance Monitoring Systems

All operating units that manage program funds are required to establish and/or maintain performance monitoring systems. These systems are the processes or approaches used by operating units to collect and analyze data on performance. Such systems include performance indicators, performance baselines, and performance targets for all strategic objectives, strategic support objectives, special objectives and USAID-funded intermediate results included in the unit's approved strategic plan and results framework; means for tracking critical assumptions; and performance monitoring plans to manage data collection. Missions with already approved strategic plans and agreed-upon performance reporting systems need to:

- review existing plans and practices to make sure that these conform with the new policies and procedures and any supplementary guidance or requirements established by their regional bureau; and

- continue annually to collect and analyze performance data on the approved objectives and intermediate results in their strategic plan.

Routine collection of results data: Performance monitoring systems are based on the regular and routine collection and analysis of data on results. These systems should provide information on outcomes or results at all levels that enables managers to track progress towards achieving strategic objectives, intermediate results, and activity outputs. Operating units are required to collect performance data annually. This should include the collection of comparable data on the results each year for at least one of the performance indicators for each strategic objective, strategic support objective, special objective and active usaid-funded intermediate result.

VI. Evaluation

Not a requirement but a management tool: Evaluations are no longer required and should only be conducted to meet specific management or other informational needs. The decision if and when to evaluate is made by the operating unit ... specifically by strategic objective (so) teams, in consultation with the senior management of their operating units and with partners and customers. The requirement that evaluations only be conducted when needed may lead some operating units to cancel previously-planned evaluations of programs or activities. When such evaluations are part of formal program agreements or contacts, operating units should check with their respective bureaus on any bureau requirements or procedures for handling such changes. Evaluations may be needed to provide information when:

- Performance monitoring data indicates unexpected results (positive or negative);

- A key management decision must be made and there is inadequate information;

- Performance reviews identify key unanswered questions;

- Customer surveys or other customer or partner feedback suggest implementation problems or unmet needs;

- There are issues about sustainability, unintended impacts, or broader lessons learned of interest to the Agency.

Follow-up: Reviewing evaluation findings and recommendations and taking appropriate actions are the responsibilities of the operating unit. Individual evaluation reports are not formally reviewed by USAID/W bureaus, although they may serve as input into the annual R4 review. Evaluation reports in electronic form should be submitted to PPC/CDIE for inclusion in the Agency's Development Information System to enable sharing of evaluation experiences throughout the Agency and contribute to organizational learning. Operating units should follow their bureau's instructions on further distribution of evaluations or evaluation summaries. Evaluation findings should be openly shared and discussed with partners, customers, stakeholders and other donors.

VII. Budgeting for PM&E

When budgeting funds for performance monitoring and evaluation functions, operating units and SO teams should consider allocating between 3% to 10% of the overall budget. Program circumstances will, of course, dictate whether this budget range is appropriate for a specific SO.

VIII. Participation in PM&E

With reengineering, a participatory approach involving customers, partners, and stakeholders (as appropriate) is recommended in all phases of performance monitoring and evaluation:

- In planning PM&E approaches
- In conducting data collection
- In analyzing, reporting, and reviewing findings

There are a variety of data collection and analysis approaches which missions can use to strengthen participation and feedback from partners, customers and stakeholders. These include client satisfaction surveys and rapid appraisal techniques such as key informant interviews, focus groups, community interviews, site observation, mini-surveys, and mapping. Active participation of partners, customers and stakeholders in a performance monitoring and evaluation effort builds "ownership"; encourages joint actions based on mutual understanding of performance issues and successes; and can contribute to strengthened future planning and action. Participatory approaches may take more time and effort. The ultimate customers' needs, priorities, and expectations for development assistance should be a key foundation for the development results we seek to achieve, and should be reflected in our choice of objectives and intermediate results, and how we monitor these results. In setting objectives and designing performance monitoring and evaluation activities, it is important to take into account gender and other customer characteristics to

ensure that all customers are represented (see also Transition Guidance Cable 5, Customer Service Planning).

Operating units are encouraged to help strengthen performance monitoring and evaluation capacity within recipient developing countries, and to participate in networks for the sharing and exchange of development experience information with partners, practitioners, researchers, and other donors.

IX. Results Review and Resource Request

All operating units that manage program resources are required to prepare and submit to USAID/W annually the Results Review and Resource Request (R4). The R4 contains two components -- (1) results review and (2) resource request. The R4:

- assesses progress towards objectives established in the strategic plan (i.e. compares actual results with planned results)
- analyzes and explains performance (e.g. why performance targets are or are not being met)
- draws on performance information from monitoring, evaluations, and other sources
- makes performance a factor in program and budget proposals and decision-making
- updates estimates of resource requirements for achieving objectives and targets
- provides a mechanism for usaid/w reviews of progress and draws attention to key performance issues
- provides information for external inquiries and results reporting
- confirms or suggests needs to amend the strategic plan and management contact

The R4 draws upon the operating unit's internal review of progress; annual collection and analysis of performance data; and other assessments of program and activity performance as well as special studies, analyses and evaluation. The R4 provides a focus for Agency-wide operating unit performance. This year, during the transition period, some bureaus will ask missions to submit the R4 in two separate segments with the first part of the R4, the results review, being submitted before the second part, the resource request. Bureaus with this requirement will advise missions. The Transition Steering Committee is reviewing the need for other routine reporting such as the close-out reports

for activities, results packages, and strategic objectives cited in Section 202.5.2A(3)E of the ADS chapter on achieving.

XI. Supplementary References

The PM&E policies and essential procedures are intentionally kept short and focused on directives that the Agency and its operating units must follow. Operating units may choose how they implement these policies and procedures. PPC/CDIE is now preparing supplemental references to help operating units plan, implement and use their performance monitoring and evaluation systems. See Chapter 203.6 For a list of planned topics. These supplemental references will provide practical, step-by-step "how to" advice, based on USAID's and other agencies' best practices in PM&E and the general literature. CDIE is very interested in getting your views and feedback on what you would like to see included in the supplemental references.

POINT OF CONTACT: Please respond with your ideas and suggestions to PPC/CDIE, Attention: Annette Binnendijk or Harriett Destler, the subject matter experts (SMEs) for performance monitoring and evaluation.

Notice 1102

Major Functional Series 200 Program Assistance
Chapter 201 Managing for Results: Strategic Planning

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201.6 Supplementary References

201.6.1 Strategies for Sustainable Development Implementation Guidelines

Major Functional Series 200 Program Assistance
Chapter 201 Managing for Results: Strategic Planning

201.1 Authorities

1. The Foreign Assistance Act (FAA) of 1961, as amended

2. The Government Performance and Results Act of 1993, Public Law 102-62 (GPRA)

3. Chief Financial Officers Act of 1990, Public Law 101-576 (November 15, 1990)

4. Government Management Reform Act of 1994, Public Law 103-356 (October 13, 1994)

5. Agricultural Trade and Development and Assistance Act of 1954, as amended (P.L. 480)

6. SEED Act of 1989

7. Federal Manager's Financial Integrity Act of 1982

201.2 Objectives

The objective of this chapter is to ensure that strategic planning is effectively used in the management of Agency assistance programs and is serving the following purposes;

- To ensure that the efforts of the Agency's operating units are directed toward achieving significant development impact in priority areas through a participatory process involving stakeholders, partners, and customers.

- To provide a structure which allows operating units to make program choices and effectively respond to evolving circumstances.

- To establish a framework for monitoring the progress and effectiveness of the Agency's programs in accomplishing its objectives and allocating Agency resources.

201.3 Responsibilities

1. Bureau for Policy and Program Coordination (PPC): PPC is responsible for:

a) establishing Agency policy regarding strategic planning requirements;

b) developing and articulating the Agency's strategic plan and framework;

c) issuing annual planning guidance to include resource parameters and program priorities in a timely manner;

d) providing guidance on any special legislation which affects strategic planning;

e) reviewing and approving supplemental planning guidance issued by the operating bureaus;

f) reviewing and concurring with operating unit strategic plans for conformance with Agency goals and program policies;

g) conducting the Agency review of bureau budget submissions with the M Bureau;

h) establishing and maintaining a monitoring system for Agency goals and objectives;

i) coordinating the review of Agency performance, and reporting on that performance;

j) providing technical leadership in developing Agency and operating unit performance monitoring and evaluation systems;

k) evaluating the effectiveness of Agency program strategies and other strategies used by operating units to achieve objectives;

l) conducting evaluations on issues related to the delivery of development assistance of interest to the Agency or its stakeholders;

m) maintaining the Agency's database of development information and development experience and acting as a repository for Agency lessons learned; and

n) supporting its operating units in achieving approved objectives, and reviewing annually those units' performance in achieving their objectives.

2. Bureau for Management (M): M is responsible for:

a) analyzing the resource requirements necessary to meet Agency goals;

b) establishing indicative budget planning levels for operating bureaus in a timely manner;

c) reviewing and concurring with operating unit strategic plans for consistency with anticipated resource availability;

d) conducting the Agency review of bureau budget submissions with PPC;

e) ensuring that performance and results information are used in Agency resource allocation decision making;

f) preparing the Agency's annual budget request for OMB and Congress;

g) monitoring budget implementation; and

h) assisting PPC with establishing and maintaining the monitoring system for Agency goals and objectives, and reviewing and reporting on overall Agency performance.

3. Office of General Counsel (GC): GC is responsible for:

a) assuring that proposed activities are in compliance with all legal requirements;

b) assuring that such activities and their implementation were not in violation of any prohibitions against assistance; and

c) assuring that agreements with host countries, and other agreements as appropriate, meet the agency's requirements.

4. Regional Bureau: Each regional bureau is responsible for:

a) providing oversight and support to operating units in the strategic planning process, ensuring that strategic plans are in place for each operating unit;

b) providing supplemental policy guidance addressing concerns unique to the region as necessary;

c) establishing indicative country levels for budget planning prior to the initiation of the strategic planning process and the annual results review and resource request (R4) submission;

d) managing the Agency review of strategic plans for operating units under its authority;

e) reviewing strategic plans from its operating units as well as those from Global Bureau (G) and Bureau for Humanitarian Response (BHR) operating units for consistency with regional priorities and geopolitical considerations;

f) approving country and regional strategic plans under its purview with concurrence from Management (M), Policy and Program Coordination (PPC), General Counsel (GC), BHR (as appropriate), and G;

g) providing an analytic overview of results in the region in conjunction with the annual bureau budget submission;

h) supporting its respective operating units overseas and, in USAID Washington (USAID/W), in achieving approved objectives, pursuant to

the management contracts established following the review and approval of strategic plans;

i) reviewing and assessing the performance of each of its operating units in achieving that unit's objectives;

j) coordinating the participation in these reviews of PPC, M, G, and BHR; and

k) participating in the review of overall Agency performance.

5. Global Bureau (G): G is responsible for:

a) assisting overseas and USAID/W operating units by providing technical leadership and guidance in the development and review of strategic plans;

b) organizing the provision to all operating units of central technical resources which are relevant to implementation of strategic plans;

c) providing assistance to PPC in establishing and maintaining the monitoring system for Agency goals and objectives;

d) participating in regional bureau reviews of field mission performance, and in the review of overall Agency performance;

e) providing oversight and support to its own operating units in developing their strategic plans, ensuring appropriate consultation in this process with operating units in the field, managing the Agency review of those plans, and approving the plans with concurrence from M, PPC, GC, BHR (as appropriate) and regional bureaus; and

f) supporting its operating units in achieving approved objectives, and reviewing (in consultation with PPC, M, BHR and regional bureaus) and reporting annually those units' performance in achieving their objectives.

6. Bureau for Humanitarian Response (BHR): BHR is responsible for:

a) providing technical leadership and guidance in planning and implementation to all operating units in the area of humanitarian assistance, food aid, and programs which are in transition from relief to development as appropriate;

b) reviewing operating unit strategic plans to assure humanitarian, disaster relief, food aid, and transitional concerns are appropriately addressed, and participating in other bureau reviews of their respective operating units' performance;

c) organizing the provision of resources under its purview relevant

to implementing strategic plans;

d) providing oversight and support to its own operating units in developing their strategic plans;

e) ensuring appropriate consultation with operating units in the field;

f) managing the review and approval of strategic plans for operating units under its authority, with concurrence from M, PPC, GC, regional bureaus, and G; and

g) providing an analytic overview of results in its programs in conjunction with the annual bureau budget submission.

7. Operating Units: Operating units are responsible for:

a) developing strategic plans for program funds for which they have responsibility and authority;

b) ensuring the participation of other interested USAID offices, partners and customers throughout planning, achieving and performance monitoring and evaluating;

c) within the scope of its management contract, delegated authorities, and Agency directives, managing the implementation of the strategic plan, including establishing and defining authorities for strategic objective teams, achieving the objective(s) set forth in the plan, and reviewing performance and reporting annually on that performance to their respective bureaus;

d) during the course of implementation, ensuring that their strategic objective teams gather and use performance information to manage for results, and that adequate resources are programmed for performance monitoring and evaluation.

8. Strategic Objective Team: A strategic objective (SO) team is responsible for managing to achieve a specific strategic objective under the direction of an operating unit. The SO team's specific responsibilities include:

a) establishing its internal operating rules and procedures (consistent with its delegated authorities);

b) involving customers and partners in collecting, reviewing and interpreting performance information, and assuring that agreed-to customer needs are addressed through activities being implemented;

c) grouping, as appropriate, results and associated activities from the SO's results framework into results packages (and regrouping as necessary);

d) allocating resources associated with achieving the objective;

e) developing and implementing (within subteams if appropriate) necessary and effective activities, contracts, grants and other agreements;

f) monitoring, analyzing and reporting on performance against established performance criteria, and taking corrective action as necessary;

g) using evaluative activities to determine why assistance is or is not achieving intended results;

h) recommending to the operating unit any changes to an objective or the strategic plan;

i) preparing appropriate close-out reports, including resources expended, accomplishments achieved and lessons learned;

j) with respect to the strategic objective team leader, organizing, coordinating, coaching and inspiring the team to achieve the set of results leading to the strategic objective; and

k) with respect to each strategic objective team member, advancing a common team effort to achieve the strategic objective assigned to the team, and implementing his or her specific responsibilities and authorities on that team.

201.4 Definitions

1. Activity: An action undertaken either to help achieve a program result or set of results, or to support the functioning of the Agency or one of its operating units. In a program context, i.e., in the context of results frameworks and strategic objectives, an activity may include any action used to advance the achievement of a given result or objective, whether financial resources are used or not. E.g., an activity could be defined around the work of a USAID staff member directly negotiating policy change with a host country government, or it could involve the use of one or more grants or contracts to provide technical assistance and commodities in a particular area. (Also within this context, for the purposes of the New Management Systems [see definition], "activity" includes the strategic objective itself as an initial budgeting and accounting element to be used before any specific actions requiring obligations are defined.) In an operating expense context, an activity may include any action undertaken to meet the operating requirements of any organizational unit of the Agency.

2. Activity Manager: That member of the strategic objective or results package team designated by the team to manage a given activity or set of activities.

3. Agency Goal: A long-term development result in a specific area to

which USAID programs contribute and which has been identified as a specific goal by the Agency. (See also Operating Unit Goal.)

4. Agency Mission: The ultimate purpose of the Agency's programs; it is the unique contribution of USAID to our national interests. There is one Agency mission.

5. Agency Objective: A significant development result that USAID contributes to, and which contributes to the achievement of an Agency goal. Several Agency objectives contribute to each Agency goal. Changes in Agency objectives are typically observable only every few years.

6. Agency Program Approach: A program or tactic identified by the Agency as commonly used to achieve a particular objective. Several program approaches are associated with each Agency objective.

7. Agency Strategic Plan: The Agency's plan for providing development assistance; the strategic plan articulates the Agency's mission, goals, objectives, and program approaches.

8. Agency Strategic Framework: A graphical or narrative representation of the Agency's strategic plan; the framework is a tool for communicating USAID's development strategy. The framework also establishes an organizing basis for measuring, analyzing, and reporting results of Agency programs.

9. Agent: An individual or organization under contract with USAID.

10. Agreement: An agreement is the formal mutual consent of two or more parties. The Agency employs a variety of agreements to formally record understandings with other parties, including grant agreements, cooperative agreements, strategic objective agreements, memorandum of understanding, contracts and limited scope grant agreements. In most cases, the agreement identifies the results to be achieved, respective roles and contributions to resource requirements in pursuit of a shared objective within a given time frame.

11. Assistance Mechanism: A specific mode of assistance chosen to address an intended development result. Examples of mechanisms include: food aid, housing guaranties, debt-for-nature swaps, endowments, cash transfers, etc.

12. Baseline: See Performance Baseline.

13. Causal Relationship: A plausible cause and effect linkage; i.e. the logical connection between the achievement of related, interdependent results.

14. Critical Assumption: In the context of developing a results framework, critical assumptions refer to general conditions under which a development hypothesis will hold true or conditions which are outside of the control or influence of USAID, and which are likely to affect the achievement of results in the results framework. Examples might be: the ability to avert a crisis caused by drought, the outcome of a national election, or birth rates continuing to decline as it relates to an education program. A critical assumption differs from an intermediate result in the results framework in the sense that the intermediate result represents a focused and discrete outcome which specifically contributes to the achievement of the SO.

15. Customer: An individual or organization who receives USAID services or products, benefits from USAID programs or who is affected by USAID actions.

15a Intermediate Customer: A person or organization, internal or external to USAID, who uses USAID services, products, or resources to serve indirectly or directly the needs of the ultimate customers.

15b Ultimate Customer: Host country people who are end users or beneficiaries of USAID assistance and whose participation is essential to achieving sustainable development results.

16. Customer Representative: Any individual or organization that represents the interests of those individuals, communities, groups or organizations targeted for USAID assistance.

17. Customer Service Plan: A document which presents the operating unit's vision for including customers and partners to achieve its objectives. This document also articulates the actions necessary to engage participation of its customers and partners in planning, implementation and evaluation of USAID programs and objectives.

18. Customer Surveys: Surveys (or other strategies) designed to elicit information about the needs, preferences, or reactions of customers regarding an existing or planned activity, result or strategic objective.

19. Development Experience: The cumulative knowledge derived from implementing and evaluating development assistance programs. Development experience is broader in scope than "lessons learned", and includes research findings, applications of technologies and development methods, program strategies and assistance mechanisms, etc.

20. Development Information: The body of literature and statistical data which documents and describes the methods, technologies, status and results of development practices and activities and measures levels of development on a variety of dimensions.

21. Evaluation: A relatively structured, analytic effort undertaken

selectively to answer specific management questions regarding USAID-funded assistance programs or activities. In contrast to performance monitoring, which provides ongoing structured information, evaluation is occasional. Evaluation focuses on why results are or are not being achieved, on unintended consequences, or on issues of interpretation, relevance, effectiveness, efficiency, impact, or sustainability. It addresses the validity of the causal hypotheses underlying strategic objectives and embedded in results frameworks. Evaluative activities may use different methodologies or take many different forms, e.g., ranging from highly participatory review workshops to highly focused assessments relying on technical experts.

22. Global Programs or Activities: Global programs or activities refer to USAID programs or activities which take place across various regions, (i.e. they are trans-regional in nature). These types of programs are most often managed by central operating bureaus such as BHR or the G Bureau.

23. Goal: See Operating Unit Goal or Agency Goal.

24. Implementation Letters: Formal correspondence, numbered sequentially, between USAID and public sector entities pursuant to a duly signed agreement.

25. Indicator: See Performance Indicator.

26. Input: The provision of technical assistance, commodities, capital or training in addressing development or humanitarian needs.

27. Interim Performance Target: A target value which applies to a time period less than the overall time period related to the respective performance indicator and performance target.

28. Intermediate Result: A key result which must occur in order to achieve a strategic objective.

29. Joint Planning: A process by which an operating unit actively engages and consults with other relevant and interested USAID offices in an open and transparent manner. This may occur through participation on teams or through other forms of consultation.

30. Lesson Learned: The conclusions extracted from reviewing a development program or activity by participants, managers, customers or evaluators with implications for effectively addressing similar issues/problems in another setting.

31. Limited Scope Grant Agreement: The Limited Scope Grant Agreement(LSGA) is similar to the Strategic Objective Agreement but is shorter in length. It is used for obligating funds for a small activity or intervention; e.g., participant training or PD&S. Model agreements, including the LSGA, can be found in the Series 300 directives.

32. Manageable Interest: See Responsibility

33. Management Contract: The management contract consists of the strategic plan (including a strategic objectives and supporting results frameworks) together with official record of the guidance emerging from the review of the plan. The management contract provides; a summary of agreements on a set of strategic and other objectives, confirmation of estimated resources over the strategy period, delegations of authority, and an overview of any special management concerns.

34. Memorandum or Letter of Understanding: A memorandum of understanding or letter of understanding (not used for obligating funds) sets forth the understandings of the parties regarding the objective, results to be achieved and the respective roles and responsibilities of each party in contributing toward the achievement of a given result or objective. It is particularly useful when USAID wishes to obligate through individual grants and contracts, without host government participation in those actions, but still wishes to make the host government a partner in writing to the program or activity and each party's obligations. It specifically provides for USAID implementation in the manner noted above.

35. New Management Systems: The set of management software developed to support Agency functions in the areas of accounting, budgeting, planning, achieving, performance monitoring and evaluation, assistance and acquisition, human resource management and property management.

36. Objective: See Agency Objectives.

37. Obligation: In the event of a strategic objective agreement with a host country government, that agreement is normally the obligating agreement (unless a non-obligating MOU is used) and all grants to and contracts with private entities thereunder are subobligating agreements. If there is no strategic objective agreement, whether or not a non-obligating MOU is used, all grants to and contracts with private entities become obligating agreements.

38. Operating Unit: USAID field mission or USAID/W office or higher level organizational unit which expends program funds to achieve a strategic objective, strategic support objective, or special objective, and which has a clearly defined set of responsibilities focussed on the development and execution of a strategic plan.

39. Operating Unit Goal: A higher level development result to which an operating unit contributes, but which lies beyond the unit's level of responsibility. An operating unit goal is a longer term development result that represents the reason for achieving one or more objectives in an operating unit strategic plan. An operating unit goal may be identical to an Agency goal, but is normally distinguished from it in several key ways. An Agency goal is a long-term general development objective, in a specific strategic sector, that USAID works toward, and represents the contribution of Agency programs working in that sector.

An operating unit goal is optional and represents a long-term result in a specific country or program to which an operating unit's programs contribute, and may cross sector boundaries.

40. Output: The product of a specific action, e.g., number of people trained, number of vaccinations administered.

41. Parameter: A given framework or condition within which decision making takes place (i.e. Agency Goals, earmarks, legislation, etc).

42. Participation: The active engagement of partners and customers in sharing ideas, committing time and resources, making decisions, and taking action to bring about a desired development objective.

43. Partner: An organization or customer representative with which/whom USAID works cooperatively to achieve mutually agreed upon objectives and intermediate results, and to secure customer participation. Partners include: private voluntary organizations, indigenous and other international non-government organizations, universities, other USG agencies, U.N. and other multilateral organizations, professional and business associations, private businesses (as for example under the U.S.-Asia Environmental Partnership), and host country governments at all levels.

44. Partner Representative: An individual that represents an organization with which USAID works cooperatively to achieve mutually agreed upon objectives.

45. Partnership: An association between USAID, its partners and customers based upon mutual respect, complementary strengths, and shared commitment to achieve mutually agreed upon objectives.

46. Performance Baseline: The value of a performance indicator at the beginning of a planning and/or performance period. A performance baseline is the point used for comparison when measuring progress toward a specific result or objective. Ideally, a performance baseline will be the value of a performance indicator just prior to the implementation of the activity or activities identified as supporting the objective which the indicator is meant to measure.

47. Performance Indicator: A particular characteristic or dimension used to measure intended changes defined by an organizational unit's results framework. Performance indicators are used to observe progress and to measure actual results compared to expected results. Performance indicators serve to answer "whether" a unit is progressing towards its objective, rather than why/why not such progress is being made. Performance indicators are usually expressed in quantifiable terms, and should be objective and measurable (numeric values, percentages, scores and indices). Quantitative indicators are preferred in most cases, although in certain circumstances qualitative indicators are appropriate.

48. Performance Information: The body of information and statistical data that directly relates to performance towards overall USAID goals and objectives, as well as operating unit strategic objectives, strategic support objectives and special objectives. Performance information is a product of formal performance monitoring systems, evaluative activities, customer assessments and surveys, Agency research and informal feedback from partners and customers.

49. Performance Monitoring: A process of collecting and analyzing data to measure the performance of a program, process, or activity against expected results. A defined set of indicators is constructed to regularly track the key aspects of performance. Performance reflects effectiveness in converting inputs to outputs, outcomes and impacts (i.e., results).

50. Performance Monitoring Plan: A detailed plan for managing the collection of data in order to monitor performance. It identifies the indicators to be tracked; specifies the source, method of collection, and schedule of collection for each piece of datum required; and assigns responsibility for collection to a specific office, team, or individual. At the Agency level, it is the plan for gathering data on Agency goals and objectives. At the Operating Unit level, the performance monitoring plan contains information for gathering data on the strategic objectives, intermediate results and critical assumptions included in an operating unit's results frameworks.

51. Performance Monitoring System: An organized approach or process for systematically monitoring the performance of a program, process or activity towards its objectives over time. Performance monitoring systems at USAID consist of, inter alia: performance indicators, performance baselines and performance targets for all strategic objectives, strategic support objectives, special objectives and intermediate results presented in a results framework; means for tracking critical assumptions; performance monitoring plans to assist in managing the data collection process, and; the regular collection of actual results data

52. Performance Target: The specific and intended result to be achieved within an explicit timeframe and against which actual results are compared and assessed. A performance target is to be defined for each performance indicator. In addition to final targets, interim targets also may be defined.

53. Portfolio: The sum of USAID-funded programs being managed by a single operating unit.

54. Rapid, Low-cost Evaluations: Analytic or problem-solving efforts which emphasize the gathering of empirical data in ways that are low-cost, timely, and practical for management decision making. Methodological approaches include mini-surveys, rapid appraisals, focus groups, key informant interviews, observation, and purposive sampling, among others.

55. Responsibility: In the context of setting strategic objectives, responsibility refers to a guiding concept which assists an operating unit in determining the highest level result that it believes it can materially affect (using its resources in concert with its development partners) and that it is willing to use as the standard for the judgement of progress. This has also been referred to as "manageable interest."

56. Result: A change in the condition of a customer or a change in the host country condition which has a relationship to the customer. A result is brought about by the intervention of USAID in concert with its development partners. Results are linked by causal relationships, i.e. a result is achieved because related, interdependent result(s) were achieved. Strategic objectives are the highest level result for which an operating unit is held accountable; intermediate results are those results which contribute to the achievement of a strategic objective.

57: Results Framework: The results framework represents the development hypothesis including those results necessary to achieve a strategic objective and their causal relationships and underlying assumptions. The framework also establishes an organizing basis for measuring, analyzing, and reporting results of the operating unit. It typically is presented both in narrative form and as a graphical representation.

58. Results Package: A results package (RP) consists of people, funding, authorities, activities and associated documentation required to achieve a specified result(s) within an established time frame. An RP is managed by a strategic objective team (or a results package team if established) which coordinates the development, negotiation, management, monitoring and evaluation of activities designed consistent with: (1) the principles for developing and managing activities; and (2) achievement of one or more results identified in the approved results framework. The purpose of a results package is to deliver a given result or set of results contributing to the achievement of the strategic objective.

The strategic objective team will define one or more RPs to support specific results from the results framework. The SO team may elect to manage the package or packages itself, or may create one or more subteams to manage RPs. In addition, strategic objective teams create, modify and terminate results packages as required to meet changing circumstances pursuant to the achievement of the strategic objective. Thus, typically a results package will be of shorter duration than its associated strategic objective.

59. Results Package Data Base: A results package data base consists of the data and information related to the actions, decisions, events, and performance of activities under a results package.

60. Results Review and Resource Request (R4): The document which is reviewed internally and submitted to USAID/W by the operating unit on an

annual basis. The R4 contains two components: the results review and the resource request. Judgement of progress will be based on a combination of data and analysis and will be used to inform budget decision making.

61. Review Workshops: Workshops which involve key participants in an SO/RP or even a particular element of an RP in collectively evaluating performance during the previous implementation period and planning for the forthcoming period. Participants are normally representatives of partners, customers, counterparts, other donors, stakeholders, and USAID. Successful workshops are often facilitated to assure that all perspectives are heard and that key findings and conclusions and consensus on modifications and plans is documented and distributed.

62. Special Objective: The result of an activity or activities which do not qualify as a strategic objective, but support other US government assistance objectives. A special objective is expected to be small in scope relative to the portfolio as a whole.

63. Stakeholders: Individuals and/or groups who have an interest in and influence USAID activities, programs and objectives.

64. Strategic Objective: The most ambitious result (intended measurable change) that a USAID operational unit, along with its partners, can materially affect and for which it is willing to be held responsible. The strategic objective forms the standard by which the operational unit is willing to be judged in terms of its performance. The time-frame of a strategic objective is typically 5-8 years for sustainable development programs, but may be shorter for programs operating under short term transitional circumstances or under conditions of uncertainty.

65. Strategic Objective Agreement: A formal agreement that obligates funds between USAID and the host government or other parties, setting forth a mutually agreed upon understanding of the time frame, results expected to be achieved, means of measuring those results, resources, responsibilities, and contributions of participating entities for achieving a clearly defined strategic objective. Such an agreement between USAID and the host government may allow for third parties (e.g., NGOs) to enter into sub-agreements with either USAID or the host government or both to carry out some or all of the activities required to achieve the objective. (Details in Series 300.)

66. Strategic Plan: The framework which an operating unit uses to articulate the organization's priorities, to manage for results, and to tie the organization's results to the customer/beneficiary. The strategic plan is a comprehensive plan which includes the delimitation of strategic objectives and a description of how it plans to deploy resources to accomplish them. A strategic plan is prepared for each portfolio whether it is managed at a country level, regionally, or centrally.

67. Strategic Support Objective: Strategic support objectives are intended to capture and measure a regional or global development objective which is dependent on the results of other USAID operating units to achieve the objective but to which a global or regional program makes an important contribution. Therefore, the key differentiation from a strategic objective, as defined above, is that there is a recognition that the achievement of the objective is accomplished and measured, in part, through the activities and results at the field mission level.

68. Subgoal: A higher level objective which is beyond of the operating unit's responsibility but which provides a link between the strategic objective and the operating unit goal. Inclusion in operating unit plans is optional.

69. Strategic Objective Team: In general, a team is a group of people committed to a common performance goal for which they hold themselves individually and collectively accountable. Teams can include USAID employees exclusively or USAID and partner and customer representatives. An SO team is a group of people who are committed to achieving a specific strategic objective and are willing to be held accountable for the results necessary to achieve that objective. The SO team can establish subsidiary teams for a subset of results or to manage a results package.

69a. Core Team: U.S. government employees and others who may be authorized to carry out inherently U.S. governmental functions such as procurement actions or obligations. For example, only members of the core team would manage procurement sensitive materials or negotiate formal agreements.

69b. Expanded Team: U.S. government employees and partner and customer representatives committed to achieving the strategic objective.

69c. Virtual Team: Members of a team who are not collocated and therefore participate primarily through telecommunication systems.

70. Target: See Performance Target.

71. U.S. National Interest: A political/strategic interest of the United States that guides the identification of recipients of foreign assistance and the fundamental characteristics of development assistance.

72. Value Engineering: A management technique using a systematized approach to seek out the best functional balance between the cost, reliability, and performance of an activity or process, with a particular focus on the identification and elimination of unnecessary costs. VE/VA can be used both in the design stage and as an evaluation tool.

201.5 Policy & E201.5 Essential Procedures

201.5.1 Agency Strategic Plan

The Agency will establish an Agency strategic plan for its programs which shall:

- Define the broad strategic framework within which operating unit strategic plans will be developed.

- Articulate what the Agency expects to achieve in facilitating sustainable development world-wide and by incorporating the needs of the Agency's customers.

- Define USAID goals and priority objectives which contribute to the Agency mission of sustainable development.

- Establish a basis for allocating resources against relevant factors (priority sectors, geopolitical considerations, country sustainable development needs, and desired Agency-wide results).

- Serve as the basis for presenting the Agency's programs and budget requests to Congress and the public.

The strategic plan shall be developed in accordance with the requirements established in the Government Performance and Results Act (GPRA) and shall be consistent with the findings of the Agency Customer Service Plan.

E201.5.1 The Agency Strategic Plan

The Agency strategic plan shall be developed by PPC, in consultation with M, G, BHR, and regional bureaus. In developing the plan, PPC shall lead the Agency in a broadly consultative process involving Congress, State Department, and other interested stakeholders, partners, and customers. (See section 201.6.1; Supplementary References: Strategies for Sustainable Development and Implementation Guidelines.)

The Agency strategic plan will be amended as necessary based on significant changes in U.S. national interests, geopolitical considerations, country and customer needs, progress or lack of progress in achieving Agency goals and objectives, and/or new technical knowledge in a sector.

PPC and M shall use the Agency strategic plan as a basis for analyzing and presenting information on programs and performance for annual internal strategy and performance reviews. The plan will also provide the basis for analyzing and presenting information on program plans, budgets, and performance to meet external reporting requirements, including Congress (for GPRA reporting, OMB performance reviews, Congressional Presentations and testimony).

201.5.2 The Agency Strategic Framework

The Agency will establish an Agency strategic framework which graphically depicts the Agency's strategic plan. The framework will;

- Articulate the essence of the Agency strategic plan in graphic form.

- Provide the framework within which operating unit strategic plans will be developed by laying out Agency goals and objectives.

- Serve as a basis for tracking progress toward Agency goals and objectives.

- Provide an organizing framework for periodic internal Agency strategy and performance reviews, including programming and budget allocation decisions.

- Serve as a basis for presenting information on the Agency's programs, budget requests, and performance to external audiences, including Congress.

The Agency strategic framework shall be developed in accordance with the requirements of the Government Performance and Results Act (GPRA) and shall be consistent with the findings of the Agency Customer Service Plan.

E201.5.2 The Agency Strategic Framework

The Agency strategic framework is a tool for communicating USAID's development strategy and shall directly reflect the Agency strategic plan. The Agency strategic framework establishes an organizing basis for strategy and performance reviews, budgeting, and external reporting requirements. Operating unit strategic plans and regional planning frameworks must contribute to the Agency-wide goals and objectives represented in the Agency strategic framework.

The Agency strategic framework will lay out the linkage between program approaches, Agency objectives, Agency goals and the Agency mission. PPC is responsible for developing the Agency strategic framework and for periodically revising it to reflect any adjustments to the Agency strategic plan, in consultation with central and regional bureaus.

201.5.3 Regional Planning Framework.

Special circumstances or unique foreign policy concerns may warrant the development of a bureau level regional planning framework. Such a framework must be developed in consultation with PPC, and shall identify assistance objectives or define unique program priorities within a specific region. Such objectives and priorities shall be consistent with the Agency's stated overall mission and goals, and shall be developed in accordance with GPRA requirements and any other specific

legislative requirements.

201.5.4 Purpose of Operating Unit Strategic Plans

Operating unit strategic plans constitute the essential building block of the Agency's programming system. The approved strategic plan will represent an Agency-wide commitment to an agreed strategic direction and set of results at the strategic objective level, to be accomplished by that operating unit over the planning period. A strategic plan shall:

- Develop a limited number of strategic objectives and special objectives which encompass all development activities managed by that unit (see 201.5.9, Selection of Programmatic Focus).

- Define how those objectives will contribute to the accomplishment of Agency goals and objectives as defined in the Agency strategic plan

- Articulate the development hypothesis which justifies the feasibility of achieving the objective

- Estimate the resources needed to accomplish those objectives

- Establish the framework for subsequent monitoring of the performance of the programs for which it is responsible in order to accurately demonstrate impact

201.5.5 Applicability of Strategic Planning Requirements for Operating Units

Every operating unit which manages program resources shall have an approved strategic plan in place to govern the use of the program resources under its authority as well as the related staff and operating expenses required to manage those funds, except as provided under exceptions and special cases (see 201.5.5d, Exceptions and Special Cases).

201.5.5a Planning for Country Programs Managed in the Field

Planning for country programs will encompass all USAID program resources proposed for allocation to the country, including those proposed in support of centrally-managed global programs, regional programs, food aid, housing guarantees, and research activities.

Activities which take place within a country to support global objectives and do not contribute to the bilateral strategy must be listed in the field mission's strategic plan together with any management responsibilities which have been assigned to the field mission (see 201.5.10d, Listing of G Bureau Activities Supported by Bilateral Programs). For example, global research activities often fall into this category.

201.5.5b Planning for Regional and Global Programs.

Planning for regional and global programs shall capture those program funded activities which are regional or global in nature (i.e. objectives which cannot be achieved or measured on the basis of a single country).

201.5.5c Planning for Centrally Managed Bilateral Programs

In some cases, USAID/W offices have direct management responsibility for bilateral programs (e.g. programs which are directed at achieving country level impact) due to management efficiencies. In such cases, the USAID/W office shall consult with PPC to determine the appropriate strategic planning requirements.

201.5.5d Exceptions and Special Cases

Exceptions and special cases related to the strategic plan shall include:

1) Start-up Programs. Start-up or new programs shall manage for results. However, such programs will be exempted from any or all of the strategic planning requirements stated herein for the first year of operation.

2) Close-Out Programs. Programs which are planned for close-out shall manage for results. However, the operating bureau will consult with M and PPC to determine appropriate strategic planning and/or impact reporting requirements.

3) Emergency Programs in the Field. The strategic planning document for an emergency program in the field may be brief, will address a planning period which is appropriate to the emergency program, and may follow an abbreviated review process as agreed to by the AA in consultation with PPC, BHR and M. The strategic plan for an emergency program shall address both natural disasters as well as man made disasters as is appropriate. The strategy will identify; strategic objectives, estimated resource requirements, time period covered, other key management, strategic, or political concerns.

4) Small Country Programs. Small country programs will be allowed to prepare abbreviated strategic plans which focus primarily on the results to be achieved in the sector(s) in which they are working or planning to work (see E201.5.10, Contents of Strategic Plans, Part II, c). The regional Bureau, in consultation with PPC and M, will provide such a country program with planning parameters and outline strategy requirements as appropriate. Criteria for small country programs will be defined by PPC in consultation with the regional bureaus. (See 201.5.11 and 201.5.12 for Review and Approval Policies.)

5) Special Foreign Policy Programs. Special foreign policy programs

shall manage for results. However, programs which are instituted in response to special foreign policy issues and concerns may be exempted from specific strategic planning policies and essential procedures, or may follow different procedures as required by legislation or dictated by the type of funds being used. For example, programs conducted by the Bureau for Europe and the New Independent States (ENI) and those conducted using Economic Support Funds (ESF) may necessitate some different procedures as required by specific legislation or regulations. In these and similar instances, while the intent and principles of the Agency directive on planning will be followed, specific policies and/or essential procedures may be revised or developed to incorporate the specific legislative and operating requirements of the programs. Exemptions from Agency planning policies and procedures, and/or the development of alternative policies and procedures, for these programs must be approved by the cognizant bureau AA in consultation with the AA/PPC and the AA/M, and this approval must be documented in a formal action memorandum. Programs which involve the programming of funds prior to the preparation of a strategic plan require a review of the respective program and a formal exemption, as noted above, from the requirements of the planning directive if a strategic plan is not prepared within a year of the program's initiation.

201.5.6 Planning Parameters

201.5.6a Setting Planning Parameters

PPC and M shall provide each operating Bureau with planning parameters in a timely manner. Each Bureau will be responsible for providing its operating units with updated Agency guidance on planning parameters prior to the development of a strategic plan. These parameters shall include indicative resource levels, guidance on earmarks, and updated guidance on the Agency's goals and objectives over the proposed planning period. As appropriate, the bureau may also provide additional guidance to the operating unit on the strategic direction of the program, key management or performance issues, and any special foreign policy interests in the country.

201.5.6b Management Letter

Each Bureau will be responsible for providing new mission directors or representatives with a management letter which provides bureau guidance on the long term strategic direction of the program, key management or strategic issues, resource parameters, and any special foreign policy interests in the country.

201.5.7 Participation

201.5.7a Strategic Planning

All strategic plans shall be developed, updated, and monitored in active

consultation with relevant development customers, partners, and stakeholders. This consultation is subject to Agency guidance on conflict of interest. (See Supplemental Reference 201.6.4)

201.5.7b The Customer Service Plan

Each operational unit (including the G bureau, BHR, and regional bureaus) shall develop a customer service plan which will inform its planning and operations. The customer service plan shall;

- Present the operating unit's vision for including customers and partners to achieve development objectives.

- Explain how customer feedback will be incorporated to determine customer needs and perceptions of the services provided and how this feedback will be regularly incorporated into the mission's processes.

- Identify the unit's key customer service principles and the standards to which the operating unit will commit.

The customer service plan will act as a management tool for the individual operating unit and must be developed in the context of existing Agency parameters. The customer service plan does not require USAID/W approval.

201.5.8 Joint Planning

The strategic plan is required to reflect joint planning principles, therefore, operating units are responsible for consulting with relevant and affected USAID/W offices and field missions throughout the strategic planning process as appropriate.

201.5.9 Selection of Programmatic Focus

Each strategic plan shall identify a limited number of strategic objectives and, where appropriate, special objectives which encompass all program resources to be managed by the operating unit.

The selection of programmatic focus shall be informed by the following factors:

- The contribution toward the Agency's mission of sustainable development and associated Agency goals and objectives as described in the Agency strategic plan.

- The needs and interests of the host country, region, or sector as identified by the customers of USAID activities.

- The possibility of achieving sustained and significant impact with the resources likely to be available by USAID, the host country, and other development partners, and the ability to demonstrate

that impact over the planning period.

- Analysis of the problems to be addressed and potential approaches.

- The findings of Agency assessments of performance and impact, in order to continually improve the Agency's ability to deliver effective assistance.

201.5.10 Components of the Strategic Plan

201.5.10a Strategic Objectives

A strategic objective is defined as the most ambitious result (intended measurable change) in a particular program area that a USAID operational unit, along with its partners, can materially affect and for which it is willing to be held responsible. The strategic objective forms the standard by which the operational unit is willing to be judged in terms of its performance. The time-frame for the achievement of the strategic objective is typically 5-8 years for sustainable development programs, but may be shorter for programs which are operating under short term transitional circumstances or under conditions of uncertainty. Each strategic objective shall be linked to one Agency goal. It may be linked to other Agency goals on a secondary basis, if necessary. The strategic objective must also be linked to one or more Agency objectives within that goal.

Strategic objectives may be bilateral, regional, or global in nature and shall set the direction for the selection and design of the assistance activities to be carried out in the portfolio over the time-frame of the plan. A strategic objective must be expressed in terms of a result or impact, be defined in a manner which permits objective measurement, be clear and precise, and generally include only one objective so that progress can be clearly measured.

However, strategic objectives which represent more than one dimension in addressing a development problem will be acceptable if the component results of the strategic objective are a) implemented in an integrated manner (e.g. the two components are part of the same activity which takes place in the same locations) b) achievable by a common set of intermediate results and causal linkages represented in the results framework, and c) the component results are inseparable and mutually reinforcing (achievement of each facilitates the achievement of the other). An example might be "Increased Use of Family Planning and Maternal and Child Health Services (MCH)" which combines family planning and MCH.

An operating unit shall focus resources on the achievement of a limited number of strategic objectives that have significant potential for sustainable development impact. An operating unit shall consider the factors described under Selection of Programmatic Focus (see 201.5.9, Selection of Programmatic Focus) when setting strategic objectives within their respective program area. There is no fixed limit on the

total number of strategic objectives that the operating unit may identify for its portfolio. However, the number will depend most importantly on the likelihood of effectively achieving significant impact as based on expected program funding and staff resource levels over the planning period. Other factors will include the absorptive capacity of program sectors and the need to meet current and on-going program commitments.

201.5.10b Strategic Support Objectives

Strategic support objectives (SSOs) are intended to capture and measure a regional or global development objective which is dependent on the results of other USAID operating units to achieve the objective but to which a global or regional program makes an important contribution. Therefore, the key differentiation from a strategic objective is that there is a recognition that the achievement of the objective is accomplished and measured, in part, through the activities and results at the field mission level. For example, a majority of strategic support objectives for the G bureau will be driven, in large part, by field demand for services.

The strategy must clearly distinguish the operating unit's unique role in meeting the SSO from that of the field missions. In most cases, this will be demonstrated as identifiable intermediate results in the results framework for which the central operating unit is responsible.

A central operating unit, such as the G bureau, would contribute significantly to the achievement of the strategic support objective by providing support services (i.e. providing central contracting mechanisms to support field missions). In addition, technical leadership and research activities (e.g. conducting research which provides new and more effective approaches that are used by the field missions) will be considered means to accomplishing the objective. The central operating unit will outline the results of the activities under its direct control and clearly show how these activities, in concert with mission activities, will achieve the strategic support objective. All requirements for strategic objectives are applicable to strategic support objectives.

201.5.10c Special Objectives

Under exceptional circumstances, a mission or office may include activities in its portfolio which could not qualify as a strategic objective, but which produce results to support other U.S. government assistance objectives. Special objectives may be justified if one or more of the following criteria are met:

- The activity represents a response to a legislated earmark or special interest which does not meet the criteria for a strategic objective

- It is a continuation of an activity initiated prior to the

strategic plan which needs additional time for orderly phase-out

- It is an exploratory/experimental activity in a new program area which merits further exploration or which responds to new developments in the country, region, or sector

- It is a research activity which contributes to the achievement of an Agency objective

These activities are expected to be small in scope relative to the portfolio as a whole. The operating unit, as a part of the strategic plan, will outline: the time-frame for the special objective, expected results to be achieved, a proposal for evaluating results, and an estimated budget. Results of experimental or exploratory activities may have different criteria for success than other activities where USAID has more experience.

201.5.10d Listing of G Bureau Activities Supported by Bilateral Programs

Any activities which take place at the country level and are solely designed to support global objectives should be listed in the country's strategic plan together with any management responsibilities the operating unit has for support of those activities. For example, if global climate change or global research activities are carried out in a country and do not support the mission's bilateral strategy, these activities would be included in such a listing.

201.5.10e Results Framework

In the context of defining a strategic objective or strategic support objective, it is necessary to identify the intermediate results which are necessary to accomplish that objective. This analysis will produce a Results Framework for each objective. The results framework must provide enough information so that it adequately illustrates the development hypothesis (or cause and effect linkages) represented in the strategy and therefore assists in communicating the basic premises of the strategy. The results framework shall include any key results that are produced by other development partners (e.g. partners such as non governmental organizations, the host country government, other donors, and customers).

The Results Framework must also be useful as a management tool and therefore focuses on intermediate results which must be monitored to indicate progress. The framework is intended to be a management tool first and foremost for operating unit managers so that it is able to gauge progress toward achievement of intermediate results and their contribution to the achievement of the strategic objective.

201.5.10f Identifying Illustrative Approaches and Estimated Resource Requirements

The operating unit will identify illustrative approaches that would

likely be used in achieving the results outlined in the results framework. While this will not be the focus of the strategy review, illustrative approaches will be required to indicate the feasibility of achieving selected strategic objectives and will serve as the basis for determining resource needs and establishing performance targets (or magnitude of impact) for each SO. An operating unit will have the flexibility to adjust approaches without further USAID/W review to achieve the strategic objective, except as otherwise indicated in a management contract.

201.5.10g Environmental Requirements

Section 118/119 of the Foreign Assistance Act requires that all country plans (or strategies) include an analysis of a) the actions necessary in that country to conserve biological diversity and tropical forests and b) the extent to which current or proposed U.S.A.I.D. actions meet those needs. In many cases, the environmental analysis may be broader than the specific requirement for 118/119. For example, in the course of examining whether a strategic objective in the environment should be undertaken or how environmental issues relate to other objectives and activities, it may be appropriate to conduct a broader analysis to examine other environmental issues, such as the environmental underpinnings of a economic growth or preventing environmental threats to public health. Operating units should consult with Bureau environmental officers to ensure that legislative requirements are met and to ensure that salient issues are addressed as appropriate. (See section 201.5.8; Joint Planning and 201.6 Supplementary References; Guidelines for Strategic Plans; Technical Annex B Environment, dated February 1995)

E201.5.10 Contents of Strategic Plans

Operating unit strategic plans shall include the information necessary to secure endorsement by Agency management on the proposed strategic objectives and targeted magnitude of impact; associated resource requirements; and, requested delegations of authority. Operating units must ensure that any special legislative requirements, as applied to strategic planning, are included. Operating units are not required to follow the outline below in its exact form, however, strategies shall include the following three sections and shall provide a clear and concise discussion of the below referenced issues in a form which is appropriate to their program.

PART I: Summary Analysis of Assistance Environment and Rationale for Focusing Assistance in Particular Areas.

A. U.S. Foreign Policy: Relationship of the program to US foreign policy interests.

B. Overview: Country strategies will provide an overview of the country condition to include a summary of overall macro-economic and socio-political trends, a discussion of development constraints and

opportunities, how the strategy relates to host country or regional priorities, and the role of other donors. Regional and Global strategies will provide a discussion of relevant transnational trends, how the strategy relates to regional or global priorities and the role of other donors.

C. Customers: A brief discussion of how customers influenced the strategic plan both directly and indirectly using the customer service plan as a basis.

D. Transitional Issues: Transition or phase out issues; for those country programs which are transitional in nature, the strategy will provide a discussion of key transitional issues which are appropriate to the country (whether it is a country nearing graduation or transitioning from relief to development). Regional and global programs may discuss transitional or phase out issues where relevant.

PART II: Proposed Strategic Plan (Country, Regional, or Global):

A. A discussion of the linkage of the strategy to Agency goals and objectives.

B. A discussion of country goals and subgoals (where applicable).

C. Each Strategic Objective or Strategic Support Objective must include the following:

1. A statement of strategic objective.

2. A problem analysis; to include an analysis of the specific problem to be addressed and an identification of affected customers.

3. A discussion of critical assumptions and causal relationships which are represented in the Results Framework.

4. The commitment and capacity of other development partners in achieving the objective. This may include a trend analysis which demonstrates why the current climate and support by other partners (including the host country government) or customers indicates that the objective can be achieved.

5. Illustrative approaches.

6. How sustainability will be achieved.

7. How the achievement of the strategic objective will be judged including;

   a. Proposed performance indicators and targets for achievement of each strategic objective as well as monitoring interim progress (see Series 200, Chapter 203.)

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b. Performance targets which convey an understanding of the anticipated magnitude of change vis a vis USAID's investment and/or that of USAID's partners. These performance targets will represent anticipated results over the entire strategy period to the extent possible (i.e. where past experience and technical knowledge indicate that targets which are projected to the end date of the strategy are useful and meaningful). There are some cases, most often in new areas, where select targets may be shorter than the planning period, and therefore will need to be updated via the R4 process. Also, interim performance targets may be used as par of performance monitoring during the life of the objective.

D. If the operating unit has identified a special objective, the discussion must include the following for each special objective;

1. The time-frame for the Objective

2. Relationship to Agency goals and objectives and/or the country strategy

3. Expected Results

4. A proposal for monitoring achievement of any special objectives as is appropriate to the nature of the objective.

E. For Field Mission operating units, the strategy shall identify any activities which support global objectives and are outside of the field mission's bilateral strategy. The field mission should also identify any management responsibilities for which it is held responsible.

PART III: Resource Requirements

A. Estimated resource requirements over the planning period to achieve the strategic objectives; including program dollars as well as supportive OE and personnel. Program funding shall include the amount for field support provided through G Bureau mechanisms. The operating unit shall also identify any USAID/W technical or other support which are necessary to accomplish the strategic objectives.

B. Discussion of programming options. This should be brief and concise and may take the form of a simple matrix which serves to articulate and distill the priorities of the operating unit and is based on high, medium, and low funding levels. Such a matrix should take into account Congressional and Administration mandates and may indicate country conditions that would warrant increases or decreases in assistance

201.5.11 Review Process for Strategic Planning

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Reviews shall be a collaborative process where Agency wide participation is elicited. This will provide a forum for the Agency to come to agreement around the strategic plan and to make final decisions regarding the program. All strategic plans will be submitted to USAID/W for formal review, except where alternative review procedures are agreed upon for exceptional programs (see 201.5.5d, Exceptions and Special Cases). Strategic plans for bilateral, regional, and global programs must be reviewed by PPC, M, BHR (as appropriate), G, GC, and regional bureaus. The review process for global, BHR or regional strategic plans must include a mechanism to allow for input by affected field missions.

The strategic plan will guide resource allocation decisions and performance monitoring over the time-frame of the plan. As a result of the review process, the strategic plan is expected to represent an Agency plan for that operating unit over the planning period. (See 201.5.12b, Approval of the Management Contract).

Procedures for reviews shall be developed and organized by the responsible regional or central bureau.

201.5.11a Roles in the Review Process

Each USAID/W bureau will review strategic plans in light of their respective roles with a special emphasis on the following. (Also see 201.3, Responsibilities, for further information);

1) Regional bureaus seek consistency with the Agency strategic plan, regional objectives, and geopolitical considerations unique to the region

2) PPC ensures consistency with Agency-wide priorities and the adequacy of plans for measuring performance and documenting impact

3) M ensures that resources can be made available

4) G assures the technical soundness of and technical support for the plan

5) BHR assures that humanitarian assistance, food aid, and transitional issues (as it relates to the transition from relief to development) are incorporated and related resources are used as appropriate

6) GC ensures the strategic plan meets all legal requirements

201.5.11b Focus of the Review Process

Reviewers will focus on the following aspects of the strategy;

1) The relevance of the strategy to significant development problems

2) Appropriateness of the strategy vis a vis country performance

3) The plausibility of the causal linkages presented in the strategy

4) The ability of the operational unit to monitor and demonstrate performance and to achieve results

5) The consistency of the proposed strategy with past progress and lessons learned

6) Consistency with Agency strategies and policies as expressed in the Agency strategic plan

7) Appropriateness of the strategy in light of expected resource availabilities

8) Appropriateness of the strategy vis a vis any legal requirements

201.5.12 The Management Contract

201.5.12a Definition of the Management Contract

The approval of all operating unit strategic plans shall result in the establishment of a management contract between that unit and Agency management. That contract will consist of the strategic plan (including final results frameworks) together with an official record of the guidance emerging from the review of the plan. This guidance shall:

1) Summarize the agreement on a set of strategic and other objectives which will be pursued by that operating unit over the agreed planning period

2) Provide confirmation of estimated resources regarding resource levels to be made available over the strategy period pending the availability of U.S. funds

3) Provide appropriate delegations of authority which allow the mission to proceed with implementation; these authorities remain in effect unless and until amended

4) Outline any special conditions precedent, covenants, and/or management concerns which require further action by either party (e.g. a field mission might note that a certain change in funding would necessitate a change in the strategy, or USAID/W might specify covenants to a related strategic)

201.5.12b Approval of the Management Contract

A management contract shall be approved by the submitting operational unit (as represented by the director or AID representative of that operating unit) as well as the AA of the operating bureau, with clearance from PPC, M, GC, BHR (as appropriate), G, and the regional bureaus (for G and BHR strategic plans) in light of each operational

unit's respective responsibilities. (See 201.3, Responsibilities, and 201.5.11, Review Process for Strategic Planning.) The management contract will serve as a delegation of authority to the operating unit to proceed with program implementation under those strategic objectives where agreement has been reached.

201.5.12c Annual Reconfirmation of the Management Contract

Every management contract will be reconfirmed annually as part of the bureau's Results Review and Resource Request (R4) process, unless otherwise determined by the AA for the operating bureau in consultation with PPC and M.

201.5.13 Development of the Performance Monitoring Plan

The operating unit will finalize the performance monitoring plan, including performance targets and indicators, after strategic objectives have been approved. The performance monitoring plan must be completed shortly after the approval of the strategy and prior to the next Results Review and Resource Request (R4) (See Series 200, Chapter 203.5.5, Performance Monitoring Plans.)

201.5.14 Changes in Strategic Plans

The strategic plan (at the strategic objective level) represents the Agency's strategy for a particular country or program over a specified time-frame. Therefore, strategic objectives are expected to remain relatively stable over the planning period. Changes to strategic objectives should be based on compelling evidence that the direction of the program must be modified. This would include;

- Dramatic changes in country or other conditions external to the program

- Unsatisfactory progress toward approved strategic objectives or other evidence that those objectives will not be met

- Achievement of a strategic objective on an accelerated basis

- A major shift in Agency policy or resource availabilities

E201.5.14 Changes in Strategic Plans

Changes in strategic objectives must be approved by the AA with concurrence from PPC, M, GC, BHR (as appropriate), G and regional bureaus (for central operating bureau strategic plans).

The operating unit will consult with its operating bureau to determine whether the changes to the strategic plan require an update in the strategy as a whole or whether a document which focuses only on one particular SO is required. In the latter case, the content of the strategy can be modified to focus only on the relevant strategic

objective. (See E201.5.10, Contents of Strategic Plans, Part II C for required information.)

201.5.15 Strategic Planning and Resource Allocation

Budget planning in USAID will be guided by the Agency strategic plan and the strategic plans approved for individual operating units. The Agency's budget planning documents will identify proposed resource levels for each operating unit by individual strategic objective. In making resource allocations among operating units and strategic objectives, the relative contribution of each to overall Agency goals and objectives, as defined in operating unit strategic plans and updated annually in the R4, shall be a principal factor. This contribution shall take into account both projected impact (significance of strategic objectives and magnitude of performance targets), as defined in operating unit strategic plans, and actual performance (progress to date toward meeting performance targets), as reported annually, in addition to resource needs and foreign policy considerations.

E201.5.15 Strategic Planning and Resource Allocation: Budget Submissions

E201.5.15a Bureau Level Submissions

Once Agency-wide planning levels are set for the budget request year, operating bureaus will assemble bureau-wide budget submissions (BBS) which recommend funding levels by strategic objective for each operating unit and which are subject to joint PPC and M review to arrive at an Agency-wide budget request.

A BBS shall be assembled by each operating bureau to conform to a bureau budget ceiling and programming targets established by PPC and M. In preparing its consolidated bureau budget, the budget planning levels for individual operating units may be adjusted by the operating bureau to respond to shifts in expected resource availabilities and/or relative Agency priorities as between sectors and/or countries and regions. These adjustments shall be made, to the extent possible, so as to ensure resource needs are met for those programs which are demonstrating progress toward stated performance targets.

E201.5.15b Formulation of Agency Budget Request

After review of the BBSs, PPC and M will assemble an Agency Budget Request for submission to OMB, drawing on the information presented in the BBSs and in accordance with OMB guidance. The Agency Budget Request will define the Agency's strategic objectives, by operating unit, and identify the funding requested for each. This request will be subsequently adjusted as may be required by OMB for subsequent submission as part of the President's budget. Adjustments will be coordinated by PPC and M, in consultation with the operating bureaus.

201.5.16 The Results Review and Resource Request (R4)

The following is intended to provide an overview of the R4 and to demonstrate its role vis a vis the strategic planning process. For more specific guidance regarding results reporting, see 203.5.9, Reporting and Disseminating Performance Information.

An approved strategic plan will be the basis for each R4 document. The R4 will serve to:

- Allow the operating unit to assess and evaluate progress toward results

- Include progress toward results as a factor in decision making regarding the budget

- Update estimates of resource requirements for achieving those objectives for the current year, the budget year, and the budget request year.

- Serve as a mechanism for regular USAID/W review of progress toward the achievement of the strategic objective(s) of the operating unit

- Reconfirm the management contract based on progress

- Refine indicators and targets, as necessary (indicators and targets are expected to remain relatively stable over time, however, if changes are deemed necessary by the operating unit, the R4 can be used to indicate those changes)

- Advise relevant parties of key issues affecting the program

- Form a base of information in USAID/W for responding to external inquiries, country and regional results reporting, and Agency impact reporting

E201.5.16 The Results Review and Resource Request (R4)

E201.5.16a Content of the R4

Each operating unit will submit an R4 annually which will include the following information in a form which is appropriate:

Part I: Factors Affecting Program Performance

A. Progress in the Overall Program (i.e. goals/subgoals, or other broad programmatic issues such as pipeline, if applicable)

Part II: Progress Toward Strategic Objectives (to be repeated for each strategic objective and special objective)

A. Summary of data on progress toward achieving the strategic

objective, which includes data on intermediate results where appropriate; this may take the form of a table.

B. Analysis of the data; this section should provide background and insight into the meaning of the data.

C. Evidence that USAID activities are making a significant contribution to the achievement of the strategic objective

D. Expected progress for the next year

Part III: Status of the "Management Contract"

A. Proposals for change/refinements at the strategic objective level, if necessary.

B. Special Concerns or Issues (e.g. discussions of how the customer influenced the operating unit's assessment of progress based on the customer service plan, updates in global activities in country, special field mission or Bureau issues or concerns, etc)

C. Any issues related to implementation of requirements under 22 CFR 216. Operating units must also provide the operating bureau with a schedule for any activities which must be reviewed under 22 CFR 216 to facilitate advance planning.

Part IV: Resource Requirements

A. Program Funding Request by Strategic Objective

B. Operating Expenses (OE)

C. Staffing

D. Technical Support from USAID/W

E. Program Development and Support (PD&S) Funding

E201.5.16b Submission of the R4

The R4 will be submitted annually, unless otherwise determined by the AA for the operating bureau, in consultation with PPC and M.

E201.5.16c Review of the R4

The R4 will be reviewed by the operating bureau which will renew or revise the management contract with the operating unit as appropriate on the basis of the results review. This may include adjustments in indicators and targets, or recommendations for formal bureau review of changes to the strategic objective. Minor changes or refinements in a strategic objective may be approved by the operating bureau in consultation with other relevant offices.

Bureaus will be allowed to separate the review of the R4 into two components; a results review report and resource requirement report, where necessary and appropriate, provided that the results report is used as a basis to inform decisions regarding the budget.

Based on the review of the R4, budget planning levels for an individual operating unit will be established by the operating bureau which reflect the estimated resource costs for the programs and performance targets approved for that unit.

201.6 Supplementary References (all reserved)

201.6.1 Strategies for Sustainable Development

201.6.2 Implementation Guidelines

201.6.3 Agency Strategic Framework

201.6.4 Guidance on Consultation and Avoidance of Unfair Competitive Advantage

Major Functional Series 200 Program Assistance
Chapter 202 Managing for Results: Achieving

202.1 Authority

202.2 Objective

202.3 Responsibility

1. Bureau for Policy and Program Coordination (PPC)
2. Bureau for Management (M)
3. Office of General Counsel
4. Regional Bureau
5. Global Bureau (G)
6. Bureau for Humanitarian Response (BHR)
7. Operating Units
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202.5.3 Including the Views of Customers and Stakeholders

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I. Country Eligibility Checklist Index:
A. Criteria Applicable to Development Assistance and Economic Support Funds
II. Assistance Checklist Index:
A. Criteria Applicable to Development Assistance and Economic Support Funds
B. Criteria Applicable to Development Assistance Only
C. Criteria Applicable to Economic Support Funds Only

Appendix B to Section 202.5
Official Files

202.6 Supplementary References (202.6.1 - 2-2.6.6 are reserved.)
202.6.1 Team Development
202.6.2 Implementation Letters
202.6.3 Statutory Checklist Criteria
202.6.4 Analyses
202.6.4a Financial Analysis
202.6.4b Economic Analysis
202.6.4c Social Soundness Analysis
202.6.4d Administrative Analysis
202.6.4e Environmental Analysis
202.6.4f Technical Analysis
202.6.5 Developing and Monitoring Activities
202.6.6 Congressional Notification
202.6.7 Characteristics of Results Packages

202.1 Authority

1. The Foreign Assistance Act (FAA) of 1961, as amended

2. The Government Performance and Results Act of 1993, Public Law 102-62 (GPRA)

3. Chief Financial Officers Act of 1990, Public Law 101-576 (November 15, 1990)

4. Government Management Reform Act of 1994, Public Law 103-356 (October 13, 1994)

5. Agricultural Trade and Development and Assistance Act of 1954, as amended (P.L. 480)

6. SEED Act of 1989

7. Federal Manager's Financial Integrity Act of 1982

202.2 Objective

The objective of this chapter is to provide direction for the effective management of Agency development and humanitarian assistance programs and resources, with an emphasis on achieving results through team efforts and customer focus. More specifically, this chapter serves to:

a) Ensure that the efforts of the Agency's operating units are directed toward achieving significant development impact in priority areas through a participatory process involving stakeholders, partners, and customers;

b) Provide a structure which allows operating units to make program choices and effectively respond to evolving circumstances;

c) Emphasize the accomplishment of results;

d) Focus on identifying and meeting customer needs;

e) Promote a teamwork approach, including U.S. Agency for International Development (USAID) staff, partners and customers;

f) Provide a significant level of empowerment and accountability for those individuals and management units closest to the development and humanitarian problems being addressed; and

g) Promote the regular collection and review of data and information related to performance resulting in the continuous improvement of the implementation of development assistance; the effectiveness of management decisions and processes; the means by which the Agency learns through its experience; and the ability of the Agency to meet accountability and reporting requirements.

202.3 Responsibility

1. Bureau for Policy and Program Coordination (PPC): PPC is responsible for:

a) establishing Agency policy regarding strategic planning requirements;

b) developing and articulating the Agency's strategic plan and framework;

c) issuing annual planning guidance to include resource parameters and program priorities in a timely manner;

d) providing guidance on any special legislation which affects strategic planning;

e) reviewing and approving supplemental planning guidance issued by the operating bureaus;

f) reviewing and concurring with operating unit strategic plans for conformance with Agency goals and program policies;

g) conducting the Agency review of bureau budget submissions with the M Bureau;

h) establishing and maintaining a monitoring system for Agency goals and objectives;

i) coordinating the review of Agency performance, and reporting on that performance;

j) providing technical leadership in developing Agency and operating unit performance monitoring and evaluation systems;

k) evaluating the effectiveness of Agency program strategies and other strategies used by operating units to achieve objectives;

l) conducting evaluations on issues related to the delivery of development assistance of interest to the Agency or its stakeholders;

m) maintaining the Agency's database of development information and development experience and acting as a repository for Agency lessons learned; and

n) supporting its operating units in achieving approved objectives, and reviewing annually those units' performance in achieving their objectives.

2. Bureau for Management (M): M is responsible for:

a) analyzing the resource requirements necessary to meet Agency goals;

b) establishing indicative budget planning levels for operating bureaus in a timely manner;

c) reviewing and concurring with operating unit strategic plans for consistency with anticipated resource availability;

d) conducting the Agency review of bureau budget submissions with PPC;

e) ensuring that performance and results information are used in Agency resource allocation decision making;

f) preparing the Agency's annual budget request for OMB and Congress;

g) monitoring budget implementation; and

h) assisting PPC with establishing and maintaining the monitoring system for Agency goals and objectives, and reviewing and reporting on overall Agency performance.

3. Office of General Counsel (GC): GC is responsible for:

a) assuring that proposed activities are in compliance with all legal requirements;

b) assuring that such activities and their implementation were not in violation of any prohibitions against assistance; and

c) assuring that agreements with host countries, and other agreements as appropriate, meet the agency's requirements.

4. Regional Bureau: Each regional bureau is responsible for:

a) providing oversight and support to operating units in the strategic planning process, ensuring that strategic plans are in place for each operating unit;

b) providing supplemental policy guidance addressing concerns unique to the region as necessary;

c) establishing indicative country levels for budget planning prior to the initiation of the strategic planning process and the annual results review and resource request (R4) submission;

d) managing the Agency review of strategic plans for operating units under its authority;

e) reviewing strategic plans from its operating units as well as those from Global Bureau (G) and Bureau for Humanitarian

Response (BHR) operating units for consistency with regional priorities and geopolitical considerations;

f) approving country and regional strategic plans under its purview with concurrence from Management (M), Policy and Program Coordination (PPC), General Counsel (GC), BHR (as appropriate), and G;

g) providing an analytic overview of results in the region in conjunction with the annual bureau budget submission;

h) supporting its respective operating units overseas and, in USAID Washington (USAID/W), in achieving approved objectives, pursuant to the management contracts established following the review and approval of strategic plans;

i) reviewing and assessing the performance of each of its operating units in achieving that unit's objectives;

j) coordinating the participation in these reviews of PPC, M, G, and BHR; and

k) participating in the review of overall Agency performance.

5. Global Bureau (G): G is responsible for:

a) assisting overseas and USAID/W operating units by providing technical leadership and guidance in the development and review of strategic plans;

b) organizing the provision to all operating units of central technical resources which are relevant to implementation of strategic plans;

c) providing assistance to PPC in establishing and maintaining the monitoring system for Agency goals and objectives;

d) participating in regional bureau reviews of field mission performance, and in the review of overall Agency performance;

e) providing oversight and support to its own operating units in developing their strategic plans, ensuring appropriate consultation in this process with operating units in the field, managing the Agency review of those plans, and approving the plans with concurrence from M, PPC, GC, BHR (as appropriate) and regional bureaus; and

f) supporting its operating units in achieving approved objectives, and reviewing (in consultation with PPC, M, BHR and regional bureaus) and reporting annually those units' performance in achieving their objectives.

6. Bureau for Humanitarian Response (BHR): BHR is responsible for:

a) providing technical leadership and guidance in planning and implementation to all operating units in the area of humanitarian assistance, food aid, and programs which are in transition from relief to development as appropriate;

b) reviewing operating unit strategic plans to assure humanitarian, disaster relief, food aid, and transitional concerns are appropriately addressed, and participating in other bureau reviews of their respective operating units' performance;

c) organizing the provision of resources under its purview relevant to implementing strategic plans;

d) providing oversight and support to its own operating units in developing their strategic plans;

e) ensuring appropriate consultation with operating units in the field;

f) managing the review and approval of strategic plans for operating units under its authority, with concurrence from M, PPC, GC, regional bureaus, and G; and

g) providing an analytic overview of results in its programs in conjunction with the annual bureau budget submission.

7. Operating Units: Operating units are responsible for:

a) developing strategic plans for program funds for which they have responsibility and authority;

b) ensuring the participation of other interested USAID offices, partners and customers throughout planning, achieving and performance monitoring and evaluating;

c) within the scope of its management contract, delegated authorities, and Agency directives, managing the implementation of the strategic plan, including establishing and defining authorities for strategic objective teams, achieving the objective(s) set forth in the plan, and reviewing performance and reporting annually on that performance to their respective bureaus;

d) during the course of implementation, ensuring that their strategic objective teams gather and use performance information to manage for results, and that adequate resources are programmed for performance monitoring and evaluation.

8. Strategic Objective Team: A strategic objective (SO) team is responsible for managing to achieve a specific strategic objective under the direction of an operating unit. The SO team's specific responsibilities include:

a) establishing its internal operating rules and procedures (consistent with its delegated authorities);

b) involving customers and partners in collecting, reviewing and interpreting performance information, and assuring that agreed-to customer needs are addressed through activities being implemented;

c) grouping, as appropriate, results and associated activities from the SO's results framework into results packages (and regrouping as necessary);

d) allocating resources associated with achieving the objective;

e) developing and implementing (within subteams if appropriate) necessary and effective activities, contracts, grants and other agreements;

f) monitoring, analyzing and reporting on performance against established performance criteria, and taking corrective action as necessary;

g) using evaluative activities to determine why assistance is or is not achieving intended results;

h) recommending to the operating unit any changes to an objective or the strategic plan;

i) preparing appropriate close-out reports, including resources expended, accomplishments achieved and lessons learned;

j) with respect to the strategic objective team leader, organizing, coordinating, coaching and inspiring the team to achieve the set of results leading to the strategic objective; and

k) with respect to each strategic objective team member, advancing a common team effort to achieve the strategic objective assigned to the team, and implementing his or her specific responsibilities and authorities on that team.

202.4 Definitions

1. Activity: An action undertaken either to help achieve a program result or set of results, or to support the functioning of the Agency or one of its operating units. In a program context, i.e., in the context of results frameworks and strategic objectives, an activity may include any action used to advance the achievement of a given result or objective, whether financial resources are used or not. E.g., an activity could be defined around the work of a USAID staff member directly negotiating policy change with a host country government, or it could involve the use of one or more grants or contracts to provide technical assistance and commodities in a particular area. (Also within

this context, for the purposes of the New Management Systems [see definition], "activity" includes the strategic objective itself as an initial budgeting and accounting element to be used before any specific actions requiring obligations are defined.) In an operating expense context, an activity may include any action undertaken to meet the operating requirements of any organizational unit of the Agency.

2. Activity Manager: That member of the strategic objective or results package team designated by the team to manage a given activity or set of activities.

3. Agency Goal: A long-term development result in a specific area to which USAID programs contribute and which has been identified as a specific goal by the Agency. (See also Operating Unit Goal.)

4. Agency Mission: The ultimate purpose of the Agency's programs; it is the unique contribution of USAID to our national interests. There is one Agency mission.

5. Agency Objective: A significant development result that USAID contributes to, and which contributes to the achievement of an Agency goal. Several Agency objectives contribute to each Agency goal. Changes in Agency objectives are typically observable only every few years.

6. Agency Program Approach: A program or tactic identified by the Agency as commonly used to achieve a particular objective. Several program approaches are associated with each Agency objective.

7. Agency Strategic Plan: The Agency's plan for providing development assistance; the strategic plan articulates the Agency's mission, goals, objectives, and program approaches.

8. Agency Strategic Framework: A graphical and/or narrative representation of the Agency's strategic plan; the framework is a tool for communicating USAID's development strategy. The framework also establishes an organizing basis for measuring, analyzing, and reporting results of Agency programs.

9. Agent: An individual or organization under contract with USAID.

10. Agreement: An agreement is the formal mutual consent of two or more parties. The Agency employs a variety of agreements to formally record understandings with other parties, including grant agreements, cooperative agreements, strategic objective agreements, memorandum of understanding, contracts and limited scope grant agreements. In most cases, the agreement identifies the results to be achieved, respective roles and contributions to resource requirements in pursuit of a shared objective within a given time frame.

11. Assistance Mechanism: A specific mode of assistance chosen to address an intended development result. Examples of mechanisms include: food aid, housing guaranties, debt-for-nature swaps, endowments, cash

transfers, etc.

12. Baseline: See Performance Baseline.

13. Causal Relationship: A plausible cause and effect linkage; i.e. the logical connection between the achievement of related, interdependent results.

14. Critical Assumption: In the context of developing a results framework, critical assumptions refer to general conditions under which a development hypothesis will hold true or conditions which are outside of the control or influence of USAID, and which are likely to affect the achievement of results in the results framework. Examples might be: the ability to avert a crisis caused by drought, the outcome of a national election, or birth rates continuing to decline as it relates to an education program. A critical assumption differs from an intermediate result in the results framework in the sense that the intermediate result represents a focused and discrete outcome which specifically contributes to the achievement of the SO.

15. Customer: An individual or organization who receives USAID services or products, benefits from USAID programs or who is affected by USAID actions.

15a Intermediate Customer: A person or organization, internal or external to USAID, who uses USAID services, products, or resources to serve indirectly or directly the needs of the ultimate customers.

15b Ultimate Customer: Host country people who are end users or beneficiaries of USAID assistance and whose participation is essential to achieving sustainable development results.

16. Customer Representative: Any individual or organization that represents the interests of those individuals, communities, groups or organizations targeted for USAID assistance.

17. Customer Service Plan: A document which presents the operating unit's vision for including customers and partners to achieve its objectives. This document also articulates the actions necessary to engage participation of its customers and partners in planning, implementation and evaluation of USAID programs and objectives.

18. Customer Surveys: Surveys (or other strategies) designed to elicit information about the needs, preferences, or reactions of customers regarding an existing or planned activity, result or strategic objective.

19. Development Experience: The cumulative knowledge derived from implementing and evaluating development assistance programs. Development experience is broader in scope than "lessons learned", and includes research findings, applications of technologies and development methods, program strategies and assistance mechanisms, etc.

20. Development Information: The body of literature and statistical data which documents and describes the methods, technologies, status and results of development practices and activities and measures levels of development on a variety of dimensions.

21. Evaluation: A relatively structured, analytic effort undertaken selectively to answer specific management questions regarding USAID-funded assistance programs or activities. In contrast to performance monitoring, which provides ongoing structured information, evaluation is occasional. Evaluation focuses on why results are or are not being achieved, on unintended consequences, or on issues of interpretation, relevance, effectiveness, efficiency, impact, or sustainability. It addresses the validity of the causal hypotheses underlying strategic objectives and embedded in results frameworks. Evaluative activities may use different methodologies or take many different forms, e.g., ranging from highly participatory review workshops to highly focused assessments relying on technical experts.

22. Global Programs or Activities: Global programs or activities refer to USAID programs or activities which take place across various regions, (i.e. they are trans-regional in nature). These types of programs are most often managed by central operating bureaus such as BHR or the G Bureau.

23. Goal: See Operating Unit Goal or Agency Goal.

24. Implementation Letters: Formal correspondence, numbered sequentially, between USAID and public sector entities pursuant to a duly signed agreement.

25. Indicator: See Performance Indicator.

26. Input: The provision of technical assistance, commodities, capital or training in addressing development or humanitarian needs.

27. Interim Performance Target: A target value which applies to a time period less than the overall time period related to the respective performance indicator and performance target.

28. Intermediate Result: A key result which must occur in order to achieve a strategic objective.

29. Joint Planning: A process by which an operating unit actively engages and consults with other relevant and interested USAID offices in an open and transparent manner. This may occur through participation on teams or through other forms of consultation.

30. Lesson Learned: The conclusions extracted from reviewing a development program or activity by participants, managers, customers or evaluators with implications for effectively addressing similar issues/problems in another setting.

31. Limited Scope Grant Agreement: The Limited Scope Grant

Agreement(LSGA) is similar to the Strategic Objective Agreement but is shorter in length. It is used for obligating funds for a small activity or intervention; e.g., participant training or PD&S. Model agreements, including the LSGA, can be found in the Series 300 directives.

32. Manageable Interest: See Responsibility

33. Management Contract: The management contract consists of the strategic plan (including a strategic objectives and supporting results frameworks) together with official record of the guidance emerging from the review of the plan. The management contract provides; a summary of agreements on a set of strategic and other objectives, confirmation of estimated resources over the strategy period, delegations of authority, and an overview of any special management concerns.

34. Memorandum or Letter of Understanding: A memorandum of understanding or letter of understanding (not used for obligating funds) sets forth the understandings of the parties regarding the objective, results to be achieved and the respective roles and responsibilities of each party in contributing toward the achievement of a given result or objective. It is particularly useful when USAID wishes to obligate through individual grants and contracts, without host government participation in those actions, but still wishes to make the host government a partner in writing to the program or activity and each party's obligations. It specifically provides for USAID implementation in the manner noted above.

35. New Management Systems: The set of management software developed to support Agency functions in the areas of accounting, budgeting, planning, achieving, performance monitoring and evaluation, assistance and acquisition, human resource management and property management.

36. Objective: See Agency Objectives.

37. Obligation: In the event of a strategic objective agreement with a host country government, that agreement is normally the obligating agreement (unless a non-obligating MOU is used) and all grants to and contracts with private entities thereunder are subobligating agreements. If there is no strategic objective agreement, whether or not a non-obligating MOU is used, all grants to and contracts with private entities become obligating agreements.

38. Operating Unit: USAID field mission or USAID/W office or higher level organizational unit which expends program funds to achieve a strategic objective, strategic support objective, or special objective, and which has a clearly defined set of responsibilities focussed on the development and execution of a strategic plan.

39. Operating Unit Goal: A higher level development result to which an operating unit contributes, but which lies beyond the unit's level of responsibility. An operating unit goal is a longer term development result that represents the reason for achieving one or more objectives in an operating unit strategic plan. An operating unit goal may be

identical to an Agency goal, but is normally distinguished from it in several key ways. An Agency goal is a long-term general development objective, in a specific strategic sector, that USAID works toward, and represents the contribution of Agency programs working in that sector. An operating unit goal is optional and represents a long-term result in a specific country or program to which an operating unit's programs contribute, and may cross sector boundaries.

40. Output: The product of a specific action, e.g., number of people trained, number of vaccinations administered.

41. Parameter: A given framework or condition within which decision making takes place (i.e. Agency Goals, earmarks, legislation, etc).

42. Participation: The active engagement of partners and customers in sharing ideas, committing time and resources, making decisions, and taking action to bring about a desired development objective.

43. Partner: An organization or customer representative with which/whom USAID works cooperatively to achieve mutually agreed upon objectives and intermediate results, and to secure customer participation. Partners include: private voluntary organizations, indigenous and other international non-government organizations, universities, other USG agencies, U.N. and other multilateral organizations, professional and business associations, private businesses (as for example under the U.S.-Asia Environmental Partnership), and host country governments at all levels.

44. Partner Representative: An individual that represents an organization with which USAID works cooperatively to achieve mutually agreed upon objectives.

45. Partnership: An association between USAID, its partners and customers based upon mutual respect, complementary strengths, and shared commitment to achieve mutually agreed upon objectives.

46. Performance Baseline: The value of a performance indicator at the beginning of a planning and/or performance period. A performance baseline is the point used for comparison when measuring progress toward a specific result or objective. Ideally, a performance baseline will be the value of a performance indicator just prior to the implementation of the activity or activities identified as supporting the objective which the indicator is meant to measure.

47. Performance Indicator: A particular characteristic or dimension used to measure intended changes defined by an organizational unit's results framework. Performance indicators are used to observe progress and to measure actual results compared to expected results. Performance indicators serve to answer "whether" a unit is progressing towards its objective, rather than why/why not such progress is being made. Performance indicators are usually expressed in quantifiable terms, and should be objective and measurable (numeric values, percentages, scores and indices). Quantitative indicators are preferred in most cases,

although in certain circumstances qualitative indicators are appropriate.

48. Performance Information: The body of information and statistical data that directly relates to performance towards overall USAID goals and objectives, as well as operating unit strategic objectives, strategic support objectives and special objectives. Performance information is a product of formal performance monitoring systems, evaluative activities, customer assessments and surveys, Agency research and informal feedback from partners and customers.

49. Performance Monitoring: A process of collecting and analyzing data to measure the performance of a program, process, or activity against expected results. A defined set of indicators is constructed to regularly track the key aspects of performance. Performance reflects effectiveness in converting inputs to outputs, outcomes and impacts (i.e., results).

50. Performance Monitoring Plan: A detailed plan for managing the collection of data in order to monitor performance. It identifies the indicators to be tracked; specifies the source, method of collection, and schedule of collection for each piece of datum required; and assigns responsibility for collection to a specific office, team, or individual. At the Agency level, it is the plan for gathering data on Agency goals and objectives. At the Operating Unit level, the performance monitoring plan contains information for gathering data on the strategic objectives, intermediate results and critical assumptions included in an operating unit's results frameworks.

51. Performance Monitoring System: An organized approach or process for systematically monitoring the performance of a program, process or activity towards its objectives over time. Performance monitoring systems at USAID consist of, inter alia: performance indicators, performance baselines and performance targets for all strategic objectives, strategic support objectives, special objectives and intermediate results presented in a results framework; means for tracking critical assumptions; performance monitoring plans to assist in managing the data collection process, and; the regular collection of actual results data

52. Performance Target: The specific and intended result to be achieved within an explicit timeframe and against which actual results are compared and assessed. A performance target is to be defined for each performance indicator. In addition to final targets, interim targets also may be defined.

53. Portfolio: The sum of USAID-funded programs being managed by a single operating unit.

54. Rapid, Low-cost Evaluations: Analytic or problem-solving efforts which emphasize the gathering of empirical data in ways that are low-cost, timely, and practical for management decision making. Methodological approaches include mini-surveys, rapid appraisals, focus

groups, key informant interviews, observation, and purposive sampling, among others.

55. Responsibility: In the context of setting strategic objectives, responsibility refers to a guiding concept which assists an operating unit in determining the highest level result that it believes it can materially affect (using its resources in concert with its development partners and customers) and that it is willing to use as the standard for the judgement of progress. This has also been referred to as "manageable interest."

56. Result: A change in the condition of a customer or a change in the host country condition which has a relationship to the customer. A result is brought about by the intervention of USAID in concert with its development partners and customers. Results are linked by causal relationships, i.e. a result is achieved because related, interdependent result(s) were achieved. Strategic objectives are the highest level result for which an operating unit is held accountable; intermediate results are those results which contribute to the achievement of a strategic objective.

57: Results Framework: The results framework represents the development hypothesis including those results necessary to achieve a strategic objective and their causal relationships and underlying assumptions. The framework also establishes an organizing basis for measuring, analyzing, and reporting results of the operating unit. It typically is presented both in narrative form and as a graphical representation.

58. Results Package: A results package (RP) consists of people, funding, authorities, activities and associated documentation required to achieve a specified result(s) within an established time frame. An RP is managed by a strategic objective team (or a results package team if established) which coordinates the development, negotiation, management, monitoring and evaluation of activities designed consistent with: (1) the principles for developing and managing activities; and (2) achievement of one or more results identified in the approved results framework. The purpose of a results package is to deliver a given result or set of results contributing to the achievement of the strategic objective.

The strategic objective team will define one or more RPs to support specific results from the results framework. The SO team may elect to manage the package or packages itself, or may create one or more subteams to manage RPs. In addition, strategic objective teams create, modify and terminate results packages as required to meet changing circumstances pursuant to the achievement of the strategic objective. Thus, typically a results package will be of shorter duration than its associated strategic objective.

59. Results Package Data Base: A results package data base consists of the data and information related to the actions, decisions, events, and performance of activities under a results package.

60. Results Review and Resource Request (R4): The document which is reviewed internally and submitted to USAID/W by the operating unit on an annual basis. The R4 contains two components: the results review and the resource request. Judgement of progress will be based on a combination of data and analysis and will be used to inform budget decision making.

61. Review Workshops: Workshops which involve key participants in an SO/RP or even a particular element of an RP in collectively evaluating performance during the previous implementation period and planning for the forthcoming period. Participants are normally representatives of partners, customers, counterparts, other donors, stakeholders, and USAID. Successful workshops are often facilitated to assure that all perspectives are heard and that key findings and conclusions and consensus on modifications and plans is documented and distributed.

62. Special Objective: The result of an activity or activities which do not qualify as a strategic objective, but support other US government assistance objectives. A special objective is expected to be small in scope relative to the portfolio as a whole.

63. Stakeholders: Individuals and/or groups who have an interest in and influence USAID activities, programs and objectives.

64. Strategic Objective: The most ambitious result (intended measurable change) that a USAID operational unit, along with its partners, can materially affect and for which it is willing to be held responsible. The strategic objective forms the standard by which the operational unit is willing to be judged in terms of its performance. The time-frame of a strategic objective is typically 5-8 years for sustainable development programs, but may be shorter for programs operating under short term transitional circumstances or under conditions of uncertainty.

65. Strategic Objective Agreement: A formal agreement that obligates funds between USAID and the host government or other parties, setting forth a mutually agreed upon understanding of the time frame, results expected to be achieved, means of measuring those results, resources, responsibilities, and contributions of participating entities for achieving a clearly defined strategic objective. Such an agreement between USAID and the host government may allow for third parties (e.g., NGOs) to enter into sub-agreements with either USAID or the host government or both to carry out some or all of the activities required to achieve the objective. (Details in Series 300.)

66. Strategic Plan: The framework which an operating unit uses to articulate the organization's priorities, to manage for results, and to tie the organization's results to the customer/beneficiary. The strategic plan is a comprehensive plan which includes the delimitation of strategic objectives and a description of how it plans to deploy resources to accomplish them. A strategic plan is prepared for each portfolio whether it is managed at a country level, regionally, or centrally.

67. Strategic Support Objective: Strategic support objectives are intended to capture and measure a regional or global development objective which is dependent on the results of other USAID operating units to achieve the objective but to which a global or regional program makes an important contribution. Therefore, the key differentiation from a strategic objective, as defined above, is that there is a recognition that the achievement of the objective is accomplished and measured, in part, through the activities and results at the field mission level.

68. Subgoal: A higher level objective which is beyond of the operating unit's responsibility but which provides a link between the strategic objective and the operating unit goal. Inclusion in operating unit plans is optional.

69. Strategic Objective Team: In general, a team is a group of people committed to a common performance goal for which they hold themselves individually and collectively accountable. Teams can include USAID employees exclusively or USAID and partner and customer representatives. An SO team is a group of people who are committed to achieving a specific strategic objective and are willing to be held accountable for the results necessary to achieve that objective. The SO team can establish subsidiary teams for a subset of results or to manage a results package.

69a. Core Team: U.S. government employees and others who may be authorized to carry out inherently U.S. governmental functions such as procurement actions or obligations. For example, only members of the core team would manage procurement sensitive materials or negotiate formal agreements.

69b. Expanded Team: U.S. government employees and partner and customer representatives committed to achieving the strategic objective.

69c. Virtual Team: Members of a team who are not collocated and therefore participate primarily through telecommunication systems.

70. Target: See Performance Target.

71. U.S. National Interest: A political/strategic interest of the United States that guides the identification of recipients of foreign assistance and the fundamental characteristics of development assistance.

72. Value Engineering: A management technique using a systematized approach to seek out the best functional balance between the cost, reliability, and performance of an activity or process, with a particular focus on the identification and elimination of unnecessary costs. VE/VA can be used both in the design stage and as an evaluation tool.

202.5 Policy & E202.5 Essential Procedures

202.5.1 Managing for Results - Applicability

These provisions shall apply to all program or guarantee resources administered by USAID. Emergency disaster assistance, emergency food aid authorized under Title II of the Agricultural Trade Development and Assistance Act of 1954, as amended (P.L. 480), and activities undertaken by operating units that have received exemptions from the requirements of strategic planning, may be exempted from some of these provisions; affected operating units shall request clarification from their respective bureau.

E202.5.1 Managing for Results - Applicability - N/A

202.5.2 Strategic Objective Team

The operating unit shall establish a strategic objective team for each strategic objective, strategic support objective, and special objective defined in the approved strategic plan.

E202.5.2 Strategic Objective Team - N/A

202.5.2a Composition and Responsibilities of the Strategic Objective Team

The operating unit shall establish a strategic objective team comprised of USAID personnel, agents, development partners, stakeholders, and customers for the purpose of jointly working to achieve the strategic objective.

E202.5.2a(1) Composition of the Strategic Objective Core and Expanded Team

The operating unit shall establish a strategic objective core team, consisting of USAID employees and others who are internal to the operating unit and who are authorized to carry out inherently U.S. governmental functions such as procurement actions or obligations, or who are serving on a part time or full time basis while assigned to other organizational units within the Agency (e.g., Global, regional bureaus, PPC, BHR, GC, or M). This core team shall operate under the direction of the operating unit for the purpose of carrying out USAID's responsibilities for achieving the strategic objective. The core team shall establish, under the direction of the operating unit, the strategic objective expanded team. Together, the core and expanded teams comprise the strategic objective team. The strategic objective expanded team shall consist of groups or persons who:

1) bring significant expertise or knowledge needed for achieving the strategic objective;

2) represent major development partners, especially those receiving funds from USAID, others who bring to the program significant resources of their own, or those who manage significant resources of others which are necessary for achieving the strategic objective;

3) represent key stakeholders, in particular those local groups and individuals who are anticipated to realize significant gains or suffer substantial losses if the strategic objective is achieved; and

4) represent major USAID customers for the strategic objective.

E202.5.2a(2) Responsibilities of the Strategic Objective Expanded Team

The strategic objective expanded team shall assist in managing to achieve the strategic objective, including the following:

a) identify and evaluate the assumptions and hypotheses inherent in the program's activities and in the results framework;

b) analyze and report overall performance against expected results and the strategic objective; and

c) use monitoring and evaluation information, customer surveys, analysis of performance, individual expertise, and other relevant information, to recommend approaches and to make adjustments in ongoing activities and/or in the results framework.

E202.5.2a(3) Responsibilities of the Strategic Objective Core Team:

In addition to the responsibilities listed in E202.5.2a(2), the strategic objective core team shall:

a) carry out inherently governmental functions (e.g., represent the Agency in negotiations with other organizations; policy formulation; negotiation of agreements; contracts; grants; and other functions specified in legislation or regulation as inherently governmental), and carry out other Agency responsibilities consistent with the delegations of authority to individual or classes of team members (e.g., U.S. direct hires, foreign service nationals, personnel services contracts, etc.);

b) carry out Agency responsibilities with respect to the requirements of section 202.5.5;

c) maintain information on current plans and status of activities (including planned and actual inputs and outputs) and results achievement; agreements signed; implementation letters and other relevant correspondence; any analysis performed preceding, during or after completion of activities; and other documents related to key decisions the core team and the strategic objective team make in carrying out their responsibilities;

d) create, modify and disband results packages (see 202.5.4); and

e) prepare activity, results package, and strategic objective close out reports, as necessary, to summarize the results

attained, resources expended, lessons learned, and, where relevant, the benefits or processes expected to be sustainable beyond the period of USAID funding; how such sustainability will be monitored; and for what time period.

202.5.2b Strategic Objective Team Authorities

The operating unit shall establish the authorities and other parameters governing strategic objective team operations.

E202.5.2b Strategic Objective Team Authorities

The operating unit shall specify the information below in establishing the strategic objective team:

1) The specific strategic objective to be achieved, which shall be consistent with the approved strategic plan and the operating unit's customer service plan;

2) Performance measure and reporting requirements;

3) The responsibilities of, and authorities delegated to core team members;

4) The budget for achieving the strategic objective;

5) Other requirements or conditions which the operating unit shall deem necessary to ensure the core team is capable of carrying out its responsibilities in accordance with these directives and any special conditions that may pertain to the strategic objective approval pursuant to the management contract.

202.5.3 Including the Views of Customers and Stakeholders

Operating units and their core teams, in seeking to include the views of customers or stakeholders in the deliberations of strategic objective teams, shall meet such requirement through one or more of the following means:

- direct representatives of customers sitting on the team; or

- representatives from associations, non-governmental organizations, informal groups or collections of individuals, who the strategic objective team deems competent to serve on the team; or

- members of the strategic objective core team or USAID development partners eliciting input through normally accepted means from customers or their representatives, including key informants, that provide sufficient information to inform the decisions of the strategic objective team with respect to the needs, desires, and wants of the customer. Normally accepted means shall include but not be limited to: focus groups, town

meetings, formal and informal consultations, systematic formalized customer surveys or research, rapid appraisal methods that involve customers, or other means that the Agency may from time to time include as acceptable means of acquiring customer input.

E202.5.3 Including the Views of Customers and Stakeholders: **N/A**

202.5.4 Results Package

With guidance from and representing the strategic objective expanded team, the strategic objective core team shall create, modify and disband results packages as required to meet changing circumstances pursuant to the achievement of the strategic objective. (See also 202.6.1.)

E202.5.4a Establishment of Results Packages

With guidance from and representing the strategic objective expanded team, the core team shall establish one or more results packages from the results framework. Results packages may be managed by the strategic objective team or by a subgroup established by that team (a results package team). Each results package shall include:

a) the set of activities designed to achieve the results in the results package;

b) information or analysis required for the strategic objective team to approve activities;

c) explanation of how activities will achieve the intended results, including linkages between USAID, intermediaries and ultimate customers;

d) identification of personnel, including appropriate USAID staff and representatives of partners and customers, with the knowledge and capacity needed to deliver the specified result(s);

e) identification of clearly defined responsibilities and authorities sufficient to ensure decisions can be made which are necessary to results achievement, consistent with Agency conflict of interest requirements;

f) funding from USAID and partner organizations sufficient to carry out the activities required to deliver the specified results; and,

g) a performance monitoring plan indicating how results will be monitored and measured.

E202.5.4b Creating, Disbanding, or Modifying the Results Package

With guidance from and representing the strategic objective expanded team, the core team shall create, disband or modify results packages as necessary to ensure the achievement of the strategic objective. The

team shall also monitor, assess, and evaluate, as necessary, the performance of agreements and other actions to ensure that intended results are being achieved.

202.5.5 Principles for Developing and Managing Activities

Strategic objective teams shall develop and manage activities to:

- seek to maximize the impact of scarce development resources;
- ensure the prudent stewardship of USAID resources;
- manage for results; and
- Comply with applicable USAID policies.

E202.5.5 Principles for Developing and Managing Activities

Teams shall carry out the following functions in developing and managing activities:

a) seek commitment of all relevant development partners and stakeholders, in the public and private sectors, to USAID-financed efforts; collaborate closely with customers, partners, stakeholders, and other donors to develop complementary programs and leverage additional resources wherever possible; assure that the policy and institutional framework exists or is developed to support the USAID investment; and seek sustainable solutions to development problems, including the active participation of local organizations and communities during and after USAID's involvement.

b) apply lessons learned from prior USAID and other donor experience; select development strategies that seek to maximize the probability of achieving approved objectives and minimize costs, including USAID management costs; examine design feasibility, soundness, and cost-benefit or cost effectiveness, including careful consideration of alternate approaches and alternative delivery mechanisms and reporting on the costs and risks associated with USAID-financed activities.

c) ensure that all USAID-financed agreements (strategic objective agreements, grants, contracts, cooperative agreements, etc.) have clear performance targets and accountability standards; define procedures for monitoring, evaluating, and reporting on the results of USAID assistance; create plans and program support systems which are sufficiently flexible to enable USAID and its development partners to respond to customer needs and complex and changing circumstances; experiment with new and innovative approaches to development problems to enhance the probability of success; use performance information on program results to inform decisions on future direction of the program activities. (See Series 200, chapter 203, for guidance on performance targets, and

Series 300 for guidance on specific agreements.)

202.5.5a Criteria To Be Met By Approved Activities

Activities developed pursuant to an approved strategic plan shall meet the following three criteria:

- show how USAID resources (program and operating expense funds and personnel) will be used to support the achievement of result(s) in the results framework of the operating unit's approved strategic plan;

- ensure USAID and its partners can meet their fiduciary responsibilities for USAID funds; and

- provide a framework for monitoring the activity's contribution to the results in the results framework. (See Supplementary Reference 202.6.5 for suggestions regarding activity development and monitoring.)

E202.5.5a Criteria To Be Met by Approved Activities

The strategic objective team shall select from a variety of tactics in pursuing a given activity. In some instances, the tactic shall involve the deployment of one or more USAID staff members to achieve a desired outcome, such as a change in host country policy. In other, more complex instances, the tactic shall involve a particular assistance agreement specifying the roles, responsibilities, contributions, performance monitoring and other arrangements necessary to accomplish the desired outcome of a given activity. Such agreements shall include a memorandum of understanding, particularly when more than two parties are involved in a common undertaking; a bilateral agreement with a host government entity; a strategic objective agreement, where the intent is to confirm understandings for an entire strategic objective; a grant agreement or cooperative agreement with a non-governmental organization (NGO); or a limited scope grant agreement for small scale bilateral activities. (See the Series 300 directives for additional discussion and examples of assistance agreements.)

202.5.5b Developing and Managing USAID Financed or Supported Activities

In developing and managing USAID financed or supported activities, including activities that do not involve program funds, USAID managers and teams shall ensure that the substance and design of such activities meet the policy requirements promulgated by USAID (see also 202.5.7 through 202.5.10, which contain additional statutory or regulatory requirements that may be applicable to the design and management of specific activities).

E202.5.5b Developing and Managing USAID Financed or Supported Activities

There are numerous policy requirements that define how USAID develops activities. For example, there are unique requirements associated with

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food aid programs, housing guaranty programs, and others that need to be taken into account when relevant to the activity to be undertaken. Below is an index of current policies with cross references to the location of relevant policy requirements and their associated essential procedures:

- Policy Papers and Policy Determinations (see HB 1);
- Agency Strategic Framework (Series 200, Chapter 201)
- Housing Guaranty Programs (see Chapter 2xx);
- International Disaster Assistance (see Chapter 2xx);
- Food Aid (see Chapter 2xx);
- Participant Training (see Chapter 2xx);

202.5.6 Using Performance Information to Achieve Results

The operating units and SO teams shall remain informed of all aspects of performance relating to USAID-funded assistance in order to effectively manage for results. Performance monitoring information, evaluation findings, and information from additional formal and informal sources shall be used regularly throughout management processes. Specifically, operating units and SO teams shall use such information to:

- improve the performance, effectiveness, and design of existing development assistance activities;
- revise operating unit strategies, including objectives and results frameworks, where necessary;
- plan new activities, intermediate results or objectives;
- make informed decisions whether to revise or terminate results packages and/or individual activities which are not achieving intended results; and,
- document findings on the impact of development assistance.

See Series 200, Chapter 203.

202.5.7 Obligation and Sub-Obligation of USAID Funds

Prior to the obligation or sub-obligation of USAID funds, the USAID signatory shall ensure that the respective agreement meets applicable statutory, regulatory, and USG policy requirements. (See Series 300 for information about agreements and other requirements associated with agreements.) USAID managers and teams shall review the applicable checklists (see Appendix A) and ensure that financial management (see Series 500) and other requirements are met during the "managing for results" process.

E202.5.7 Obligation and Sub-Obligation of USAID Funds

The Country Checklist (see Appendix A, Country Eligibility Checklist Index), composed of items affecting the eligibility for foreign assistance of a country as a whole, shall be reviewed at the beginning of each fiscal year. In most cases, responsibility for review of the Country Checklist rests with the cognizant USAID/W bureau working in conjunction with the Assistant General Counsel for that bureau.

The Assistance Checklist (Appendix A, Part II) lists the statutory and regulatory items that directly concern assistance resources. The Assistance Checklist shall be reviewed in the field, but information shall be requested from Washington whenever necessary. USAID managers are advised to consult these checklists early in the development of activities as there are several requirements that shall be taken into account in the planning of activities. For activities funded by accounts other than Development Assistance and Economic Support Funds, consult the Regional Legal Adviser or the Assistant General Counsel for the region.

Because the statutory checklist does not include country-specific statutory requirements, consult with the Regional Legal Advisor or the Assistant General Counsel for country-specific statutory requirements.

Information about agreements and related requirements is provided in Series 300.

Information about financial management requirements is provided in Series 500.

202.5.7a Authorization to Sign or Negotiate Agreements

Only USAID personnel so designated in appropriate delegations of authority shall be authorized to negotiate or sign obligation or sub-obligation agreements on behalf of USAID.

202.5.7b Actions Prior To Approving Obligating and Sub-obligating Agreements

Prior to approving obligating and sub-obligating agreements, the USAID signatory shall ensure the following:

- that all obligation or sub-obligation of USAID funds shall be in conformance with an approved strategic plan; in support of the development of a strategic plan or strategic objective; or related to monitoring and evaluating the strategic plan, its objectives, or other activities that support the approved program;

- that the appropriate obligating or sub-obligating agreement, including attachments, is used to obligate or sub-obligate USAID funds [see Series 300 for information on specific agreements];

- that organizations, who under the terms of the agreement

shall have the authority to further sub-obligate USAID funds, have met or have provision to meet USAID approved procurement and financial management standards as USAID may establish to govern such sub-obligations (see Series 300);

- that such agreement has been reviewed and approved for signature by the appropriate officials and parties as may be required pursuant to USAID's and the operating unit's standard operating procedures, as may be applicable;

- that the agreement obligating USAID funds is not in violation of the Anti-Deficiency Act (see 31 U.S.C., section 1341 (a)(1)); and

- that obligating agreements contain appropriate clauses to commit the recipient or grantee at a minimum to manage the activities funded by the agreement in such manner as to further the achievement of the strategic objective, to achieve specific results, and to broad consultation with USAID, other partners, customers, and other stakeholders involved in achieving the strategic objective.

202.5.8 Other Agreements

Prior to entering into an agreement that does not obligate or sub-obligate USAID funds (e.g., memoranda of understanding), the USAID signatory shall ensure that the respective agreement meets all applicable statutory, regulatory, and USG policy requirements. (Model agreements and guidance are found in Series 300.)

E202.5.8 Other Agreements: N/A

202.5.8a Authorization to Negotiate or Sign Agreements

Only USAID personnel so designated in appropriate delegations of authority shall be authorized to negotiate or sign agreements on behalf of USAID.

202.5.8b Responsibilities of the Signatory

The USAID signatory shall ensure that all agreements are in conformance with an approved strategic plan; in support of the development of a strategic plan or strategic objective; or related to monitoring and evaluating the strategic plan, its objectives, or other activities that support the approved program.

The USAID signatory shall ensure that prior to signing an agreement on behalf of USAID that such agreement or instrument has been reviewed and approved for signature by the appropriate officials and parties as may be required pursuant to USAID's and the operating unit's standard operating procedures, as may be applicable.

The USAID signatory shall ensure that agreements contain appropriate

clauses to commit the parties to the strategic objective and specific results and to broad consultation with USAID, other partners, customers, and other stakeholders involved in achieving the strategic objective.

202.5.9 Information Management

Operating units shall ensure information relevant to the management of program resources is developed, used, and recorded.

E202.5.9 Information Management

Operating units shall ensure that implementation letters are used to record major developments in carrying out USAID financed programs with public sector entities, where the communication is between USAID and other parties pursuant to a duly signed agreement entered into by USAID. Areas covered by implementation letters shall include, but are not limited to: formal interpretations of agreements, satisfaction of conditions precedent to disbursement, funding commitments, and mutually agreed upon modifications to program descriptions. (See 202.6.2 for additional guidance on implementation letters.)

E202.5.9a Operating Units' Information Management Responsibilities

Operating units shall ensure that all relevant decisions, analyses, and other material and information necessary to document compliance with these directives are available to authorized persons, and are maintained through the respective unit's official filing system. (See Appendix B.)

E202.5.9b USAID Managers Information Management Responsibilities

USAID managers shall ensure that correspondence, reports, memoranda, and other information and documentation required for managing the achievement of strategic plans, objectives, results packages, activities, and agreements are prepared, issued, retained and kept current in accordance with the appropriate USAID policy governing such correspondence and records [see Series 500, Chapter 508, Electronic Records Management].

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APPENDIX A

I. COUNTRY ELIGIBILITY CHECKLIST INDEX:

A. CRITERIA APPLICABLE TO DEVELOPMENT ASSISTANCE AND ECONOMIC SUPPORT FUNDS

1. Narcotics Certification [FAA Sec. 490]

2. Indebtedness to U.S. Citizens [FAA Sec. 620(c)]

3. Seizure of U.S. Property [Foreign Relations Authorization Act, FY 1994 and FY 1995 Sec. 527]

4. Communist and Other Countries [FAA Sections. 620(a), 620(f), 620(d); and FY 1995 Appropriations Act Sections. 507, 523]

5. Mob Action [FAA Sec 620(j)]

6. OPIC Investment Guaranty (FAA 620(1)]

7. Seizure of U.S. Fishing Vessels [FAA Sec. 620(o); Fishermen's Protective Act of 1967, as amended, Sec. 5]

8. Loan Default (FAA Sec. 620(q); FY 1995 Appropriations Act Sec. 512 (Brooke Amendment)]

9. Military Equipment [FAA Sec. 620(s)]

10. Diplomatic Relations with U.S. [FAA Sec. 620(t)]

11. U.N. Obligations [FAA Sec. 620(u)]

12. International Terrorism Sanctuary and support [FY 1995 Appropriations Act sec 529; FAA Sec. 620(a)

13. Airport Security [ISDCA of 1985 Sec. 552(b)]

14. Compliance with UN Sanctions [FY 1995 Appropriations Act Sec. 538]

15. Countries that Export Lethal Military Equipment [FY 1995 Appropriations Act Sec. 563]

16. Discrimination [FAA Sec. 666(b)]

17. Nuclear Technology [Arms Export Control Act Sections. 101, 102]

18. Algiers Meeting [ISDCA of 1981, Sec. 720]

19. Military Coup [FY 1995 Appropriations Act sec. 508]

20. Exploitation of Children [FAA Sec. 116(b)]

21. Parking Fines [FY 1995 Appropriations Act Sec. 564]

B. CRITERIA APPLICABLE ONLY TO DEVELOPMENT ASSISTANCE

Human Rights Violations [FAA Sec. 116]

C. CRITERIA APPLICABLE ONLY TO ECONOMIC SUPPORT FUNDS

Human Rights Violations [FAA Sec. 502B]

II. ASSISTANCE CHECKLIST INDEX:

A. CRITERIA APPLICABLE TO DEVELOPMENT ASSISTANCE AND ECONOMIC SUPPORT FUNDS

1. Host Country Development Efforts (FAA Sec. 601(a))

2. U.S. Private Trade and Investment (FAA Sec. 601(b))

3. Congressional Notification

a. General requirement (FY 1995 Appropriations Act Sec. 515; FAA Sec. 634A)

b. Special notification requirement (FY 1995 Appropriations Act Sec. 520)

c. Notice of account transfer (FY 1995 Appropriations Act Sec. 509)

d. Cash transfers and nonproject sector assistance (FY 1995 Appropriations Act Sec. 536(b)(3))

See additional guidance in Supplementary Reference entitled "Congressional Notification."

4. Engineering and Financial Plans (FAA Sec. 611(a))

5. Legislative Action (FAA Sec. 611(a)(2))

6. Water Resources (FAA Sec. 611(b))

7. Cash Transfer/Nonproject Sector Assistance Requirements (FY 1995 Appropriations Act Sec. 536)

8. Capital Assistance (FAA Sec. 611(e))

9. Multiple Country Objectives (FAA Sec. 601(a))

10. U.S. Private Trade (FAA Sec. 601(b))

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11. Local Currencies

a. Recipient Contributions (FAA Sections. 612(b), 636(h))

b. U.S.-Owned Currency (FAA Sec. 612(d))

12. Trade Restrictions

a. Surplus Commodities (FY 1995 Appropriations Act Sec. 513(a))

b. Textiles (Lautenberg Amendment) (FY 1995 Appropriations Act Sec. 513(c))

13. Tropical Forests (FY 1991 Appropriations Act Sec. 533(c)(3)(as referenced in section 532(d) of the FY 1993 Appropriations Act)

14. PVO Assistance

a. Auditing and registration (FY 1995 Appropriations Act Sec. 560)

b. Funding sources (FY 1995 Appropriations Act, Title II, under heading "Private and Voluntary Organizations")

15. Agreement Documentation (State Authorization Sec. 139 (as interpreted by conference report))

16. Metric System (Omnibus Trade and Competitiveness Act of 1988 Sec. 5164, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy)

17. Abortions (FAA Sec. 104(f); FY 1995 Appropriations Act, Title II, under heading "Population, DA," and Sec. 518):

18. Cooperatives (FAA Sec. 111)

19. U.S.-Owned Foreign Currencies

a. Use of currencies (FAA Sections. 612(b), 636(h); FY 1995 Appropriations Act Sections. 503, 505)

b. Release of currencies (FAA Sec. 612(d))

20. Procurement
a. Small business (FAA Sec. 602(a))
b. U.S. procurement (FAA Sec. 604(a)
c. Marine insurance (FAA Sec. 604(d))
d. Insurance (FY 1995 Appropriations Act Sec. 531)
e. Non-U.S. agricultural procurement (FAA Sec. 604(e))

f. Construction or engineering services (FAA Sec. 604(g))
g. Cargo preference shipping (FAA Sec. 603))
h. Technical assistance(FAA Sec. 621(a))
i. U.S. air carriers (International Air Transportation Fair Competitive Practices Act, 1974)
j. Consulting services (FY 1995 Appropriations Act Sec. 559)
k. Competitive Selection Procedures (FAA Sec. 601(e))
l. Notice Requirement (FY 1995 Appropriations Act Sec. 568)

21. Construction
a. Capital Assistance (FAA Sec. 601(d))
b. Construction contract (FAA Sec. 611(c))
c. Large projects, Congressional approval (FAA Sec. 620(k))

22. U.S. Audit Rights (FAA Sec. 301(d))

23. Communist Assistance (FAA Sec. 620(h)

24. Narcotics
a. Cash reimbursements (FAA Sec. 483)
b. Assistance to narcotics traffickers (FAA Sec. 487)

25. Expropriation and Land Reform (FAA Sec. 620(g))

26. Police and Prisons (FAA Sec. 660)

27. CIA Activities (FAA Sec. 662)

28. Motor Vehicles (FAA Sec. 636(i))

29. Export of Nuclear Resources (FY 1995 Appropriations Act Sec. 506)

30. Publicity or Propaganda (FY 1995 Appropriations Act Sec. 554)

31. Exchange for Prohibited Act (FY 1995 Appropriations Act Sec. 533)

32. Commitment of Funds (FAA Sec. 635(h))

33. Impact on U.S. Jobs(FY 1995 Appropriations Act, Sec. 545)

34. Environmental Considerations (22 CFR Part 216 [USAID Regulation 16]; also applicable to NIS per FY 1995 Appropriation Act [Levin Amendment]; see also items 11, 12, and 13 under "Criteria Applicable to Development Assistance Only.")

B. CRITERIA APPLICABLE TO DEVELOPMENT ASSISTANCE ONLY

ab

1. Agricultural Exports (Bumpers Amendment) (FY 1995 Appropriations Act Sec. 513(b), as interpreted by conference report for original enactment)

2. Tied Aid Credits (FY 1995 Appropriations Act, Title II, under heading "Economic Support Fund")

3. Appropriate Technology (FAA Sec. 107)

4. Indigenous Needs and Resources(FAASec.281(b))

5. Economic Development (FAA Sec. 101(a))

6. Special Development Emphases (FAA Sections. 102(b), 113, 281(a))

7. Recipient Country Contribution (FAA Secs.110,1(d)) [See additional guidance in Supplementary Reference entitled "Guidance on Host Country Contribution under Section 110 of the FAA."]

8. Benefit to Poor Majority (FAA Sec. 128(b))

9. Contract Awards (FAA Sec. 601(e))

10. Disadvantaged Enterprises (FY 1995 Appropriations Act Sec. 555)

11. Environmental Impact Review (FAA Section 117, addressed under 22 CFR Part 216; see also item 34 under "Criteria Applicable to DA and ESF.")

12. Tropical Forests (FAA Section 118; FY 1991 Appropriations Act Section 533(c) as referenced in Sections 532(d) of the FY 1993 Appropriations Act; see also item 34 under "Criteria Applicable to DA and ESF.")

13. Biological Diversity (FAA Section 119(g); see also item 34 under "Criteria Applicable to DA and ESF.")

14. Energy (FY 1991 Appropriations Act Sec. 533(c) as referenced in section 532(d) of the FY 1993 Appropriations Act)

15. Debt-for-Nature Exchange (FAA Sec. 463)

16. Deobligation/Reobligation (FY 1995 Appropriations Act Sec. 510)

17. Loans
    a. Repayment capacity (FAA Sec. 122(b))
    b. Long-range plans (FAA Sec. 122(b))
    c. Interest rate (FAA Sec. 122(b))
    d. Exports to United States (FAA Sec. 620(d))

18. Development Objectives (FAA Sections. 102(a), 111, 113, 281(a))

19. Agriculture, Rural Development and Nutrition, and Agricultural Research (FAA Sections. 103 and 103A)

20. Population and Health (FAA Sections. 104(b) and (c))

21. Education and Human Resources Development (FAA Sec. 105)

22. Energy, Private Voluntary Organizations, and Selected Development Activities (FAA Sec. 106)

23. Capital Assistance (Jobs Through Export Act of 1992, Sections. 303 and 306(d))

C. CRITERIA APPLICABLE TO ECONOMIC SUPPORT FUNDS ONLY

1. Economic and Political Stability (FAA Sec. 531(a))

2. Military Purposes (FAA Sec. 531(e))

3. Commodity Grants/Separate Accounts (FAA Sec. 609)

4. Generation and Use of Local Currencies (FAA Sec. 531(d)) (For FY 1995, this provision is superseded by the separate account requirements of FY 1995 Appropriations Act Sec. 536(a), see Sec. 536(a)(5).)

5. Capital Activities (Jobs Through Exports Act of 1992, Sec. 306)

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APPENDIX B

OFFICIAL FILES

I. By Strategic Objective
- A. Obligation Documents
  - 1. Bilateral
    - a. Grant and Loan Agreements
  - 2. Nonbilateral
    - a. Contracts
    - b. Grants
    - c. Purchase Orders
    - d. Interagency Agreements
    - e. PASAs
    - f. RSSAs
- B. Nonobligating Agreements
  - a. Memoranda of Understanding
- C. Implementation Orders
  - 1. IO/Ts
  - 2. IO/Cs
  - 3. IO/Ps
- D. Implementation Letters
- E. Results Frameworks and Assoicated Results Package Documents
- F. Closeout Reports
- G. Audits
- H. Performance Monitoring documents
  - 1. Plans
  - 2. Results Reviews
  - 3. Supporting Documentation
  - 4. Evaluations
- I. Budget Information
- J. Resource Requests
- K. Congressional Notifications
- L. Waivers
- M. Environmental Reviews
- N. SO team delegations and membership lists
  - 1. Subteam information (as appropriate)
- O. Statutory checklists

II. General information, not SO-specific
- A. Strategic Plan
- B. Management Contract
- C. Customer Service Plan
- D. Results Review and Resource Request
- E. Obligating documents not related to one individual SO (e.g., contracts which include activities for two or more objectives)
- F. Congressional Presentation
- G. Audits
- H. Performance Monitoring Plan (may be for the overall strategic plan, not just specific objectives)

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202.6 Supplementary References (202.6.1 - 202.6.6 are reserved.)

202.6.1 Team Development

202.6.2 Implementation Letters

202.6.3 Statutory Checklist Criteria

202.6.4 Analyses

202.6.4a Financial Analysis

202.6.4b Economic Analysis

202.6.4c Social Soundness Analysis

202.6.4d Administrative Analysis

202.6.4e Environmental Analysis

202.6.4f Technical Analysis

202.6.5 Developing and Monitoring Activities

202.6.6 Congressional Notification

202.6.7 Characteristics of Results Packages

Strategic objective teams create, modify and terminate results packages as required to meet changing circumstances pursuant to the achievement of the strategic objective. Thus, typically a results package will be of shorter duration than its associated strategic objective. Some of the characteristics of results packages include specification of:

- One or more results from the results framework which personnel assigned to the results package are tasked with producing;

- The set of activities and their respective agreements with USAID development partners and customers designed to achieve one or more results from the results framework;

- How activities will achieve the intended results including linkages between USAID, intermediaries and ultimate customers;

- Personnel, including appropriate USAID staff and representatives of partners and customers, with the knowledge and capacity needed to deliver the specified result(s);

- Responsibilities and authorities clearly defined with respect to the personnel assigned to the results package;

- Funding from USAID and partner organizations sufficient to carry out the activities required to deliver the specified results; and,

- Information on the elements identified above as well as how performance will be monitored and measured; current plans and status of activities and results achievement; agreements signed; implementation letters and other relevant correspondence; any analysis performed preceding, during or after completion of activities; and other documents related to key decisions the assigned personnel make in carrying out their responsibilities.

Major Functional Series 200 Program Assistance
Chapter 203 Managing for Results: Monitoring and Evaluating Performance

203.1 Authority

203.2 Objective

203.3 Responsibilities
1. Bureau for Policy and Program Coordination (PPC)
2. Bureau for Management (M)
3. Office of General Counsel
4. Regional Bureau
5. Global Bureau (G)
6. Bureau for Humanitarian Response (BHR)
7. Operating Units
8. Strategic Objective Team

201.4 Definitions

203.5 Policy & E203.5 Essential Procedures

203.5.1 Core Monitoring and Evaluation Policy
203.5.1a Performance Monitoring
203.5.1b Evaluation
203.5.1c Other Sources of Information

203.5.2 Using Information to Manage for Results

203.5.3 Participation in Performance Monitoring and Evaluation
203.5.3a Building Performance Monitoring and Evaluation Capacity
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203.5.4 Resources for Performance Monitoring and Evaluation
E203.5.4

203.5.5 Performance Monitoring
203.5.5a Operating unit: Results Framework-Level Performance Monitoring
203.5.5b Operating Unit: Special Objectives, Exceptions and Special Cases
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203.5.5d Development Monitoring at the Overall Agency Level
203.5.5e Quality of Performance Data
E203.5.5 Performance Monitoring
E203.5.5(1) Performance Indicators
E203.5.5(2) Performance Monitoring Plans
E203.5.5(3) Establishing Performance Baselines
E203.5.5(4) Collection of Performance Data: Frequency and Standards
E203.5.5(5) Data Quality

203.5.6 Evaluation
203.5.6a Planning and Conducting Evaluations
E203.5.6a Planning and Conducting Evaluations
E203.5.6a(1) The Decision to Evaluate at the Operating Unit
E203.5.6a(2) Planning and Conducting Evaluations at the Overall Agency Level.
E203.5.6a(3) The Focus and Purpose of Evaluations

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203.5.6b Evaluation Follow-up and Documentation
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E203.5.6b(1) Evaluation Reports
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E203.5.6b(3) Translating an Evaluation Report

203.5.7 Other Sources of Information for Managing for Results
E203.5.7

203.5.8 Review of Performance Information
203.5.8a Operating Unit Internal Reviews
203.5.8a(1) Results Framework-Level Reviews
203.5.8a(2) Activity-Level Review
203.5.8a(3) Participation in Reviews
203.5.8b Bureau Reviews of Operating Units
203.5.8c Review of Overall Agency Performance.

203.5.9 Reporting and Disseminating Performance Information
E203.5.9
203.5.9a Operating Unit R4 Report
203.5.9b Reporting on Agency Performance
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203.5.9c Meeting Other External Reporting Requirements
E203.5.9c
203.5.9d Dissemination of Performance Findings
203.5.9e Special Requests for Performance Information

203.6 Supplementary References (Reserved)

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203.1 Authorities

1. The Foreign Assistance Act (FAA) of 1961, as amended

2. The Government Performance and Results Act of 1993, Public Law 102-62 (GPRA)

3. Chief Financial Officers Act of 1990, Public Law 101-576 (November 15, 1990)

4. Government Management Reform Act of 1994, Public Law 103-356 (October 13, 1994)

5. Agricultural Trade and Development and Assistance Act of 1954, as amended (P.L. 480)

6. SEED Act of 1989

7. Federal Manager's Financial Integrity Act of 1982

203.2 Objective:

To establish the framework for monitoring and evaluating overall Agency and operating unit performance. Towards this end, to insure that the Agency and its operating units regularly collect and review data and information related to performance in order to continuously improve:

- the planning and implementation of development assistance;

- the effectiveness of management decisions and processes;

- the means by which the Agency learns through its experience;

- the ability of the Agency to meet accountability and reporting requirements.

203.3 Responsibilities

1. Bureau for Policy and Program Coordination (PPC): PPC is responsible for:

a) establishing Agency policy regarding strategic planning requirements;

b) developing and articulating the Agency's strategic plan and framework;

c) issuing annual planning guidance to include resource parameters and program priorities in a timely manner;

d) providing guidance on any special legislation which affects

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strategic planning;

e) reviewing and approving supplemental planning guidance issued by the operating bureaus;

f) reviewing and concurring with operating unit strategic plans for conformance with Agency goals and program policies;

g) conducting the Agency review of bureau budget submissions with the M Bureau;

h) establishing and maintaining a monitoring system for Agency goals and objectives;

i) coordinating the review of Agency performance, and reporting on that performance;

j) providing technical leadership in developing Agency and operating unit performance monitoring and evaluation systems;

k) evaluating the effectiveness of Agency program strategies and other strategies used by operating units to achieve objectives;

l) conducting evaluations on issues related to the delivery of development assistance of interest to the Agency or its stakeholders;

m) maintaining the Agency's database of development information and development experience and acting as a repository for Agency lessons learned; and

n) supporting its operating units in achieving approved objectives, and reviewing annually those units' performance in achieving their objectives.

2. Bureau for Management (M): M is responsible for:

a) analyzing the resource requirements necessary to meet Agency goals;

b) establishing indicative budget planning levels for operating bureaus in a timely manner;

c) reviewing and concurring with operating unit strategic plans for consistency with anticipated resource availability;

d) conducting the Agency review of bureau budget submissions with PPC;

e) ensuring that performance and results information are used in Agency resource allocation decision making;

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f) preparing the Agency's annual budget request for OMB and Congress;

g) monitoring budget implementation; and

h) assisting PPC with establishing and maintaining the monitoring system for Agency goals and objectives, and reviewing and reporting on overall Agency performance.

3. Office of General Counsel (GC): GC is responsible for:

a) assuring that proposed activities are in compliance with all legal requirements;

b) assuring that such activities and their implementation were not in violation of any prohibitions against assistance; and

c) assuring that agreements with host countries, and other agreements as appropriate, meet the agency's requirements.

4. Regional Bureau: Each regional bureau is responsible for:

a) providing oversight and support to operating units in the strategic planning process, ensuring that strategic plans are in place for each operating unit;

b) providing supplemental policy guidance addressing concerns unique to the region as necessary;

c) establishing indicative country levels for budget planning prior to the initiation of the strategic planning process and the annual results review and resource request (R4) submission;

d) managing the Agency review of strategic plans for operating units under its authority;

e) reviewing strategic plans from its operating units as well as those from Global Bureau (G) and Bureau for Humanitarian Response (BHR) operating units for consistency with regional priorities and geopolitical considerations;

f) approving country and regional strategic plans under its purview with concurrence from Management (M), Policy and Program Coordination (PPC), General Counsel (GC), BHR (as appropriate), and G;

g) providing an analytic overview of results in the region in conjunction with the annual bureau budget submission;

h) supporting its respective operating units overseas and, in USAID Washington (USAID/W), in achieving approved objectives, pursuant to the management contracts established following the review and approval of strategic plans;

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i) reviewing and assessing the performance of each of its operating units in achieving that unit's objectives;

j) coordinating the participation in these reviews of PPC, M, G, and BHR; and

k) participating in the review of overall Agency performance.

5. Global Bureau (G): G is responsible for:

a) assisting overseas and USAID/W operating units by providing technical leadership and guidance in the development and review of strategic plans;

b) organizing the provision to all operating units of central technical resources which are relevant to implementation of strategic plans;

c) providing assistance to PPC in establishing and maintaining the monitoring system for Agency goals and objectives;

d) participating in regional bureau reviews of field mission performance, and in the review of overall Agency performance;

e) providing oversight and support to its own operating units in developing their strategic plans, ensuring appropriate consultation in this process with operating units in the field, managing the Agency review of those plans, and approving the plans with concurrence from M, PPC, GC, BHR (as appropriate) and regional bureaus; and

f) supporting its operating units in achieving approved objectives, and reviewing (in consultation with PPC, M, BHR and regional bureaus) and reporting annually those units' performance in achieving their objectives.

6. Bureau for Humanitarian Response (BHR): BHR is responsible for:

a) providing technical leadership and guidance in planning and implementation to all operating units in the area of humanitarian assistance, food aid, and programs which are in transition from relief to development as appropriate;

b) reviewing operating unit strategic plans to assure humanitarian, disaster relief, food aid, and transitional concerns are appropriately addressed, and participating in other bureau reviews of their respective operating units' performance;

c) organizing the provision of resources under its purview relevant to implementing strategic plans;

d) providing oversight and support to its own operating units in developing their strategic plans;

e) ensuring appropriate consultation with operating units in the field;

f) managing the review and approval of strategic plans for operating units under its authority, with concurrence from M, PPC, GC, regional bureaus, and G; and

g) providing an analytic overview of results in its programs in conjunction with the annual bureau budget submission.

7. Operating Units: Operating units are responsible for:

a) developing strategic plans for program funds for which they have responsibility and authority;

b) ensuring the participation of other interested USAID offices, partners and customers throughout planning, achieving and performance monitoring and evaluating;

c) within the scope of its management contract, delegated authorities, and Agency directives, managing the implementation of the strategic plan, including establishing and defining authorities for strategic objective teams, achieving the objective(s) set forth in the plan, and reviewing performance and reporting annually on that performance to their respective bureaus;

d) during the course of implementation, ensuring that their strategic objective teams gather and use performance information to manage for results, and that adequate resources are programmed for performance monitoring and evaluation.

8. Strategic Objective Team: A strategic objective (SO) team is responsible for managing to achieve a specific strategic objective under the direction of an operating unit. The SO team's specific responsibilities include:

a) establishing its internal operating rules and procedures (consistent with its delegated authorities);

b) involving customers and partners in collecting, reviewing and interpreting performance information, and assuring that agreed-to customer needs are addressed through activities being implemented;

c) grouping, as appropriate, results and associated activities from the SO's results framework into results packages (and regrouping as necessary);

d) allocating resources associated with achieving the objective;

e) developing and implementing (within subteams if appropriate)

necessary and effective activities, contracts, grants and other agreements;

f) monitoring, analyzing and reporting on performance against established performance criteria, and taking corrective action as necessary;

g) using evaluative activities to determine why assistance is or is not achieving intended results;

h) recommending to the operating unit any changes to an objective or the strategic plan;

i) preparing appropriate close-out reports, including resources expended, accomplishments achieved and lessons learned;

j) with respect to the strategic objective team leader, organizing, coordinating, coaching and inspiring the team to achieve the set of results leading to the strategic objective; and

k) with respect to each strategic objective team member, advancing a common team effort to achieve the strategic objective assigned to the team, and implementing his or her specific responsibilities and authorities on that team.

203.4 Definitions

1. Activity: An action undertaken either to help achieve a program result or set of results, or to support the functioning of the Agency or one of its operating units. In a program context, i.e., in the context of results frameworks and strategic objectives, an activity may include any action used to advance the achievement of a given result or objective, whether financial resources are used or not. E.g., an activity could be defined around the work of a USAID staff member directly negotiating policy change with a host country government, or it could involve the use of one or more grants or contracts to provide technical assistance and commodities in a particular area. (Also within this context, for the purposes of the New Management Systems [see definition], "activity" includes the strategic objective itself as an initial budgeting and accounting element to be used before any specific actions requiring obligations are defined.) In an operating expense context, an activity may include any action undertaken to meet the operating requirements of any organizational unit of the Agency.

2. Activity Manager: That member of the strategic objective or results package team designated by the team to manage a given activity or set of activities.

3. Agency Goal: A long-term development result in a specific area to which USAID programs contribute and which has been identified as a specific goal by the Agency. (See also Operating Unit Goal.)

4. Agency Mission: The ultimate purpose of the Agency's programs; it

is the unique contribution of USAID to our national interests. There is one Agency mission.

5. Agency Objective: A significant development result that USAID contributes to, and which contributes to the achievement of an Agency goal. Several Agency objectives contribute to each Agency goal. Changes in Agency objectives are typically observable only every few years.

6. Agency Program Approach: A program or tactic identified by the Agency as commonly used to achieve a particular objective. Several program approaches are associated with each Agency objective.

7. Agency Strategic Plan: The Agency's plan for providing development assistance; the strategic plan articulates the Agency's mission, goals, objectives, and program approaches.

8. Agency Strategic Framework: A graphical or narrative representation of the Agency's strategic plan; the framework is a tool for communicating USAID's development strategy. The framework also establishes an organizing basis for measuring, analyzing, and reporting results of Agency programs.

9. Agent: An individual or organization under contract with USAID.

10. Agreement: An agreement is the formal mutual consent of two or more parties. The Agency employs a variety of agreements to formally record understandings with other parties, including grant agreements, cooperative agreements, strategic objective agreements, memorandum of understanding, contracts and limited scope grant agreements. In most cases, the agreement identifies the results to be achieved, respective roles and contributions to resource requirements in pursuit of a shared objective within a given time frame.

11. Assistance Mechanism: A specific mode of assistance chosen to address an intended development result. Examples of mechanisms include: food aid, housing guaranties, debt-for-nature swaps, endowments, cash transfers, etc.

12. Baseline: See Performance Baseline.

13. Causal Relationship: A plausible cause and effect linkage; i.e. the logical connection between the achievement of related, interdependent results.

14. Critical Assumption: In the context of developing a results framework, critical assumptions refer to general conditions under which a development hypothesis will hold true or conditions which are outside of the control or influence of USAID, and which are likely to affect the achievement of results in the results framework. Examples might be: the ability to avert a crisis caused by drought, the outcome of a national election, or birth rates continuing to decline as it relates to an education program. A critical assumption differs from an intermediate

result in the results framework in the sense that the intermediate result represents a focused and discrete outcome which specifically contributes to the achievement of the SO.

15. Customer: An individual or organization who receives USAID services or products, benefits from USAID programs or who is affected by USAID actions.

15a Intermediate Customer: A person or organization, internal or external to USAID, who uses USAID services, products, or resources to serve indirectly or directly the needs of the ultimate customers.

15b Ultimate Customer: Host country people who are end users or beneficiaries of USAID assistance and whose participation is essential to achieving sustainable development results.

16. Customer Representative: Any individual or organization that represents the interests of those individuals, communities, groups or organizations targeted for USAID assistance.

17. Customer Service Plan: A document which presents the operating unit's vision for including customers and partners to achieve its objectives. This document also articulates the actions necessary to engage participation of its customers and partners in planning, implementation and evaluation of USAID programs and objectives.

18. Customer Surveys: Surveys (or other strategies) designed to elicit information about the needs, preferences, or reactions of customers regarding an existing or planned activity, result or strategic objective.

19. Development Experience: The cumulative knowledge derived from implementing and evaluating development assistance programs. Development experience is broader in scope than "lessons learned", and includes research findings, applications of technologies and development methods, program strategies and assistance mechanisms, etc.

20. Development Information: The body of literature and statistical data which documents and describes the methods, technologies, status and results of development practices and activities and measures levels of development on a variety of dimensions.

21. Evaluation: A relatively structured, analytic effort undertaken selectively to answer specific management questions regarding USAID-funded assistance programs or activities. In contrast to performance monitoring, which provides ongoing structured information, evaluation is occasional. Evaluation focuses on <u>why</u> results are or are not being achieved, on unintended consequences, or on issues of interpretation, relevance, effectiveness, efficiency, impact, or sustainability. It addresses the validity of the causal hypotheses underlying strategic objectives and embedded in results frameworks. Evaluative activities may use different methodologies or take many different forms, e.g., ranging from highly participatory review workshops to highly focused

assessments relying on technical experts.

22. Global Programs or Activities: Global programs or activities refer to USAID programs or activities which take place across various regions, (i.e. they are trans-regional in nature). These types of programs are most often managed by central operating bureaus such as BHR or the G Bureau.

23. Goal: See Operating Unit Goal or Agency Goal.

24. Implementation Letters: Formal correspondence, numbered sequentially, between USAID and public sector entities pursuant to a duly signed agreement.

25. Indicator: See Performance Indicator.

26. Input: The provision of technical assistance, commodities, capital or training in addressing development or humanitarian needs.

27. Interim Performance Target: A target value which applies to a time period less than the overall time period related to the respective performance indicator and performance target.

28. Intermediate Result: A key result which must occur in order to achieve a strategic objective.

29. Joint Planning: A process by which an operating unit actively engages and consults with other relevant and interested USAID offices in an open and transparent manner. This may occur through participation on teams or through other forms of consultation.

30. Lesson Learned: The conclusions extracted from reviewing a development program or activity by participants, managers, customers or evaluators with implications for effectively addressing similar issues/problems in another setting.

31. Limited Scope Grant Agreement: The Limited Scope Grant Agreement(LSGA) is similar to the Strategic Objective Agreement but is shorter in length. It is used for obligating funds for a small activity or intervention; e.g., participant training or PD&S. Model agreements, including the LSGA, can be found in the Series 300 directives.

32. Manageable Interest: See Responsibility

33. Management Contract: The management contract consists of the strategic plan (including a strategic objectives and supporting results frameworks) together with official record of the guidance emerging from the review of the plan. The management contract provides; a summary of agreements on a set of strategic and other objectives, confirmation of estimated resources over the strategy period, delegations of authority, and an overview of any special management concerns.

34. Memorandum or Letter of Understanding: A memorandum of

understanding or letter of understanding (not used for obligating funds) sets forth the understandings of the parties regarding the objective, results to be achieved and the respective roles and responsibilities of each party in contributing toward the achievement of a given result or objective. It is particularly useful when USAID wishes to obligate through individual grants and contracts, without host government participation in those actions, but still wishes to make the host government a partner in writing to the program or activity and each party's obligations. It specifically provides for USAID implementation in the manner noted above.

35. New Management Systems: The set of management software developed to support Agency functions in the areas of accounting, budgeting, planning, achieving, performance monitoring and evaluation, assistance and acquisition, human resource management and property management.

36. Objective: See Agency Objectives.

37. Obligation: In the event of a strategic objective agreement with a host country government, that agreement is normally the obligating agreement (unless a non-obligating MOU is used) and all grants to and contracts with private entities thereunder are subobligating agreements. If there is no strategic objective agreement, whether or not a non-obligating MOU is used, all grants to and contracts with private entities become obligating agreements.

38. Operating Unit: USAID field mission or USAID/W office or higher level organizational unit which expends program funds to achieve a strategic objective, strategic support objective, or special objective, and which has a clearly defined set of responsibilities focussed on the development and execution of a strategic plan.

39. Operating Unit Goal: A higher level development result to which an operating unit contributes, but which lies beyond the unit's level of responsibility. An operating unit goal is a longer term development result that represents the reason for achieving one or more objectives in an operating unit strategic plan. An operating unit goal may be identical to an Agency goal, but is normally distinguished from it in several key ways. An Agency goal is a long-term general development objective, in a specific strategic sector, that USAID works toward, and represents the contribution of Agency programs working in that sector. An operating unit goal is optional and represents a long-term result in a specific country or program to which an operating unit's programs contribute, and may cross sector boundaries.

40. Output: The product of a specific action, e.g., number of people trained, number of vaccinations administered.

41. Parameter: A given framework or condition within which decision making takes place (i.e. Agency Goals, earmarks, legislation, etc).

42. Participation: The active engagement of partners and customers in sharing ideas, committing time and resources, making decisions, and

taking action to bring about a desired development objective.

43. Partner: An organization or customer representative with which/whom USAID works cooperatively to achieve mutually agreed upon objectives and intermediate results, and to secure customer participation. Partners include: private voluntary organizations, indigenous and other international non-government organizations, universities, other USG agencies, U.N. and other multilateral organizations, professional and business associations, private businesses (as for example under the U.S.-Asia Environmental Partnership), and host country governments at all levels.

44. Partner Representative: An individual that represents an organization with which USAID works cooperatively to achieve mutually agreed upon objectives.

45. Partnership: An association between USAID, its partners and customers based upon mutual respect, complementary strengths, and shared commitment to achieve mutually agreed upon objectives.

46. Performance Baseline: The value of a performance indicator at the beginning of a planning and/or performance period. A performance baseline is the point used for comparison when measuring progress toward a specific result or objective. Ideally, a performance baseline will be the value of a performance indicator just prior to the implementation of the activity or activities identified as supporting the objective which the indicator is meant to measure.

47. Performance Indicator: A particular characteristic or dimension used to measure intended changes defined by an organizational unit's results framework. Performance indicators are used to observe progress and to measure actual results compared to expected results. Performance indicators serve to answer "whether" a unit is progressing towards its objective, rather than why/why not such progress is being made. Performance indicators are usually expressed in quantifiable terms, and should be objective and measurable (numeric values, percentages, scores and indices). Quantitative indicators are preferred in most cases, although in certain circumstances qualitative indicators are appropriate.

48. Performance Information: The body of information and statistical data that directly relates to performance towards overall USAID goals and objectives, as well as operating unit strategic objectives, strategic support objectives and special objectives. Performance information is a product of formal performance monitoring systems, evaluative activities, customer assessments and surveys, Agency research and informal feedback from partners and customers.

49. Performance Monitoring: A process of collecting and analyzing data to measure the performance of a program, process, or activity against expected results. A defined set of indicators is constructed to regularly track the key aspects of performance. Performance reflects effectiveness in converting inputs to outputs, outcomes and impacts

(i.e., results).

50. Performance Monitoring Plan: A detailed plan for managing the collection of data in order to monitor performance. It identifies the indicators to be tracked; specifies the source, method of collection, and schedule of collection for each piece of datum required; and assigns responsibility for collection to a specific office, team, or individual. At the Agency level, it is the plan for gathering data on Agency goals and objectives. At the Operating Unit level, the performance monitoring plan contains information for gathering data on the strategic objectives, intermediate results and critical assumptions included in an operating unit's results frameworks.

51. Performance Monitoring System: An organized approach or process for systematically monitoring the performance of a program, process or activity towards its objectives over time. Performance monitoring systems at USAID consist of, inter alia: performance indicators, performance baselines and performance targets for all strategic objectives, strategic support objectives, special objectives and intermediate results presented in a results framework; means for tracking critical assumptions; performance monitoring plans to assist in managing the data collection process, and; the regular collection of actual results data

52. Performance Target: The specific and intended result to be achieved within an explicit timeframe and against which actual results are compared and assessed. A performance target is to be defined for each performance indicator. In addition to final targets, interim targets also may be defined.

53. Portfolio: The sum of USAID-funded programs being managed by a single operating unit.

54. Rapid, Low-cost Evaluations: Analytic or problem-solving efforts which emphasize the gathering of empirical data in ways that are low-cost, timely, and practical for management decision making. Methodological approaches include mini-surveys, rapid appraisals, focus groups, key informant interviews, observation, and purposive sampling, among others.

55. Responsibility: In the context of setting strategic objectives, responsibility refers to a guiding concept which assists an operating unit in determining the highest level result that it believes it can materially affect (using its resources in concert with its development partners) and that it is willing to use as the standard for the judgement of progress. This has also been referred to as "manageable interest."

56. Result: A change in the condition of a customer or a change in the host country condition which has a relationship to the customer. A result is brought about by the intervention of USAID in concert with its development partners. Results are linked by causal relationships, i.e. a result is achieved because related, interdependent result(s) were

achieved. Strategic objectives are the highest level result for which an operating unit is held accountable; intermediate results are those results which contribute to the achievement of a strategic objective.

57: Results Framework: The results framework represents the development hypothesis including those results necessary to achieve a strategic objective and their causal relationships and underlying assumptions. The framework also establishes an organizing basis for measuring, analyzing, and reporting results of the operating unit. It typically is presented both in narrative form and as a graphical representation.

58. Results Package: A results package (RP) consists of people, funding, authorities, activities and associated documentation required to achieve a specified result(s) within an established time frame. An RP is managed by a strategic objective team (or a results package team if established) which coordinates the development, negotiation, management, monitoring and evaluation of activities designed consistent with: (1) the principles for developing and managing activities; and (2) achievement of one or more results identified in the approved results framework. The purpose of a results package is to deliver a given result or set of results contributing to the achievement of the strategic objective.

The strategic objective team will define one or more RPs to support specific results from the results framework. The SO team may elect to manage the package or packages itself, or may create one or more subteams to manage RPs. In addition, strategic objective teams create, modify and terminate results packages as required to meet changing circumstances pursuant to the achievement of the strategic objective. Thus, typically a results package will be of shorter duration than its associated strategic objective.

59. Results Package Data Base: A results package data base consists of the data and information related to the actions, decisions, events, and performance of activities under a results package.

60. Results Review and Resource Request (R4): The document which is reviewed internally and submitted to USAID/W by the operating unit on an annual basis. The R4 contains two components: the results review and the resource request. Judgement of progress will be based on a combination of data and analysis and will be used to inform budget decision making.

61. Review Workshops: Workshops which involve key participants in an SO/RP or even a particular element of an RP in collectively evaluating performance during the previous implementation period and planning for the forthcoming period. Participants are normally representatives of partners, customers, counterparts, other donors, stakeholders, and USAID. Successful workshops are often facilitated to assure that all perspectives are heard and that key findings and conclusions and consensus on modifications and plans is documented and distributed.

62. Special Objective: The result of an activity or activities which do not qualify as a strategic objective, but support other US government assistance objectives. A special objective is expected to be small in scope relative to the portfolio as a whole.

63. Stakeholders: Individuals and/or groups who have an interest in and influence USAID activities, programs and objectives.

64. Strategic Objective: The most ambitious result (intended measurable change) that a USAID operational unit, along with its partners, can materially affect and for which it is willing to be held responsible. The strategic objective forms the standard by which the operational unit is willing to be judged in terms of its performance. The time-frame of a strategic objective is typically 5-8 years for sustainable development programs, but may be shorter for programs operating under short term transitional circumstances or under conditions of uncertainty.

65. Strategic Objective Agreement: A formal agreement that obligates funds between USAID and the host government or other parties, setting forth a mutually agreed upon understanding of the time frame, results expected to be achieved, means of measuring those results, resources, responsibilities, and contributions of participating entities for achieving a clearly defined strategic objective. Such an agreement between USAID and the host government may allow for third parties (e.g., NGOs) to enter into sub-agreements with either USAID or the host government or both to carry out some or all of the activities required to achieve the objective. (Details in Series 300.)

66. Strategic Plan: The framework which an operating unit uses to articulate the organization's priorities, to manage for results, and to tie the organization's results to the customer/beneficiary. The strategic plan is a comprehensive plan which includes the delimitation of strategic objectives and a description of how it plans to deploy resources to accomplish them. A strategic plan is prepared for each portfolio whether it is managed at a country level, regionally, or centrally.

67. Strategic Support Objective: Strategic support objectives are intended to capture and measure a regional or global development objective which is dependent on the results of other USAID operating units to achieve the objective but to which a global or regional program makes an important contribution. Therefore, the key differentiation from a strategic objective, as defined above, is that there is a recognition that the achievement of the objective is accomplished and measured, in part, through the activities and results at the field mission level.

68. Subgoal: A higher level objective which is beyond of the operating unit's responsibility but which provides a link between the strategic objective and the operating unit goal. Inclusion in operating unit plans is optional.

69. Strategic Objective Team: In general, a team is a group of people committed to a common performance goal for which they hold themselves individually and collectively accountable. Teams can include USAID employees exclusively or USAID and partner and customer representatives. An SO team is a group of people who are committed to achieving a specific strategic objective and are willing to be held accountable for the results necessary to achieve that objective. The SO team can establish subsidiary teams for a subset of results or to manage a results package.

69a. Core Team: U.S. government employees and others who may be authorized to carry out inherently U.S. governmental functions such as procurement actions or obligations. For example, only members of the core team would manage procurement sensitive materials or negotiate formal agreements.

69b. Expanded Team: U.S. government employees and partner and customer representatives committed to achieving the strategic objective.

69c. Virtual Team: Members of a team who are not collocated and therefore participate primarily through telecommunication systems.

70. Target: See Performance Target.

71. U.S. National Interest: A political/strategic interest of the United States that guides the identification of recipients of foreign assistance and the fundamental characteristics of development assistance.

72. Value Engineering: A management technique using a systematized approach to seek out the best functional balance between the cost, reliability, and performance of an activity or process, with a particular focus on the identification and elimination of unnecessary costs. VE/VA can be used both in the design stage and as an evaluation tool.

203.5 Policy & E203.5 Essential Procedures

203.5.1 Core Monitoring and Evaluation Policy

In order to effectively manage for results, the Agency shall regularly collect, review and use information on its performance. At both the overall Agency and operating unit level, this information shall play a critical role in planning and management decisions and will be derived from formal performance monitoring systems, evaluative activities and other relevant sources.

203.5.1a Performance Monitoring

Performance monitoring shall focus on whether and to what extent objectives at both the operating unit and Agency level are being achieved. At the operating unit, strategic objective teams shall establish performance monitoring systems to regularly collect and

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analyze data which will enable them to track performance and objectively report on their progress in achieving strategic objectives and intermediate results. SO teams and activity managers shall also track inputs, outputs and processes to insure activities are proceeding as expected and are contributing to intermediate results and strategic objectives as anticipated (refer to Supplementary Reference 203.6.6 for further discussion on designing performance monitoring systems).

The Agency shall establish performance monitoring systems at the Agency level which enable it to track, review and report on overall progress toward the Agency's goals and objectives outlined in the Agency strategic framework. (See also, 203.5.5 through 203.5.5d for more information on performance monitoring.)

203.5.1b Evaluation

Evaluation shall be used to ascertain why unexpected progress, positive or negative, is being made towards a planned result. When performance monitoring systems or other feedback mechanisms at the operating unit indicate that expected results are not being achieved, SO teams shall seek to determine the reason, usually through the use of one or more evaluative activities. Evaluation shall also be used to explore issues related to sustainability and customer focus.

At the Agency level, evaluation shall be a principal vehicle for extracting cross-cutting lessons from operating unit experiences and determining the need for modifications to the Agency strategic framework. (See also, 203.5.6 through 203.5.6b for more information on evaluations.)

(Refer to Supplementary Reference 203.6.18 for further discussion regarding the use of evaluation in USAID.)

203.5.1c Other Sources of Information

The Agency and its operating units shall seek and use other relevant sources of information to improve their understanding of performance and to inform planning and management decisions. Both formal (Agency research findings, customer surveys, experience of other development organizations) and informal (unstructured feedback from customers and partners, site visits) sources shall be considered. (See also, 203.5.7.)

E203.5.1 Core Monitoring and Evaluation Policy - N/A

203.5.2 Using Information to Manage for Results

The Agency, operating units and SO teams must remain informed of all aspects of performance relating to USAID-funded assistance in order to effectively manage for results. Performance monitoring information, evaluation findings and information from additional formal and informal sources shall be used regularly throughout planning and management processes. Specifically, operating units and SO teams shall use such

information to:

- improve the performance, effectiveness, and design of existing development assistance activities;

- revise Agency or operating unit strategies where necessary;

- plan new strategic objectives, results packages and/or activities;

- inform decisions whether to abandon Agency program strategies, strategic objectives or results packages which are not achieving intended results; and,

- document findings on the impact of development assistance.

(Refer to Supplementary Reference 203.6.31)

E203.5.2 Using Information to Manage for Results - N/A

203.5.3 Participation in Performance Monitoring and Evaluation

Operating units and SO teams shall involve USAID customers and partners in planning approaches to monitoring performance, in planning and conducting evaluative activities, as well as in collecting, reviewing and interpreting performance information.

At the agency level, USAID shall involve stakeholders and partner development organizations in the examination of overall agency performance and development information.

203.5.3a Building Performance Monitoring and Evaluation Capacity

The Agency and its operating units shall attempt to build performance monitoring and evaluation capacity within recipient developing countries. Operating units shall integrate, wherever feasible, performance monitoring and evaluation activities with similar processes of host countries and other donors.

203.5.3b Information Sharing

Whenever feasible and appropriate, the Agency and its operating units shall participate in networks for exchange and sharing of development experience and development information resources with development partners, host country development practitioners, researchers and other donors.

(Refer to Supplementary Reference 203.6.4 for additional information on partner and customer participation).

E203.5.3 Participation in Performance Monitoring and Evaluation - N/A

203.5.4 Resources for Performance Monitoring and Evaluation

Operating units and SO teams, when budgeting for strategic objectives and/or results packages, shall insure that sufficient and adequate resources (funding and personnel) are allocated to performance monitoring and evaluation activities. The Agency shall insure that adequate resources are allocated to and used in performance monitoring and evaluation functions. (See also, E203.5.4)

E203.5.4 Resources for Performance Monitoring and Evaluation

When budgeting for strategic objective and results packages, teams must allow adequate funds for performance monitoring and evaluation. A target range for resource levels dedicated to monitoring and evaluation functions in SOs and RPs is 3% to 10% of the overall budget. However, factors unique to each SO/RP may lead to a decision to budget above or below that range.

Operating units and strategic objective teams are responsible for collecting information for managing for results in a cost-effective manner (consideration of cost-effectiveness issues related to data collection shall begin during the strategic planning process). If anticipated costs appear prohibitive, consideration shall be given to:

- modifying performance indicators to permit less expensive approaches to regular data collection;

- modifying the approach/design of evaluative activities, considering rapid, low cost alternatives, or;

- modifying the relevant strategic objective or intermediate result, since it is not possible to judge progress at reasonable costs.

(Refer to Supplementary Reference 203.6.5 for additional information on resources for performance monitoring and evaluation).

203.5.5 Performance Monitoring

The Agency and its operating units shall establish and maintain performance monitoring systems that regularly collect data which enable the assessment of progress towards achieving results. Operating unit performance monitoring systems shall track performance at both the results framework level and the activity level. Performance monitoring systems at the Agency level shall track progress towards overall Agency goals and objectives. (See also, E203.5.5.)

(Refer to Supplementary Reference 203.6.6 for further discussion on designing performance monitoring systems.)

203.5.5a Operating unit: Results Framework-Level Performance Monitoring

The development of performance monitoring systems at the results framework level begins during the strategic planning process. At that time, operating units shall specify preliminary performance indicators

and performance targets for the strategic objectives, strategic support objectives and intermediate results presented in their results frameworks (see also Strategic Planning E201.5.10, Part II,C(7)). Following approval of their strategic plans, operating units and SO teams shall complete and operationalize their performance monitoring systems by doing the following:

- Confirm and/or modify the set of performance indicators initially defined in the operating unit's strategic plan. Performance indicators must be defined for all strategic objectives, strategic support objectives and intermediate results in the results framework that are directly supported by USAID funds. A final working set of performance indicators must be defined prior to submission of the R4 that immediately follows approval of a strategic plan. (for subsequent modification of performance indicators refer to Strategic Planning, essential procedures E201.5.14 and E201.5.15);

- Validate and/or modify the performance baselines and targets initially defined in the operating unit's strategic plan. Performance baselines and targets shall be established for each performance indicator. A final working set of performance baselines and targets must be defined prior to submission of the R4 that immediately follows approval of a strategic plan. (for subsequent modification of baselines and targets, refer to Strategic Planning, essential procedures E201.5.14 and E201.5.15 and; for guidance on performance baselines and interim and final performance targets, see Supplementary References 203.6.8 and 203.6.9, respectively);

- Define means or approach to be used in monitoring both the results supported by development partners and critical assumptions identified in the results framework (refer to Supplementary Reference 203.6.10);

- Complete and periodically update a performance monitoring plan that provides details necessary for collecting relevant performance data and information (see also, Strategic Planning 201.5.7);

- Collect "actual results" data for each performance indicator on a regular basis (refer to Supplementary Reference 203.6.13 for additional information on performance monitoring data collection);

- Collect information on both the results supported by development partners and the status of critical assumptions on a regular basis.

(See also, E203.5.5 through E203.5.5(4).)

203.5.5b Operating Unit: Special Objectives, Exceptions and Special Cases

Operating unit performance monitoring systems shall address special

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objectives as well as special or exceptional programs, including emergency programs, small country programs and special foreign policy programs (see also, Strategic Planning 201.5.3e). To the extent possible, performance monitoring guidelines established for strategic objectives, strategic support objectives, intermediate results and activities shall be followed (see also, 203.5.5a and 203.5.5c). If it is impractical or inappropriate to follow these guidelines, operating units shall develop alternative approaches to monitoring the performance of these programs and present them to their respective bureaus for approval.

203.5.5c Operating Unit: Activity-Level Monitoring

SO teams and/or activity managers shall regularly collect data on inputs, outputs and processes to insure that activities are proceeding as expected and are contributing to relevant intermediate results, strategic objectives and strategic support objectives as anticipated. Activity level data shall be collected at intervals consistent with the management needs of the SO team and/or activity manager (refer to Supplementary Reference 203.6.16 for additional information on activity monitoring).

203.5.5d Development Monitoring at the Overall Agency Level

The Agency shall monitor Agency performance by tracking progress towards Agency goals and objectives, and by analyzing operating unit performance information within the context of the Agency strategic framework. PPC, in conjunction with other bureaus and operating units, as appropriate, shall insure that progress towards Agency goals and objectives is monitored regularly by:

- developing performance indicators, including Agency-wide common indicators, for each Agency goal and objective and validating the utility and appropriateness of these indicators periodically;

- preparing and updating a performance monitoring plan that provides information necessary for regularly collecting data on the performance indicators identified for each Agency goal and objective;

- collecting data for each performance indicator of Agency goals and objectives on a regular basis.

(See also, E203.5.5 through E203.5.5(4).)

203.5.5e Quality of Performance Data

The Agency and its operating units shall, at regular intervals, critically assess the data they are using to monitor performance to insure they are of reasonable quality and accurately reflect the process or phenomenon they are being used to measure. (See also, E203.5.5(5).)

E203.5.5 Performance Monitoring

The Agency and its operating units shall establish performance monitoring systems which meet Agency standards for: developing performance indicators and baselines, managing and documenting the data collection process and ensuring the quality of performance data.

E203.5.5(1) Performance Indicators

The Agency and its operating units shall define performance indicators for which quality data are available at intervals consistent with management needs and that are direct, objective, practical and unidimensional (refer to Supplementary Reference 203.6.7 for definitions of these attributes and more information on performance indicators).

Quantitative performance indicators are preferred and shall be used in most cases. If qualitative indicators are used, they must be defined so as to permit regular, systematic and relatively objective judgement regarding change in the "value" or status of the indicator.

When identifying performance indicators, operating units will consider "common" indicators that have been identified for each sector and that have been derived from Agency experience and best practices. Use of these "common" indicators by operating units is not required.

E203.5.5(2) Performance Monitoring Plans

Performance monitoring plans shall be prepared for the Agency strategic framework and for each operating unit's strategic plan. Information included in a performance monitoring plan shall enable comparable performance data to be collected over time, even in the event of staff turnover, and shall clearly articulate expectations in terms of schedule and responsibility. Specifically, performance monitoring plans shall provide a detailed definition of the performance indicators that will be tracked; specify the source, method of collection and schedule of collection for all required data; and assign responsibility for collection to a specific office, team or individual (refer to Supplementary Reference 203.6.11 for Agency guidelines on the development of performance monitoring plans).

Performance monitoring plans are one element of a performance monitoring system and function as critical tools for managing and documenting the data collection process. The review of operating unit performance monitoring plans by central or regional bureaus is not required.

(See also, Strategic Planning 201.5.13.)

E203.5.5(3) Establishing Performance Baselines

To the extent possible, performance baseline data should be included with an operating unit's strategic plan when it is submitted for review. If it is not possible, practical or cost effective to do so, operating units will have until submission of their next R4 to establish a

baseline. If data for a performance indicator prove to be unavailable or too costly to collect, the indicator may need to be changed.

Performance baselines will reflect, as near as possible, the value of each performance indicator at the commencement of USAID-supported activities that contribute to the achievement of the relevant strategic element (i.e., Agency goal or objective, strategic objective, strategic support objective or intermediate result). This is consistent with the purpose and process of performance monitoring, both of which focus on performance over a very specific planning or performance period (refer to Supplementary Reference 203.6.8 for a discussion of related topics, including the utility of historical data that predate a performance baseline).

E203.5.5(4) Collection of Performance Data: Frequency and Standards

Specific timeframes and standards shall be applied when collecting performance data.

a) For performance indicators: Comparable data for all performance indicators of strategic objectives and USAID-funded intermediate results, as well as for strategic support objectives, shall be collected and reviewed on a regular basis (comparability refers to tracking a performance indicator over time, not to comparison across strategic objectives or operating units).

- To the extent possible, some comparable data for each strategic objective, strategic support objective and special objective shall be collected annually. That is, where possible, data for at least one performance indicator (the same indicator) shall be collected every year for each strategic objective, strategic support objective and special objective.

- To the extent possible, some comparable data for each USAID-funded intermediate result shall also be collected annually. However, annual collection is not required until the point in time at which progress towards the intermediate result is anticipated to begin.

- For performance indicators for which annual data collection is not practical, operating units will collect data regularly, but at longer time intervals.

- To the extent possible, the principles described for performance indicators at the operating unit level shall be applied to the performance indicators of Agency goals and objectives.

(Refer to Supplementary Reference 203.6.13 for additional information on collecting performance monitoring data.)

b) For critical assumptions and results supported by development partners: The frequency of data collection, as well as the level

of detail and degree of comparability of the data collected, shall be determined by the SO team. The data collection process for monitoring critical assumptions and results supported by development partners is generally not expected to be as rigorous or systematic as the data collection process for monitoring performance indicators of SOs and USAID-funded results. However, the information collected must be at a level of detail and quality that insures the SO Team has an accurate understanding of the progress being made toward each partner-supported intermediate result and whether each critical assumption continues to hold (refer to Supplementary Reference 203.6.10 for additional information on monitoring critical assumptions and non-USAID funded intermediate results).

c) For multi-country strategic objectives: To the extent possible, comparable data for all strategic objectives that encompass more than one country shall be collected and reviewed on a regular basis. Where possible, data for at least one performance indicator (the same indicator) at the strategic objective level shall be collected across all countries represented by the SO. To the extent possible, data shall also be collected for all performance indicators of USAID-funded intermediate results in every country with activities relevant to the given intermediate result.

Data shall be collected for performance indicators of multi-country strategic objectives and USAID-funded intermediate results at a frequency that is determined by management needs and practical considerations. Annual collection of some comparable data for both strategic objectives and intermediate results is ideal, although it may only be practical to collect such data at longer intervals.

d) For special objectives, exceptions and special cases: When collecting data on the performance of special objectives or special or exceptional programs (see Strategic Planning, 201.5.5d, Exceptions and Special Cases, and 201.5.10c, Special Objectives), operating units shall attempt to follow guidelines relating to periodicity and comparability that have been established for performance indicators (see (a) above). If it is impractical or inappropriate to follow these guidelines, operating units shall develop alternatives that will insure they have an accurate understanding of the performance of these special objectives and programs.

E203.5.5(5) Data Quality

Data quality will be assessed as part of the process of establishing performance indicators and choosing data collection sources and methods. Data quality will be reassessed as is necessary, but at intervals of no greater than three years. Whenever possible, reasonable standards of statistical reliability and validity should be applied, although in many cases it will not be appropriate or possible to meet these standards

(refer to Supplementary Reference 203.6.14 for additional information on means to ensure data quality).

203.5.6 Evaluation

As an ongoing part of planning and managing development assistance, the Agency, its operating units, and the teams managing development assistance shall use evaluative activities as needed. Evaluation activities shall be utilized, when information from other sources is insufficient to provide the needed insight, to:

- assess why unexpected progress, either positive or negative, towards planned results is occurring;

- determine whether conditions for sustainability related to USAID assistance exist;

- re-examine or test, when necessary, the validity of hypotheses and assumptions embedded in strategic objectives and results frameworks;

- determine whether the needs of intended customers are being served;

- identify, probe, and understand positive and negative unintended consequences or impacts of assistance programs;

- distill "lessons learned" which may be useful elsewhere in the Agency; and,

- assess the effectiveness of Agency strategies across countries and within sectors. (See also, 203.5.1b.)

E203.5.6 Evaluation - N/A

203.5.6a Planning and Conducting Evaluations

A decision to carry out an evaluative activity shall be driven primarily by management need. Evaluations are not required as a matter of formality. If they will serve no management need and will not be used, evaluations shall not be conducted.

When planning an evaluation at any level, the cost of evaluation must be justified by the management value of the information it will generate. If the information an evaluation is intended to produce is not critical, an expensive evaluation is not justified. Alternatives shall be considered, such as low-cost methods, narrowing the scope, or reassessing the need for the evaluation.

SO Teams shall include customers and partners in planning and conducting evaluative activities. Consideration shall be given to utilizing evaluation methodologies and data collection methods which allow for maximum participation. (See also 203.5.3, Participation in Performance

Monitoring and Evaluation; refer to Supplementary References 203.6.4, 203.6.21 and 203.6.22 for more information on participation in evaluations.)

The Agency shall include direct-hire employees in evaluations, where feasible and where operating expense resources are available, to maximize the Agency's learning from its own experience. Care must be taken in selecting either Agency direct-hire employees or contractors as evaluation team members to avoid any conflict of interest related to the purpose of the evaluation.

(See also, E203.5.6a through E203.5.6a(3).)

E203.5.6a Planning and Conducting Evaluations

The Agency and its operating units shall seek to address specific questions and issues when planning and conducting evaluations.

E203.5.6a(1) The Decision to Evaluate at the Operating Unit

Strategic Objective Teams shall decide whether/when an evaluative activity is needed, in consultation with other partners and customers, as well as senior management of the operating unit. The following events or situations, among others, shall trigger a consideration of whether an evaluation is needed:

- performance monitoring indicates an unexpected (positive or negative) result on a critical measure;

- a key management decision must be made about directions in an activity, intermediate result or SO, but there is inadequate information for making the decision;

- annual (or periodic) reviews in the operating unit or with the host country identify key questions to be resolved or questions on which consensus must be developed;

- formal or informal feedback from participants, partners, customers, or other informed observers suggests that implementation is not going well or is not meeting the needs of intended customers;

- there is a breakdown in a critical assumption or intermediate result supported by another donor, thus challenging the validity of the strategy to achieve the SO; or,

- an operating unit believes extracting key "lessons learned" or documenting experience is important for the benefit of other operating units or for future programming in the same country.

(Refer to Supplementary Reference 203.6.19 for additional information.)

E203.5.6a(2) Planning and Conducting Evaluations at the Overall Agency Level.

Central evaluations shall be conducted to meet Agency management and planning needs. PPC/CDIE shall conduct and coordinate participation in these evaluations, working in cooperation with other appropriate bureaus. Agency senior management, as well as relevant stakeholders and partner development organizations, as appropriate, shall be consulted to determine central evaluation needs and areas of focus. The following concerns, among others, shall be considered in determining the focus of central evaluations and the areas to be assessed:

- issues related to the effectiveness of Agency program strategies in contributing to overall Agency goals and objectives;

- issues related to the effectiveness of strategies commonly or experimentally used by operating units to achieve strategic objectives within particular sectors;

- other important issues related to the delivery of development assistance (i.e. unexpected, positive or negative, consequences or impacts from various programs or activities); and,

- major issues which may be of concern to the Administrator or Agency stakeholders.

E203.5.6a(3) The Focus and Purpose of Evaluations

For any evaluative activity, a clear purpose must be articulated, along with a small number of key questions on which the evaluation will focus. A clear Scope of Work (SOW) is crucial to conducting a useful evaluation and shall be prepared. (See Supplementary Reference 203.6.30 for standard Agency guidelines on preparing Scopes of Work (SOWs) for formal evaluations.)

The following factors, among others, shall be considered when planning the type of evaluative activity to be undertaken:

- the nature of the information/analysis/feedback needed;

- cost-effectiveness;

- time-frame of the management need for information;

- the time and resources available; and

- the level of accuracy required.

(See Supplementary Reference 203.6.20 for additional information on evaluation design and 203.6.22 for suggestions on alternative evaluation methodologies.)

203.5.6b Evaluation Follow-up and Documentation

At all levels, the findings, conclusions, and recommendations of evaluative activities shall be openly shared and discussed with relevant customers and partners, as well as other donors or stakeholders, unless there are unusual and compelling reasons not to do so.

The SO team has initial and primary responsibility for responding to and using an evaluation, once completed, of a strategic objective, a results package, or a related activity. They must:

- Systematically review the key findings, conclusions, and recommendations;

- Identify which findings, conclusions, or recommendations the team(s) accept/support and which they disagree with;

- Identify the management/program actions proposed to be taken as an outcome of the evaluation and assign clear responsibility for undertaking them; and

- Determine whether any revision is necessary in strategy, the results framework, or the activity, given all information then available to the team. (If significant revision is necessary, refer to Strategic Planning, E201.5.8 and E201.5.9.)

The primary oversight and review of an SO level evaluation shall be by the head of the operating unit. (The responsibility for oversight and review of evaluations is generally at the next level in the direct program management line. In general, an evaluation of a strategic objective or results package is not formally reviewed and responded to above the operating unit level.) (See also, E203.5.6b through E203.5.6b(3).)

(Refer to Supplementary Reference 203.6.27 for additional information on presenting evaluation findings and recommendations and 203.6.29 for information on acting on evaluation findings.)

E203.5.6b Evaluation Follow-up and Documentation

At the conclusion of any evaluative activity, documentation shall be prepared to, at a minimum, highlight important findings, conclusions and recommendations. The nature of the documentation will vary considerably, depending on the type, formality, importance, breadth/scope and resources committed to the evaluative activity. The review of such documentation by regional or central bureaus is not required.

E203.5.6b(1) Evaluation Reports

Evaluation reports shall be prepared for more formal and critical evaluative activities. These reports must be written to be useful and readily understood. Key findings, conclusions, and recommendations must be succinct, clearly distinguished from each other, and clearly identified in the report.

For contracted evaluations and assessments, the report format shall be specified in the evaluation scope of work and must adhere to the Agency's required format (for Agency guidelines on evaluation report formats, refer to Supplementary Reference 203.6.28).

An executive summary shall be prepared for each evaluation report. The executive summary shall present a concise and accurate summary of the most critical elements of the larger report and should adhere to Agency guidelines for preparing executive summaries (for Agency guidelines, refer to Supplementary Reference 203.6.28).

E203.5.6b(2) Electronic Submissions of Evaluation Documentation

The following shall be submitted, in electronic form, to PPC/CDIE for entry into the Agency's automated development information system:

- full evaluation reports

- executive summaries of evaluation reports

- other documentation prepared at the conclusion of an evaluative activity

- response of the SO teams (and/or Operating Unit or Counterpart Agency) to evaluation reports, when appropriate

- action decisions arising from evaluative activities.

E203.5.6b(3) Translating an Evaluation Report

If an evaluation report (or other documentation prepared at the conclusion of an evaluative activity) is written in English and key project counterparts or participants do not speak English, the SO team shall arrange for translation of at least the executive summary into the local written language(s).

203.5.7 Other Sources of Information for Managing for Results

In addition to information from performance monitoring and evaluative activities, the Agency, SO teams and activity managers shall, to the extent possible, use the following other sources of information for managing for results:

- Agency research and other state-of-the-art findings in the Agency's technical areas;

- documented experiences of other donors and development agencies;

- development experience, including Agency "lessons learned" (see Definitions);

- development information (see Definitions);

- knowledge gained from assessing customer needs;

- analyses and assessments of relevant countries and sectors; and,

- informal feedback from counterparts, partners, customers, or other informed observers, or from field visits or other direct contact.

(See also, E203.5.7.)

E203.5.7

The Agency shall, to the extent feasible and practical, establish and maintain databases and information systems which permit Agency-wide access to the formal sources of information for managing for results listed in policy 203.5.7.

203.5.8 Review of Performance Information

The Agency, its operating units, and SO teams shall conduct reviews and analyses of performance information at regular intervals to assess progress against expected results and to determine if critical assumptions continue to hold.

203.5.8a Operating Unit Internal Reviews

Operating units and SO teams shall regularly review and analyze performance information to assess progress towards achieving their objectives and intermediate results.

203.5.8a(1) Results Framework-Level Reviews

Operating units and SO teams shall conduct reviews, as often as necessary but at least once a year, to assess progress towards achieving their strategic objectives, strategic support objectives, special objectives and USAID-funded intermediate results in the results framework. These reviews shall serve operating unit internal management and planning needs. At least one of these reviews, however, must provide analysis for the annual R4 report (see 203.5.9 and 203.5.9a) and, therefore, must address the following:

- progress made towards the achievement of strategic objectives, strategic support objectives and special objectives over the past fiscal year, as well as expectations for future results;

- status of critical assumptions (i.e. whether they continue to hold) and causal relationships defined in the results framework and the related implications for strategic objective and intermediate results performance;

- status of the operating unit's "management contract" and the

need for any changes to the approved strategic plan (refer to Strategic Planning, E201.5.9); and,

- future resource requirements (see also, Strategic Planning, E201.5.9).

The following information shall be used to conduct the "R4" results review:

- data on the performance indicators of strategic objectives, strategic support objectives, special objectives and USAID-funded intermediate results;

- information regarding critical assumptions in the strategic plan and intermediate results supported by other donors;

- information from any relevant evaluative activities completed during the period under review; and,

- any other relevant information.

(Refer to Supplementary References 203.6.15 and 203.6.26 for information concerning the analysis of performance monitoring and evaluation data.)

203.5.8a(2) Activity-Level Review

SO teams and/or activity managers shall regularly review and analyze inputs, outputs, and processes to insure activities are supporting the relevant intermediate result(s), and, ultimately, are contributing to the achievement of the strategic objective (refer to Supplementary Reference 203.6.16).

203.5.8a(3) Participation in Reviews

Operating units and SO teams shall conduct their reviews with relevant customers (including internal Agency customers, e.g. Global Bureau Centers providing technical support to field missions) and principal partners, when appropriate, to obtain their input.

203.5.8b Bureau Reviews of Operating Units

Agency bureaus shall conduct annual reviews of any and all operating units under the respective bureau's purview (i.e., regional bureaus will conduct annual reviews for each of their field mission operating units; Global bureau will conduct annual reviews for each of it's Centers/Offices functioning as operating units; BHR will conduct annual reviews of each of their operating units, etc.) to:

- assess progress towards the achievement of strategic objective(s), strategic support objectives and special objectives;

- examine areas where expected results are not being met;

- review the "management contract" and the need for any changes or refinements to the approved strategic plan; and,

- review resource requirements (see strategic planning).

PPC, M, G, BHR, and regional bureaus shall each participate in the bureau reviews as deemed appropriate by the conducting and participating bureaus. The R4 report shall be used as the basis of these reviews (see also Strategic Planning, E201.5.9). The bureau review of operating unit results may be conducted in conjunction with or separately from the annual budget reviews, provided that the results review is used as a basis to inform decisions regarding the budget. These bureau reviews may provide summary operating unit performance information for use in the annual review of overall Agency performance.

203.5.8c Review of Overall Agency Performance.

The Agency shall conduct a review of its performance on an annual basis by assessing progress towards Agency goals and objectives and by analyzing operating unit performance within the context of the Agency strategic framework. The review shall focus on the immediate past fiscal year, but may also review performance for prior years. This annual review shall serve overall Agency planning and management needs and form the basis of the GPRA report (see E203.5.9b). In addition to reviewing progress towards achieving Agency objectives, the review shall examine areas in which expected results are not being met.

The Agency review shall be coordinated and conducted by PPC with the assistance of M and G, as appropriate. PPC shall be responsible for coordinating and designating appropriate roles for other Agency bureaus, offices, and field missions in compiling and analyzing information for and participating in the review. PPC shall establish a schedule for the review, with the participation of other relevant Agency organizational units, in order to coordinate Agency information and meet specific reporting deadlines.

The review shall use information from Agency and operating unit performance monitoring systems, information from operating unit performance reviews, relevant evaluation and research findings, and other available information as necessary.

E203.5.8 Review of Performance Information - N/A

203.5.9 Reporting and Disseminating Performance Information

The Agency and its operating units shall report and disseminate findings on Agency and operating unit performance. The Agency shall be open and direct in reporting and disseminating findings on performance, and shall report on both successes and failures. Information from Agency performance monitoring systems, evaluative activities, and other relevant information, both quantitative and qualitative, as appropriate, shall be used in reporting and in disseminating findings on performance. (See also, E203.5.9.)

E203.5.9 Reporting and Disseminating Performance Information

Formal reports stipulated in policy 203.5.9a and essential procedures E203.5.9b and E203.5.9c shall be submitted to and collected by PPC/CDIE for purposes of providing broad access to this information and of archiving Agency records.

203.5.9a Operating Unit R4 Report

Operating units shall report annually to their respective bureaus through the Results Review and Resource Request (R4) report. The results review section(s) of the R4 report must address the operating unit's performance for the immediate past fiscal year, focusing on progress made towards achievement of the strategic objectives, strategic support objectives, and special objectives. The R4 is also to be used for revalidating the operating unit's strategy based on progress and refining indicators and targets.

Information from the R4 shall be used, as appropriate, for internal Agency analyses, responding to external inquiries, and Agency results reporting. (see Strategic Planning, 201.5.9 and E201.5.9 for other purposes of the R4 report as well as the required content of the R4 report).

The operating unit annual review stipulated in policy 203.5.8a(1) is to provide the analysis and information for the results review section(s) in the R4 report. The deadlines for submission of the R4 report shall be determined by the relevant Agency bureaus and shall take into account Agency needs for the use of this information for Agency reporting requirements and for the annual budget cycle.

E203.5.9a Operating Unit R4 Report - N/A

203.5.9b Reporting on Agency Performance

As required by legislation (GPRA of 1993) and Executive Orders, the Agency shall annually report on its performance to Congress and the Executive Branch. (See also, E203.5.9b.)

E203.5.9b Reporting on Agency Performance

Consistent with the Government Performance and Results Act (GPRA) of 1993, the Agency shall prepare and submit, by March 31 of each year or another date allowed for by Congress and the Executive Branch, a report to the President and Congress on the Agency's program performance for the previous fiscal year. The report must:

- review progress towards objectives over the past fiscal year;

- examine Agency plans for the current fiscal year relative to the performance achieved in the fiscal year covered by the report;

- where objectives are not being met, explain and describe why the objective was not met, plans and schedules for improving progress towards the established objective, and, if the objective is determined to be impractical or not feasible, why that is the case and what action is recommended;

- describe the use and assess the effectiveness in achieving objectives of any waiver under section 9703 of the GPRA; and,

- include summary findings of evaluations, as deemed appropriate, completed during the fiscal year covered by the report (see GPRA of 1993).

The review of overall Agency performance stipulated in policy 203.5.8c is to provide information for the GPRA report. PPC shall be responsible for coordinating and compiling this report, including coordinating information from other Agency bureaus, offices, and field missions as appropriate.

The performance information resulting from the preparation of the above annual Agency performance report may be used to meet the reporting requirements for the appropriate sections of financial statements submitted under the Chief Financial Officers Act (CFO) of 1990.

203.5.9c Meeting Other External Reporting Requirements

The Agency shall, where appropriate, use information on its performance to meet other external reporting requirements (beyond those described in policy 203.5.9b and essential procedure E203.5.9b) and to inform Agency stakeholders. (See also, E203.5.9c.)

E203.5.9c Meeting Other External Reporting Requirements

Performance information shall be used, as necessary, in the Agency Congressional Presentation submitted each year to Congress. Performance information shall also be used, as needed, to respond to other Agency reporting requirements.

203.5.9d Dissemination of Performance Findings

The Agency and its operating units shall disseminate and discuss findings on performance with relevant customers and principle partners (refer to Supplementary Reference 203.6.32 for additional information on communicating and disseminating performance findings).

E203.5.9d Dissemination of Performance Findings - N/A

203.5.9e Special Requests for Performance Information

Agency bureaus and offices shall not make special requests for performance information from operating units, unless the information is unavailable from R4 reports or Agency information systems.

E203.5.9e Special Requests for Performance Information - N/A

203.6 Supplementary References

[This section reserved for the following references]

Overview of Performance Monitoring and Evaluation

203.6.1 How to Use These Supplementary Reference Materials

203.6.2 Purpose of and Relationship Between Performance Monitoring and Evaluation

203.6.3 Roles and Responsibilities in Performance Monitoring and Evaluation

203.6.4 Partner and Customer Participation in Performance Monitoring and Evaluation

203.6.5 What Resources are Needed for Performance Monitoring and Evaluation

Performance Monitoring

203.6.6 Designing a Performance Monitoring System for use at USAID [Establishing Strategic Objectives and Intermediate Results - see Planning Supplementary References]

203.6.7 Selecting Appropriate and Useful Performance Indicators

203.6.8 Establishing Performance Baselines

203.6.9 Defining Performance Targets

203.6.10 Monitoring Critical Assumptions and Intermediate Results Supported by Partners

203.6.11 Developing a Performance Monitoring Plan

203.6.12 Sampling for Performance Monitoring Data Collection

203.6.13 Collecting Performance Monitoring Data

203.6.14 Ensuring Data Quality

203.6.15 Analyzing Performance Monitoring Data

203.6.16 Monitoring Activities: Inputs, Outputs and Processes

203.6.17 Preparing a Scope of Work for Various Monitoring Tasks

Evaluation

203.6.18 Using Evaluation in USAID

203.6.19 When is an Evaluation Needed

203.6.20 Designing an Evaluation: Asking the Critical Questions

203.6.21 Building an Evaluation Team

203.6.22 Selecting the Appropriate Evaluation Methodology

203.6.23 Sampling for Data Collection

203.6.24 Collecting Evaluation Data: Instruments and Logistics

203.6.25 Ensuring Data Quality

203.6.26 Analyzing Evaluation Data

203.6.27 Presenting Evaluation Findings, Conclusions and Recommendations

203.6.28 Preparing Evaluation Reports and Documentation

203.6.29 Review, Follow-up and Action Plan for Improvement with Partners and Customers

203.6.30 Preparing an Evaluation Scope of Work

Performance Information from Monitoring and Evaluation

203.6.31 Using Performance Information to Improve Effectiveness

203.6.32 Communicating and Disseminating Performance Information

Source: Appendix 4 to Alice Rivlin's memo of September 23, 1994 to OMB staff.

APPENDIX 4

PRIMER ON PERFORMANCE MEASUREMENT

This "primer" defines several performance measurement terms, outlines areas or functions where performance measurement may be difficult, and provides examples of different types of performance measures.

I. Definition of Terms

No standard definitions currently exist. In this primer, the definitions of output and outcome measures are those set out in GPRA. Input measures and impact measures are not defined in GPRA. As GPRA is directed at establishing performance goals and targets, the definitions are prospective in nature. Variations or divisions of these definitions can be found in other Federal programs as well as non-Federal measurement taxonomies. For example, a measurement effort which retrospectively reports on performance might define "input" as resources consumed, rather than resources available. The nomenclature of measures cannot be rigidly applied; one agency's output measure (e.g., products produced) could be another agency's input measure (e.g., products received).

OUTCOME MEASURE

GPRA Definition: An assessment of the results of a program compared to its intended purpose.

Characteristics

- Outcome measurement cannot be done until the results expected from a program or activity have been first defined. As such, an outcome is a statement of basic expectations, often grounded in a statute, directive, or other document. (In GPRA, the required strategic plan would be a primary means of defining or identifying expected outcomes.)

- Outcome measurement also cannot be done until a program (of fixed duration) is completed, or until a program (which is continuing indefinitely) has reached a point of maturity or steady state operations.

- While the preferred measure, outcomes are often not susceptible to annual measurement. (For example, an outcome goal setting a target of by 2005, collecting 94 percent of all income taxes annually owed cannot be measured, as an outcome, until that year.) Also, managers are more likely to primarily manage against outputs rather than outcomes.

OUTPUT MEASURE

GPRA Definition: A tabulation, calculation, or recording of activity or effort that can be expressed in a quantitative or qualitative manner.

Characteristics:

- The GPRA definition of output measure is very broad, covering all performance measures except input, outcome or impact measures. Thus it covers output, per se, as well as other measures.
  - Strictly defined, output is the goods and services produced by a program or organization and provided to the public or to other programs or organizations.
  - Other measures include process measures (e.g., paperflow, consultation), attribute measures (e.g., timeliness, accuracy, customer satisfaction), and measures of efficiency or effectiveness.
  - Output may be measured either as the total quantity of a good or service produced, or may be limited to those goods or services with certain attributes (e.g., number of timely and accurate benefit payments).

- Some output measures are developed and used independent of any outcome measure.

- All outputs can be measured annually or more frequently. The number of output measures will generally exceed the number of outcome measures.

- In GPRA, both outcome and output measures are set out as performance goals or performance indicators.
  - GPRA defines a ***performance goal*** as a target level of performance expressed as a tangible, measurable objective, against which actual performance can be compared, including a goal expressed as a quantitative standard, value, or rate.
    e.g., A goal might be stated as "Improve maternal and child health on tribal reservations to meet 95 percent of the national standards for healthy mothers and children by 1998". (Note that this goal would rely on performance indicators (see below) to be measured effectively.)

  - GPRA defines a ***performance indicator*** as a particular value or characteristic used to measure output or outcome.
    e.g., Indicators for the maternal and child health goal above might include morbidity and mortality rates for this population cohort, median infant birth weights, percentages of tribal children receiving full immunization shot series, frequency of pediatric checkups, etc.

  - Performance goals that are self-measuring do not require separate indicators.
    e.g., A performance goal stating that the FAA would staff 300 airport control towers on a 24 hour basis in FY 1996.

IMPACT MEASURE

Definition: These are measures of the direct or indirect effects or consequences resulting from achieving program goals. An example of an impact is the comparison of actual program outcomes with estimates of the outcomes that would have occurred in the absence of the program.

Characteristics:

- Measuring program impact often is done by comparing program outcomes with estimates of the outcomes that would have occurred in the absence of the program.
  - One example of measuring direct impact is to compare the outcome for a randomly assigned group receiving a service with the outcome for a randomly assigned group not receiving the service.

- If the impacts are central to the purpose of a program, these effects may be stated or included in the outcome measure itself.
  - Impacts can be indirect, and some impacts are often factored into cost-benefit analyses. An outcome goal might be to complete construction of a large dam; the impact of the completed dam might be reduced incidence of damaging floods, additional acreage converted to agricultural use, and increased storage of clean water supplies, etc.

- The measurement of impact is generally done through special comparison-type studies, and not simply by using data regularly collected through program information systems.

INPUT MEASURE

Definition: Measures of what an agency or manager has available to carry out the program or activity: i.e., achieve an outcome or output. These can include: employees (FTE), funding, equipment or facilities, supplies on hand, goods or services received, work processes or rules. When calculating efficiency, input is defined as the resources ***used***.

Characteristics:

- Inputs used to produce particular outputs may be identified through cost accounting. In a less detailed correlation, significant input costs can be associated with outputs by charging them to the appropriate program budget account.

- Often, a physical or human resource base (e.g., land acreage, square footage of owned buildings, number of enrollees) at the start of the measurement period is characterized as an input.
  - Changes to the resource base (e.g., purchase of additional land) or actions taken with respect to the resource base (e.g., modernize x square footage, convert y enrollees to a different plan) are classified as outputs or outcomes.

AN EXAMPLE OF OUTCOME, OUTPUT, IMPACT, AND INPUT MEASURES FOR A HYPOTHETICAL DISEASE ERADICATION PROGRAM:

Outcome: Completely eradicate tropical spastic paraparesis (which is a real disease transmitted by human-to-human contact) by 2005

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Outputs: 1.) Confine incidence in 1996 to only three countries in South America, and no more than 5,000 reported cases. (Some would characterize this step toward eradication as an intermediate outcome.)
2.) Complete vaccination against this retrovirus in 84 percent of the Western hemispheric population by December 1995.

Inputs: 1.) 17 million doses of vaccine
2.) 150 health professionals
3.) $30 million in FY 1996 appropriations

Impact: Eliminate a disease that affects 1 in every 1,000 people living in infested areas, which is progressively and completing disabling, and with annual treatment costs of $1,600 per case.

AN EXAMPLE OF OUTCOME, OUTPUT, IMPACT, AND INPUT MEASURES FOR A JOB TRAINING PROGRAM:

Outcome: 40 percent of welfare recipients receiving job training are employed three months after receiving job training.

Output: Annually provide job training and job search assistance to 1 million welfare recipients within two months of their initial receipt of welfare assistance.

Input: $300 million in appropriations

Impact: Job training increases the employment rate of welfare recipients from 30 percent (the employment level of comparable welfare recipients who did not receive job training) to 40 percent (the employment rate of those welfare recipients who did receive job training).

II. Complexities of Measurement

FUNCTIONAL AREAS. Some types of programs or activities are particularly difficult to measure.

- Basic Research, because often:
  - likely outcomes are not calculable (can't be quantified) in advance;
  - knowledge gained is not always of immediate value or application
  - results are more serendipitous than predictable;
  - there is a high percentage of negative determinations or findings;
  - the unknown cannot be measured.
  - (Applied research, applied technology, or the "D" in R&D is more readily measurable because it usually is directed toward a specific goal or end.)

- Foreign Affairs, especially for outcomes, to the extent that:
  - the leaders and electorate of other nations properly act in their own national interest, which may differ from those of the United States (e.g., Free Territory of Memel does not agree with US policy goal of reducing US annual trade deficit with Memel to $1 billion);

- US objectives are stated as policy principles, recognizing the impracticality of their universal achievement;
- goal achievement relies mainly on actions by other countries (e.g., by 1999, Mayaland will reduce the volume of illegal opiates being transhipped through Mayaland to the US by 65 percent from current levels of 1250 metric tons).

- **Policy Advice, because often:**
  - it is difficult to calculate the quality or value of the advice;
  - advice consists of presenting competing views by different parties with different perspectives;
  - policy advice may be at odds with the practicalities of political advice.

- **Block Grants, to the extent that:**
  - funds are not targeted to particular programs or purposes;
  - the recipient has great latitude or choice in how the money will be spent;
  - there is little reporting on what the funds were used for or what was accomplished.

BY TYPE OF MEASURE. Some measures are harder to measure than others. Some of the difficulties include:

- **For outcome, output, and impact measures**
  - Direct Federal accountability is lessened because non-Federal parties (other than those under a procurement contract) are responsible for the administration or operation of the program.
  - The magnitude and/or intrusiveness of performance reporting burden.
  - The nature and extent of performance validation or verification requires a substantial effort.
  - Individual accountability or responsibility is diffuse.

- **For outcome measures**
  - Timetable or dates for achievement may be sporadic.
  - Achievement often lags by several years or more after the funds are spent.
  - Results frequently are not immediately evident, and can be determined only through a formal program evaluation.
  - Accomplishment is interrupted because of intervening factors, changes in priorities, etc.
  - Changing basepoints can impede achievement (e.g., recalculation of eligible beneficiaries).
  - Achievement depends on a major change in public behavior.
  - The outcome is for a cross-agency program or policy, and assigning relative contributions or responsibilities to individual agencies is a complex undertaking.

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- **For output measures**
  - Equal-appearing outputs are not always equal (e.g., the time and cost of overhauling one type of jet engine can be very different from another type of jet engine).
  - It may be difficult to weight outputs to allow different (but similar appearing) outputs to be combined in a larger aggregate.
  - Many efficiency and effectiveness measures depend on agencies having cost accounting systems and capability to allocate and cumulate costs on a unit basis.

- **For impact measures**
  - Impacts are often difficult to measure.
  - A large number of other variables or factors contribute to or affect the impact, and which can be difficult to separate out when determining causality.
  - Federal funding or Federal program efforts are of secondary or even more marginal significance to the achieved outcome.
  - Determining the impact can be very expensive, and not commensurate with the value received from a policy or political standpoint.
  - Holding a manager accountable for impacts can be a formidable challenge.

- **For input measures**
  - The measurement itself should not be complicated, but the alignment of inputs with outputs can be difficult.

III. Emphasized Measures in GPRA

A. GPRA emphasizes the use and reporting of performance measures that managers use to manage. There are several reasons for this emphasis:

- GPRA increases the accountability of managers for producing results.

- Underscoring that these measures are central to an agency's capacity and approach for administering programs and conducting operations, and, because of this, the amount of additional resources to develop and improve performance measurement and reporting systems should be rather limited.
  - -- The conundrum is that agencies requesting large amounts of additional resources would be conceding either that their programs were not being managed, or were being managed using an inappropriate or poor set of measures.

B. As output measures are more readily and easily developed than outcome measures, more of these are expected initially in the GPRA-required performance plans, but agencies should move toward increasing the number and quality of outcome measures.

IV. *Selected Examples of Various Types of Performance Measures*

Please Note: For the purpose of these examples:

- Some of the outcome measures are much more narrowly defined than would otherwise be appropriate or expected.
- Some of the outcome measures are not inherently measurable, and would require use of supplementary performance indicators to set specific performance targets and determine whether these were achieved.
- Some measures include several aspects of performance. Italics are used to feature the particular characteristic of that example.
- Many of the examples of output measures are process or attribute measures.

Workload (Not otherwise categorized)

Output: Annually *inspect* 3200 grain elevators.

Outcome: Through *periodic* grain elevator *inspection*, reduce the incidence of grain dust explosions resulting in catastrophic loss or fatalities to zero.

Production

Output: *Manufacture and deliver* 35,000 rounds of armor-piercing 120mm projectiles shells in FY 1997.

Outcome: *Produce sufficient* 120 mm armor-piercing *projectiles* to achieve a 60 day combat use supply level by 1999 for all Army and Marine Corps tank battalions.

Transactions

Output: *Process* 3.75 million payment *vouchers* in FY 1995.

Outcome: *Ensure* that 99.25 percent of *payment vouchers are paid* within 30 days of receipt.

Records

Output: *Update* earnings *records* for 45 million employee contributors to Social Security Trust Fund.

Outcome: *Ensure* that all earnings *records are posted and current* within 60 days of the end of the previous quarter.

Utilization rates

Output: *Operate* all tactical fighter aircraft simulator training *facilities at not less than 85 percent of rated capacity.*

Outcome: *Ensure* that all active duty tactical fighter aircraft *pilots* are fully qualified having *received a minimum of 32 hours of simulator training* and flown 400 hours in the previous 12 months.

Frequency rates

Output: *Issue* 90 day national temperature and precipitation forecasts *every six weeks.*

Outcome: *Provide* users of meteorological forecasts with *advance information sufficiently updated to be useful* for agricultural, utility, and transportation planning.

Timeliness

Response times

Output: Adjudicative *decision* on all claim disallowances will be *made within 120 days* of appeal hearings.

Outcome: *Provide* every claimant with *timely* dispositive *determination* on claims filed.

Adherence to schedule

Output: *Operate* 95 percent of all passenger trains *within 10 minutes of scheduled arrival times.*

Outcome: *Provide* rail *passengers* with reliable and *predictable* train *service.*

Out-of-service conditions

Output: All Corps of Engineer *locks* on river basin x shall be *operational during at least 22 of every consecutive 24 hours.*

Outcome: *Ensure no significant delays* in traffic transiting through river basin x.

Defect rates

Output: *Not more than 1.25 percent* of 120 mm armorpiercing projectiles shall be *rejected as defective.*

Outcome: *No armor-piercing ammunition projectiles* fired in combat *shall fail to explode* on impact.

Mean Failure rates

Output: *Premature* space Shuttle main engine *shutdown shall not occur more than once in every 200 flight cycles.*

Outcome: Space Shuttle shall be maintained and operated so that *99.95 percent of all flights safely reach orbit.*

Accuracy

Output: The *position of 300,000 navigational buoys shall be checked monthly.*

Outcome: *All navigational buoys shall be maintained within 5 meters of the charted position.*

Inventory fill

Output: *Store* a minimum of 3.5 million barrels of *petroleum* stock.

Outcome: Petroleum *stocks* shall be maintained at a level sufficient to *provide a 60 day supply* at normal daily drawdown.

Complaints

Output: Not more than *2.5 percent* of individuals seeking information *will subsequently re-request* the same information *because the initial response was unsatisfactory.*

Outcome: *99 percent* of all requests for information *will be satisfactorily handled with the initial response.*

Customer Satisfaction Levels (Output and outcome measures may often be indistinguishable.)

Output: *In 1998*, at least *75 percent* of individuals receiving a service *will rate the service delivery as good to excellent.*

Outcome: At least *90 percent* of recipients will *rate the service delivery* as good to excellent.

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Efficiency

Output: Annual transaction costs/production costs/delivery of service costs projected on a per unit basis. *Produce* 35,000 rounds of armor-piercing *ammunition at a cost of $17.75 per round.*

Outcome: (Not commonly measured as an outcome.)

Milestone and activity schedules

Output: *Complete 85 percent of required flight-worthiness testing* for Z-2000 bomber *by July 30, 1999.*

Outcome: The Z-2000 *bomber* will be flight-certified and *operational by December 1, 2000.*

Design Specifications

Output: Imaging *cameras* on Generation X observational satellite will have *resolution of 0.1 arc second.*

Outcome: Generation X observational satellite will successfully map 100 percent terrain of six Jovian moons to a resolution of 100 meters.

Status of conditions

Output: In 1995, *repair and maintain 1,400 pavement miles* of Federally-owned highways *to a rating of "good".*

Outcome: By 2000, *35 percent of all Federally-owned highway pavement miles* shall be *rated as* being in *good condition.*

Percentage coverage

Output: Provide *doses of vaccine to 27,000 pre-school children* living on tribal reservations.

Outcome: *100 percent* of children living on tribal reservations will be *fully immunized* before beginning school.

Effectiveness

Output: *Not more than 7,000 in-patients* in military hospitals will be readmitted, post discharge, for further treatment of the same diagnosed illness at the time of initial admission.

Outcome: *Initial treatment* will be therapeutically *successful for 85 percent* of all hospital admissions.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

APPENDIX 5

THE DIRECTOR

August 5, 1994

M-94-26

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Alice M. Rivlin
Acting Director

SUBJECT: FY 1996 Budget Planning Guidance and the Use of Performance Information in the FY 1996 Budget Process

Planning Guidance

In his memorandum of April 21st providing preliminary planning guidance for the FY 1996 Budget for your agency, Leon Panetta stated that revised guidance may be issued to reflect further Congressional action and other factors. After reviewing the status of Congressional action on FY 1995 appropriations to date, we have decided that the April planning guidance will not be revised. The final outcome of the FY 1995 appropriations bills is still too uncertain to forecast accurately the impact of these bills on the FY 1996 guidance levels.

As a result, agencies should submit by September 9th, FY 1996 Budget requests for discretionary budget authority and FTE employment that do not exceed the levels specified in the April 21st guidance. Agency plans for FY 1995 buyouts should also be submitted on September 9th. As Congress completes action on the FY 1995 appropriations bills, we will work with you to ensure that your submissions and our analysis of them accurately reflect Congressional action.

We expect rapid Congressional action on the pending Crime Bill. As you know, the Crime Bill contains funding for a "Violent Crime Reduction Trust Fund." While most of this funding will be designated for Department of Justice programs, some will also be designated for programs in other departments. Your FY 1996 Budget requests should clearly indicate requested funding from this source; however, only programs authorized in the Crime Bill will be considered for funding from the Crime Fund.

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We are committed to formulating a budget that funds the President's priorities. To do so while remaining within the Budget Enforcement Act discretionary spending limits will require extra effort. I look forward to working with you on this task.

Performance Information

OMB recently revised Circular A-11, which provides guidance to agencies on their submissions for the FY 1996 Budget. This year's A-11 gives special emphasis to the goal of increasing the use of information on program performance, or what programs are actually achieving. Although performance measurement is not a new subject for the government's budget and program analysts, we at OMB will be giving it much more attention than in the past in part because of the following:

- The Government Performance and Results Act requires expanded use of performance measurement information. Specifically, strategic planning and performance targeting is required from all agencies by FY 1999.

- The tough resource constraints in the Budget Enforcement Act, and the urgent need to reduce the budget deficit to increase national savings while simultaneously increasing public investment, puts a premium on finding effective government programs and improving or terminating programs that are ineffective.

For this year's review of agency budget requests, I am instructing OMB analysts to use performance information to inform or influence decisions whenever possible. With regards to one particular A-11 requirement, that agencies identify performance goals and indicators that are useful in making decisions for key programs, I believe it is important enough to warrant a meeting between OMB staff and agency budget officers. OMB staff will set up this meeting soon to discuss this and other topics related to performance information for the FY 1996 budget.

Effective government is important to all Americans, and especially important to this Administration. Building on the start that is made this year, future budgets will give increasing attention to program performance measurement. With your participation and encouragement, the use of program performance measurement can help us get more out of each program dollar.

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USAID'S STRATEGY FOR SUSTAINABLE DEVELOPMENT:

AN OVERVIEW

The Challenge

The United States Agency for International Development was created in 1961 with two purposes in mind: to respond to the threat of communism and to help poorer nations develop and progress. Both were legitimate strategic roles for the Agency; both were grounded in the belief that it was possible to defend our national interests while promoting our national values.

In these capacities, USAID helped the United States achieve critical objectives. It advanced a foreign policy that embodied a commitment to justice and liberty, a desire to bring the benefits of democracy to people throughout the world, a willingness to be a helpful neighbor, a humanitarian response to people in need, and a determination to lead. Over three decades, USAID achieved considerable success fulfilling these strategic mandates.

With the end of the Cold War, the international community can view the challenge of development directly, free from the demands of superpower competition. The international community in general and the United States in particular now have an historic opportunity: to serve our long-term national interests by applying our ideals, our sense of decency, and our humanitarian impulse to the repair of the world.

It is not wishful thinking to believe that we can constructively address the pollution of the seas and the air, overburdened cities, rural poverty, economic migration, oppression of minorities and women, and ethnic and religious hostilities. On the contrary, the cost of not acting, of having to deal with the global impact of imploding societies and failed states, will be far greater than the cost of effective action. Investment in development is an investment in prevention.

Serious problems of development will yield to effective

strategies: This is a lesson of the last 30 years. Many poor nations have experienced unparalleled economic growth during this time. Some have become predominantly middle-class societies; others are well along in similar transformations. In many nations, poverty has declined significantly. Foreign assistance has accomplished much: Vast resources and expertise have been invested to help poor countries develop, and millions of lives have been made better as a result.

Why then is the issue of development so urgent now? It is no exaggeration to suggest that the challenges we face constitute potential global threats to peace, stability, and the well-being of Americans and people throughout the world.

The threats come from a multitude of sources:

* The continuing poverty of a quarter of the world's people,leading to the hunger and malnutrition of millions and their desperate search for jobs and economic security.

* Population growth and rapid urbanization that outstrip the ability of nations to provide jobs, education, and other services to millions of new citizens.

* The widespread inability to read, write, and acquire the technical skills necessary to participate in modern society.

* New diseases and endemic ailments that overwhelm the health facilities of developing countries, disrupt societies, rob economies of their growth potential, and absorb scarce resources.

* Environmental damage, often arising from population pressures, that destroys land, sickens populations, blocks growth, and manifests itself on a regional and global scale.

* And finally, the threat comes from the absence ofdemocracy, from anarchy, from the persistence of autocracy and oppression, from human rights abuses, and from the failure of new and fragile democracies to take hold and endure.

Americans cannot insulate themselves from these conditions. Pollution elsewhere poisons our atmosphere and our coastal waters and threatens the health of our people. Unsustainable population growth and spreading poverty can lead to mass migrations and social dislocations, feeding terrorism, crime, and conflict as desperate people with little to lose attempt to take what they want by force.

These threats pose a strategic challenge to the United States. If we do not address them now, we shall have to pay dearly to deal with them later.

To respond in a meaningful way, the United States must articulate a strategy for sustainable development. It must forge a partnership with the nations and the people it assists. It must focus on countries where its help is most needed and where it can make the most difference. It must make the most of limited financial resources and employ methods that promise the greatest impact. And the United States must bring all its resources to bear -- not only its money, but its expertise, its values, its technology, and most of all, the involvement of ordinary Americans.

Effectively delivered, development assistance provides a powerful means to address, ameliorate, and even eliminate the problems of rapid population growth, environmental degradation, endemic poverty, debilitating hunger, mass migration, and anarchy. We cannot "develop" nations, but we can help them unleash their productive potential and deal effectively with the challenges of development. As President Clinton has affirmed, foreign assistance is a central component of effective foreign policy. Development cooperation is not just a tactic, but an integral part of our vision of how a community of nations, some rich and some poor, should function.

Because development assistance is designed to help other nations deal with the problems of national life peacefully and productively, our work is both altruistic and self-interested. Successful development creates new markets for our exports and promotes economic growth in the United States. America's poor increasingly benefit from development methods pioneered abroad, such as microenterprise and childhood nutrition interventions. Moreover, foreign assistance facilitates international cooperation on issues of global concern.

USAID lacks the resources to implement all the programs outlined in these papers, and budgetary pressures are forcing our nation to make hard choices among worthy investments. Yet we believe that those choices cannot be made unless the full extent of the threat is understood. These papers are both battle plans and advocacy documents. They articulate a strategic vision that will guide our work. They also are designed to focus attention within the Executive Branch, in Congress, among the American people, and within the donor community on the crucial role that promoting sustainable development must play in our foreign policy.

The current situation demands nothing less. It is unrealistic to expect that international conflict, oppression, and disorder can be eradicated. But it is not unrealistic to try to address those problems by providing nations, communities, and individuals with opportunities for development. The ultimate dividend should be nothing less than a more peaceful, more prosperous world.

Operational Approaches

USAID recognizes that its success will be determined by the way it approaches its development mission and the way it responds to urgent humanitarian needs. To meet the challenges of the post-Cold War world, USAID will employ certain operational methods in all its endeavors: support for sustainable and participatory development; an emphasis on partnerships; and the use of integrated approaches to promoting development.

Sustainable development is characterized by economic and social growth that does not exhaust the resources of a host country; that respects and safeguards the economic, cultural, and natural environment; that creates many incomes and chains of enterprises; that is nurtured by an enabling policy environment; and that builds indigenous institutions that involve and empower the citizenry. Development is "sustainable" when it permanently enhances the capacity of a society to improve its quality of life. Sustainable development enlarges the range of freedom and opportunity, not only day to day but generation to generation.

When sustainable development is the goal, the focus moves from projects to the web of human relations changed by those projects. Sustainable development requires investments in human capital -- in the education, health, food security, and well-being of the population. Sustainable development sparks changes within society, from the distribution of power to the dissemination of technology. It continually challenges the status quo.

Sustainable development mandates participation. It must be based on the aspirations and experience of ordinary people, their notion of what problems should be addressed, and their consultations with government, development agencies, and among themselves. It must involve, respond to, and be accountable to the people who will live with the results of the development effort. It must help them build institutions of free discourse and inclusive decision-making.

Thus, the fundamental thrust of USAID's programs, whether in

democracy building, environment, economic growth, or population and health, will aim at building indigenous capacity, enhancing participation, and encouraging accountability, transparency, decentralization, and the empowerment of communities and individuals. Our projects will involve and strengthen the elements of a self-sustaining, civic society: indigenous non-governmental organizations (NGOs), including private voluntary organizations (PVOs), productive associations, educational institutions, community groups, and local political institutions. This approach will make empowerment an integral part of the development process, and not just an end result.

Partnerships begin with collaboration between donors and host nations. Donors must recognize that development, in every sense, depends on the developing country itself. Donors assist. They can help, facilitate, even accelerate, but the major task must be carried out by the host nation, not the donor. Sustainable development is built upon a sense of ownership and participation. It is not something that donors do for developing countries; it is something that donors help the people of developing countries do for themselves.

The notion of partnership imposes certain responsibilities on host governments. In determining where it will invest its resources, USAID will consider whether the host government permits development agencies and NGOs full access to the people; whether it invests its own resources in development; whether it encourages development through an enabling environment that comprises sound policies and responsive institutions; and whether it fosters local empowerment, particularly of women and members of minorities, as part of the development process.

An increasing portion of development work is being carried out by NGOs, including U.S.-based PVOs, indigenous NGOs, institutions of higher learning, and professional and academic groups. These organizations possess unique skills and contacts; they are USAID's natural partners in development and their work is reinforced by the private sector. Improved coordination with these agencies will permit USAID to do the things it does best and concentrate the skills of its employees where they are most needed.

USAID recognizes that the effectiveness of these organizations depends in large measure on their institutional autonomy. USAID cannot and should not micromanage these organizations. However, to ensure that programs achieve their objectives, USAID will insist upon a critical evaluation of project design, implementation

capabilities, and past field performance. It will maintain oversight and communicate regularly once projects have commenced.

Donors must reinforce each other and coordinate at every stage of the development process. USAID can improve its own effectiveness by cooperating with other donors in a multitude of ways, including: joint assessment of development problems and the threats they represent; cooperative planning and division of responsibility; allocation of resources to reinforce other development efforts; pooling of financial resources where possible and appropriate; sharing of technical resources and expertise; rapid transfer of information about methods and results; and collaboration and communication in the field and collectively with host governments.

Partnership also includes leveraging. In its narrowest sense, leveraging involves the pursuit of matching funds. Much of our leveraging work will continue to be done in coordination with multilateral development banks (MDBs). USAID also will encourage other donors to contribute to worthy projects and to become involved in areas that deserve support but where we lack funds to operate. The Agency will also encourage the active participation of private enterprise. A strategy for development should seek to increase the number and kind of participants in the development process, and efforts to this end are a legitimate part of USAID's mission.

Finally, USAID will use integrated approaches and methods.

Integration begins with policy. USAID conducts its programs under the direction and guidance of the Secretary of State and attaches the highest priority to coordinating its work with the needs and objectives of the Department of State and the U.S. Ambassador and the country team, wherever its missions operate.

The fundamental building block of USAID's programs will be integrated country strategies. These strategies will take into account the totality of development problems confronting the society. They will be developed in close cooperation with host governments, local communities, and other donors and will consider how social, economic, political, and cultural factors combine to impede development. They will seek to identify root causes and the remedies that can address them. We intend to minimize so-called "stovepipe" projects and programs that operate without regard for other development efforts or larger objectives.

USAID will pay special attention to the role of women. In much of the world, women and girls are disproportionately poor, ill, and exploited. Of necessity, the development process must focus on their social, political, and economic empowerment. We will integrate the needs and participation of women into development programs and into the societal changes those programs are designed to achieve. Women represent an enormous source of untapped talent, especially in developing nations. The success of women -- as workers, food producers, health providers and teachers of their children, as managers of natural resources, and as participants in a democratic society -- is essential to successful development. A development process that fails to involve half of society is inherently unsustainable.

Development assistance must address the specific needs of women in developing nations: health, housing, education, equal access to productive resources and employment, participation in society, and empowerment. In their design and implementation, programs must take gender issues into account and pay particular attention to the needs of women in poverty. The ultimate success of our work will be determined by the impact it has upon the lives of the women and men it is designed to assist.

Areas of Concentration

The United States must commit itself to act, must act in concert with other donors, must act where it can have maximum effect, and must draw on its strengths. These strengths determine where USAID will concentrate its resources.

USAID's programs will be undertaken in three types of countries:

* Countries where USAID will provide an integrated package of assistance -- these will be termed sustainable development countries. Assistance to these countries will be based on an integrated country strategy that includes clearly defined program objectives and performance targets.

* Countries that have recently experienced a national crisis, a significant political transition, or a natural disaster, where timely assistance is needed to reinforce institutions and national order. These are classified as transitional countries.

* Countries where USAID's presence is limited, but where aid to non- governmental sectors may facilitate the emergence of a civic society, help alleviate repression, meet basic humanitarian needs, enhance food security, or influence a problem with regional or global implications. In such countries, USAID may operate from a central or regional base, may focus on policy and institutional changes in the public sector, or may support the work of U.S. or indigenous NGOs or institutions of higher education.

Within these nations, USAID will support programs in four areas that are fundamental to sustainable development: Population and Health, Broad-based Economic Growth, Environment, and Democracy. Progress in any of these areas is beneficial to the others. This is especially true with rapid and unsustainable population growth, which consumes economic gains, deepens environmental destruction, and spreads poverty.

Problems of the environment, population, health, economic growth, and democracy also have a transnational impact. They require approaches that consider the global impact and that are not confined to individual states. Investments in these areas thus must be seen as primary prevention of the crises, deep-seated poverty, and despair that fuel civil unrest and international turmoil.

The United States in general and USAID in particular have extensive skills in each of these key areas. Moreover, USAID's partners in development -- American PVOs, universities, and training organizations, and the American private sector -- are particularly experienced in these areas.

Finally, solutions to these problems will help create self-sustaining, civic societies. Such solutions are characterized by local empowerment, the involvement of the recipients of aid in their own development, decentralization of decision-making, and the establishment of institutions of consensus-building and conflict resolution. They mandate the creation and involvement of indigenous NGOs -- intermediary organizations that enhance popular participation, that deepen the benefits to society, and whose very existence can promote peaceful change. Such solutions are the essence of sustainable development.

USAID will continue to carry out its other traditional mandate: providing emergency humanitarian assistance and disaster relief with dollars, technical expertise, and food assistance.

Emergency humanitarian assistance and disaster aid are integral to the process of promoting sustainable development. Emergency humanitarian assistance relieves suffering and stabilizes nations that have experienced natural disaster or famine. Typical humanitarian crises such as famine, civil conflict, and the inability to respond to natural disaster increasingly owe directly to failures of development. Emergency humanitarian assistance is a necessary, stop-gap response that helps nations recover to the point where they can address the larger issues of development.

As part of its humanitarian assistance and disaster relief function, USAID will acquire the capability to respond rapidly to the needs of countries in crisis. This is particularly critical to USAID's long-term development mission. A gap in development assistance currently exists: Emergency relief helps nations that have suffered acute crisis or natural disaster; programs of sustainable development address the long-term needs of developing societies. But nations that are trying to emerge from crisis or make a transition from authoritarianism to democracy often have urgent, short-term political requirements that are not addressed by either traditional relief programs or programs of sustainable development.

USAID can help mitigate these problems in two ways:

First, by helping countries reestablish a degree of food self-reliance through the distribution of such things as tools, seeds, and other agricultural supplies essential to begin planting and to reinvigorate the agricultural sector.

Second, by helping to reinforce and rebuild institutions. The transition from disaster or civil conflict is itself a crisis. From the political point of view, it is best to address such crises early, before famine and social disorder perpetuate and the momentum of civil conflict becomes irresistible, and before the cost of reconstruction grows geometrically. From the developmental point of view, it is best to arrest conflict and buttress institutions before the social structure collapses and takes with it the coherent pieces of an economy and a civic society that could grow and modernize.

Measuring Results

The success of foreign assistance is determined by its impact upon developing nations. Inputs are meaningless without reference to effects.

With this in mind, USAID will measure its results by asking how projects and programs achieve discrete, agreed objectives. This is a demanding approach that forces everyone involved in the foreign assistance process to focus on how projects actually affect the way people live and to distinguish self-sustaining accomplishments from ephemeral ones.

This approach also forces people within USAID to work as a team in designing, implementing, and evaluating projects and programs. It obligates them to cooperate with contractors and grantees; with NGOs, universities, and colleges; with the private sector; with other donors; with multilateral institutions; with host governments; with local authorities; and most important of all, with the citizens of developing countries, the intended beneficiaries of these programs.

While no program can touch every aspect of life within a society, individual programs in each of USAID's areas of concentration need to be structured and implemented to produce affirmative answers to these kinds of questions:

Is the program consistent with the interests and values of the American people?

Does the program or project produce measurable, positive effects? Does it lower population growth rates, create jobs and incomes, augment food security, enhance public health, improve air and water purity, slow the loss of soil and soil fertility, arrest the loss of biodiversity, create indigenous democratic institutions?

Does it address the actual needs of the local people as they themselves define them? Does it consult local people to identify related problems and opportunities?

Does the program build indigenous capacities and permanently enhance the capacity of the society to improve the quality of life?

Does the program involve and empower the people who are supposed to benefit from it? Do they participate in planning, allocation of resources, selection of methods, management, oversight, and assessment of accomplishments? Does the program help create the institutions of a civic society? By its design and operation, does the program help establish and strengthen indigenous NGOs?

Does the program avoid duplication and incorporate lessons learned by the development community? Are the specific ways in which the program affects global and transnational problems shared locally, nationally, and regionally?

Does the program create economic opportunities for different groups in society? Does it generate economic opportunities for American business? Are USAID mechanisms used to identify and disseminate these opportunities to the agencies, companies, and individuals in the country, in the region, and in the United States who might benefit from them?

By applying standards such as these, USAID can ensure that its development programs help the United States respond to the strategic threat of failed development. These standards will shape USAID's approach to each of the areas of strategic concern, as is evident in the five accompanying papers. The value of these standards will be evident in the attitudes they affect within the Agency and the development community, in the development effort that ensues, and in the global improvement in the quality of life.

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

SPEECH RELEASE

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Remarks of J Brian Atwood
International Food Policy Research Institute
Washington, D.C.
June 13, 1995

I want to congratulate IFPRI and the National Geographic Society for convening this conference and for focussing our attention on the future. As the Administrator of a government agency struggling to survive the present, I find looking forward particularly stimulating.

The columnist Walter Lippman once observed that ıticians should not be "right too soon." What he didn't say was that they cannot be successful if they are right too late. Perhaps that is why this city tends to neglect the future. I suspect the same is true of every capital city. It is so difficult to gain the attention of today's voters even when discussing threats that hold dire consequences for successor generations.

Yet we know we must address critical long term issues. None are more important than food security. So I congratulate IFPRI and the National Geographic Society for forcing us to relate the policies and budgets of today to the challenges of tomorrow.

You ask us to look at the year 2020. That is in itself provocative. But I want to provoke even more by asking you to consider two very different visions.

The first 2020 is, quite frankly, a terrible place, the consequence of today's proclivity to focus on ledgers that neglect investments in the future.

In this vision of the year 2020, world population exceeds 8 billion - a 50% increase.

More than a billion and a half people live on the edge ıarvation -- twice the number of today.

Twenty-five million children die annually from malnutrition and the diseases that accompany it -- again twice as many as today.

Food production has increased, but too slowly; untouched tracts of land are a thing of the past, as more and more marginal lands are put under the plow.

Nations that once were food secure, either by production or income, have become food insecure again. Spreading social conflicts and the competition over resources impede the use of proven methods to grow food and store it and ship it.

The loss of biodiversity has by now claimed so many specifies that opportunities to discover new food groups and medicines are reduced to nil.

Food prices soar, making the steady decline in world food prices experienced from 1950 to 1992, a distant memory. Nations find themselves spending an increasing proportion of their incomes to maintain their diets and, in so doing, undercut their own potential for economic growth.

In the traditional food exporting nations of North America and Europe, new parasites and diseases, many liberated by reckless development in remote areas, periodically wipe out grain crops and animal herds.

Unfortunately, one does not require much of an imagination to picture this version of the year 2020. Some of the manifestations are already with us. One does not need extrapolate much from the scenes of today -- the 40 million refugees and displaced persons, the structural food deficits, the failed states -- to imagine the world of tomorrow.

But there is another vision of the year 2020, one that assumes a more enlightened approach to international cooperation. One that can be produced with leadership and ingenuity.

In this 2020, the gains of the Green Revolution have been protected, not lost to new diseases and environmental damage.

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Marginal lands are mostly intact, because improved agricultural technologies have made existing fields far more productive.

Grain stocks are tight but integrated pest management . effective storage techniques free up millions of bushels that once were lost.

Advance planning, prepositioning, and regional cooperation cannot avert drought but minimize the consequence -- famine.

Development assistance supports broad-based economic growth and builds political institutions, defusing conflicts before they ignite.

Demands on humanitarian assistance continue, but not to the point where they exhaust available resources, or constantly command the center stage of international diplomacy.

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We all know which 2020 we would choose. But can we make our political systems respond. Perhaps. The corollary to Lippman's admonition that politicians should not be right too soon, is that leadership must be right on time. And it is already late!

We will determine which future comes to pass. Not merely "we," meaning the people of 1995. But "we," the development experts, the researchers, the farmers, the citizens, and yes, even the politicians -- we will determine the future if we succeed in communicating to our publics what is at stake.

The issue is more than research, more than agriculture, more than grain and meat and food itself. The issue is food security. And the hardest challenge of all is to look beyond the end of the furrow, beyond the narrow development program, beyond the specific research proposal, to focus on what really is at issue.

I say to the traditional national security thinkers that food security is a fundamental issue of foreign policy. It is, in fact, a condition whose absence is a major contributor to international instability. Food insecurity motivates people to migrate, engage in civil conflict and otherwise disrupt the for economic growth and peaceful coexistence.

We are uncertain about how the world will look 25 years hence; but one thing is certain: in 2020, people will know that the years that immediately followed the Cold War demonstrated how events might transpire: For the better, with global embrace of democracy and the free market; or for worse, with the spread of civil wars that sowed chaos, drove refugees from their homes, and left failed states and ruined lands in their wake. Twenty-five years from now, people will certainly understand that all too often, food was the linchpin of events, especially in the developing world.

Twenty five years from now, people will be less forgiving of those who wanted to use foreign aid only to facilitate transitions or to substitute for military involvement. People will ask us why we did not counter the real threats to our people's security. People will ask why the Cold Warriers, long after their victory, continued to fight a war that was over. People will ask why American leadership, so significant in the Cold War, was so absent in the new world of so much disorder. Or will they?

And, then, there is the world of opportunity. Food insecurity is also an economic growth issue as IFPRI and this Conference has well recognized. Many developing nations are primarily agrarian, and broad-based growth simply cannot take place if rural populations have no means of improving their incomes or their nutrition.

Food insecurity is an environmental issue. Subsistence agriculture drives the exploitation of marginal lands, misuse of water supplies, exhaustion of soils, deforestation, release of greenhouse gases, and the loss of genetic diversity.

Food insecurity is a population, health, and nutrition issue. Food insecurity is intimately connected with poor maternal health, high rates of infant mortality, and the disempowerment and illiteracy of women, key factors that drive higher birth rates and degrade health standards, further exacerbating the hunger problem.

And food insecurity is a democracy issue. Where democracy exists, starvation from famine has been rare, as Amartya Sen has shown us.

This problem is not going to go away. If current trends continue, food problems in Africa could grow exponentially. In Asia, where population growth, the eventual emergence of a gigantic middle class intent upon a richer diet, and the failure to preserve the gains of the Green Revolution could again create a dependency on imported food, even as overall wealth increases.

World food production in general and developing country food production in particular may become more variable due to global warming. In nations already on the margin, lacking in resilience, these changes can have a disastrous effect. And the natural resource base, including the biodiversity that could yield potential food sources, many of which have hardly been identified, much less developed, is likely to continue to deteriorate.

How do we deal with the challenge of creating a food secure world? How do we persuade our publics that food insecurity affects them and that they must be involved in finding solutions? And what policies should we pursue, especially when development funding of all kinds is diminishing?

First, we need to point out how our own self-interest is affected. Food insecurity is not someone else's problem. Someone else's hunger threatens us. And conversely,

someone else's progress benefits us, and development assistance is critical to that progress:

Much of the dwarf wheat and rice grown in the ·ed States now incorporate genes first identified in Asia. ıstance to pests, to drought, to bacterial and viral diseases -- qualities on which American farmers rely to turn out crops for our own consumption and for export -- derive in large measure from genetic material and germplasm identified abroad. The same is true of new growing methods. And these things were not just identified by accident, but as part of development programs designed to do just that. In every case just mentioned, by programs supported by USAID.

If we are talking about self-interest, we need to point out that increased food security abroad means jobs here at home. One-third of U.S. farm acreage currently grows crops for export, providing the country with a $22 billion trade surplus and more than 750,000 jobs. But hungry people make poor customers. IFPRI's own excellent study, released at this conference, shows that agricultural aid pays back $4 for every dollar invested. In expanded grain exports. In growing trade in a variety of foodstuffs. And rising agricultural productivity ultimately leads to expanding sales of nonfood goods and services that better-fed, emerging middle classes invariably need and want to buy.

Self-interest also extends to crisis prevention and its savings: In illegal migration that does not flood across ·ders. In food aid and humanitarian assistance that are not ired. In funding for peacekeeping and national ıconstruction that does not have to be found. Indeed, self-interest is inseparable from prevention and prevention is the least expensive yet most effective way to address significant problems while advancing our own interests.

In Africa, for instance, we cannot address growing food problems simply with relief. Since last year, the United States has spent more than half a billion dollars in Rwanda and Burundi, mostly for relief. Yet we know that the same amount of money invested in development assistance could save much larger amounts in future relief. We must reverse the trend in which relief competes with development funding. We must make relief operate as part of a continuum that includes recovery, long-term development and then trade and investment.

The Greater Horn of Africa Initiative is an example of this approach. It is founded on the assumption that while drought may be inevitable, famine is not. Ten governments, in partnership with development agencies and affecting some 22,000,000 at-risk people, are working to establish early warning systems to quickly identify food crisis areas; preposition food stocks to minimize the social disruptions of famine, especially refugee movements; and support regional ·oaches to planning and crisis management.

The Initiative for the Greater Horn really has two objectives:

First, to prevent natural events from becoming regional disasters, demanding endless humanitarian relief and threatening stability;

And second, to lay the groundwork for regional cooperation and institutional growth that will make it possible to address the structural food deficits that are still emerging. By helping to prevent famine, we help societies to meet a challenge and cohere; by helping societies to cohere, we increase the chance that they will find the resources, the skills, and the will to address other issues that impede their growth.

The President's Greater Horn initiative, now embraced by the countries of the region, underlines a critical part of the way we make our case to our publics: We cannot separate food issues from the larger issue of development. We need to find new ways to do our business. Part of this is practical: in a time when most industrial states are devoting fewer resources to development assistance, we cannot expect that aid for any particular concern, even one as demonstrably valuable as agricultural research, will be immune to funding cuts. This means that we must do more with less.

Another part of the answer lies in the integrated approaches that we have been pursuing. The issue of food is bound up in other issues, and lasting progress will be achieved only if progress is achieved in those areas as well:

- Thus, for us, food security involves laboratory research, yes, but also policy and how it affects what is planted and sold and by whom.

- Food security involves economic growth, especially access to resources and who can accumulate resources sufficient to ensure proper nutrition.

- Food security touches on education, especially the education of women who represent the majority of farmers in places like sub-Saharan Africa.

- Food security involves population programs, for improved nutrition means lowered birthrates and increased child survival, two demographic factors that strongly affect who goes hungry and who is fed.

- Food security involves the natural environment. Today in India, 100,000,000 acres of forest are still standing precisely because improved methods of rice and wheat production have reduced the pressures to cut them and put them into agricultural production.

- And food security is an issue of democracy. Participation and accountability are the natural antidotes to starvation and maldistribution of food.

The third and final way to make our case and enlist the support of our publics is to remind them what we have achieved and the challenges that lie ahead. There is a connection: we have learned so much in the last 25 years. The experience and the scientific tools available to us now were undreamed of 1970. Not only in genetics, but in the

social tools that can encourage people to adopt improved methods and the economic tools of the free market. The only way to deal with the next quarter-century is to understand what worked during the last quarter century. In that regard, need to do much more than refute the silly charge that ign aid has not worked. We need to build on our success and plan for the future.

One of first tasks is protecting the achievements of the last 25 years, the gains of the first Green Revolution. Not only do those gains mean that hundreds of millions of people have food to eat, the declining real food prices that have accompanied productivity gains have benefitted everyone, but most especially the poor and the vulnerable. Continued and increasing productivity of the bread baskets and rice bowls of the developing world must not be taken for granted.

We talk a lot about sustainable development. Well, the Green Revolution created development; and it falls to us to sustain it. In doing so, we also need to remember that advances in areas where the first Green Revolution took hold underpin food security in all regions, by helping to make food more available and affordable. If anything, such interdependence will become more pronounced in the future.

At the same time, we need to find ways to bring a second revolution to bear on the special problems of areas with problem soils, areas subject to climatic vagaries, especially drought. Some of the answers will come from arch on how natural resources are managed, and how , water, fertilizers and other inputs can be made more sustainable and more productive. Other pieces of the puzzle will come from continued advances in developing new crop varieties with tolerance to both physical and biological stresses. The combination of research tools and integrated approaches make the task more doable than ever before.

Those of you who specialize in agricultural development will not succeed in making the public your partners if you do not create a partnership with your colleagues in other development fields. Now is the wrong time for parochialism. We must reach out to NGOs and PVOs, to environmentalists, population experts, health, education and democracy experts, to old and new academic partners, to private industry, and to communities here and abroad. We have to share responsibilities and avoid duplication, use resources to their maximum and train and enlist anyone who can make a measurable contribution to improved food security.

We know that our legislatures and our citizens care about the hungry. That they understand, increasingly, how aid creates jobs and trade. Their search for measurable results plays to our strength, for the pursuit of food security has produced tangible improvements at home and throughout world.

Now is the time to build on that legacy. Like all visionary years, the year 2020 will arrive. And as the visionary becomes the real, we will know all too well if the salient reality is hunger and pain and conflict, or hope, and health, and prosperity. So, to those politicians who do not wish to be right too soon, I say "Wake up, it's getting late."

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U.S. AGENCY FOR
INTERNATIONAL DEVELOPMENT

Subject: Food Aid and Food Security Policy Paper

The USAID Food AID and Food Security Policy Paper was approved by Deputy Administrator Carol Lancaster on February 27, 1995. The policy paper, which is attached to this Notice, will guide program development and resources allocation for all USAID administered food aid activities.

Poverty and poor distribution of food leave a significant portion of the world's population hungry and malnourished. To meet this challenge, USAID is focusing its resources on sustainable development. Our goals are to invest in people, expand access and opportunity and promote favorable policies and institutional environments which attack the primary cause of hunger—poverty.

Food assistance plays an important and special role in this effort. How food aid will be used by USAID to accomplish our strategies for sustainable development is the subject of this policy paper. It provides an overview of the changing nature of global food security and the recent changes in both domestic and international conditions affecting food aid. The paper's principal policy consequences and management implications are:

- For Title III Programs
- Priority in allocating food aid will be given to countries most in need of food. Under current world conditions, those countries are primarily in Africa.
- Priority will be given to programs with direct linkages to increased agricultural production and consumption.

- For Title II Programs
- Priority will be given to programs in those countries that need food most and where food insecurity is greatest. Title II programs will focus on improving household nutrition, especially in children and mothers, and on alleviating the causes of hunger, especially by increasing agricultural productivity.

- For all Programs

  USAID will allocate resources and manage programs to increase the impact U.S. food aid has in reducing hunger.
- Food aid will be integrated to a greater extent with other assistance resources (particularly USAID resources). Proceeds from the monetization of food can be used to complement direct feeding programs and to support development programs, particularly those which enhance agricultural productivity and/or improve household nutrition.

- Greater attention and resources will be allocated to strengthening the program development and management capacity of USAID's food aid partners: the Private Voluntary Organizations, local non-governmental organizations and the World Food Program. USAID field missions will strengthen collaboration and dialogue with these partners in working to achieve mutually agreed objectives.
- USAID will seek to identify greater budgetary flexibility to respond to emergencies. Since overall food aid appropriations are likely to be reduced, this flexibility will need to come from such measures as expanding the types of commodities in existing reserve systems and improved multilateral coordination.
- Greater priority will be given to the relief to development continuum. Food insecure countries must be prepared to cope with recurring drought and with political conflict. Equally important, relief programs must ensure families are able to return as quickly as possible to productive lives.

The Agency will be flexible in applying this guidance. The ultimate objective is improvement in the food security of poor and hungry people. By focusing our activities according to the guidance contained in this paper the impact of our P.L. 480 resources will increase.

USAID is committed to reviewing food security issues on an ongoing basis. The Agency will continue to work closely with the PVOs and through international and related fora on food security issues. USAID will focus on the opportunity to introduce innovative new programs to reduce hunger and support sustainable development, especially in the Horn of Africa.

This paper was prepared in consultation with the Private Voluntary Organizations that manage much of the U.S. food aid program and with USAID field missions.

POINTS OF CONTACT

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U.S.A.I.D. Policy Paper

FOOD AID AND FOOD SECURITY POLICY PAPER

Bureau for Program and Policy Coordination

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Executive Summary

Since enactment of P.L. 480 in 1954, the global agricultural economy has changed radically. U.S. food aid and related foreign assistance programs have contributed to rapid expansion of global food security. Even in developing countries, hunger no longer dominates daily life.

However, the past forty years have produced uneven progress. The challenge of world hunger in the 1990s, particularly in Africa, is real.

- 800 million people in the world are chronically undernourished.
- More than 180 million children are severely underweight.
- 13 million people die every year from hunger and related causes, mostly children under 5.
- An estimated 35 million people "at risk" needed 4.5 million tons of emergency food assistance in 1994.

In the long run, USAID believes sustainable development offers the best hope for significant reduction in hunger, and food aid has an important and special role to play in this effort.

But the conditions which govern U.S. food assistance have changed since 1954. The U.S. no longer generates large agricultural surpluses—food aid is now a scarce resource. Moreover, U.S. government funding for food aid is subject to the same budget constraints as other forms of assistance—every dollar allocated for food aid is equivalent to a dollar of development assistance.

In this new environment, USAID must ensure that food aid is used as effectively and efficiently as possible.

This policy paper is the logical next step toward making food aid a more effective and efficient resource for promoting food security in needy countries. It draws on "lessons learned" in successful efforts in Asia and Latin America to help poor people move from hunger and malnutrition to sustainable development. The paper is designed to provide broad guidance to USAID field managers and to the Private Voluntary Organizations (PVOs) that implement much of the U.S. food aid program. It is the responsibility of these field managers, including the PVOs, to decide how best to achieve food security.

This policy paper provides guidance on the program interventions USAID believes are most likely to achieve sustained improvements in food security. It is not prescriptive. However, the evidence in support of these reforms is increasingly compelling.

USAID's goal is to increase the impact of food aid in reducing hunger.

For Title III programs, this means USAID will give greater priority in allocating food aid to those countries that need food most and within those countries will concentrate on programs with direct linkages to increased agricultural production and consumption.

Similarly, Title II development programs will focus on improving household nutrition, especially in children and mothers, and on alleviating the causes of hunger, especially by increasing agricultural productivity. Other programs which can clearly be shown to improve food security, for example, by increasing incomes in rural and urban areas through economic and community development and by promoting sound environmental practices, will also be considered.

For Title II development programs, priority will be given to programs in those countries that need food most and where food insecurity is greatest. However, programs will also be eligible for funding in developing countries where progress is being made but where there remain large numbers of poor and hungry people.

Procedures for implementation of Title II programs will continue to be developed in consultation with cooperating sponsors pursuant to the requirements of Section 205 of P.L. 480, which creates the USAID/PVO Food Aid Consultative Group.

For both Title II and Title III, these priorities will help ensure scarce resources are allocated where they have the greatest impact. Except for emergencies, food aid programs in countries where overall U.S. foreign assistance has been terminated will be approved on an exception basis only.

Performance monitoring and assessment systems will be introduced to permit USAID and the PVOs to demonstrate more clearly the food security impact of U.S. food aid programs. Responsibility for this new "managing-for-results" system will fall primarily on the PVOs and USAID's field missions. In turn, these field managers will be given flexibility to propose activities which they believe will have the greatest impact on improved food security.

Experience has shown that food aid is most effective when used in conjunction with complementary programs. For example, the recipient country itself must ensure that policies are in place which support economic growth and sustained development. This suggests food aid has its greatest potential for sustained impact on food security when it is programmed as an integral part of a broader effort including USAID, PVO, other donor and recipient country resources.

Most important, USAID expects its food security programs to result in local capacity for continued progress, even after U.S. assistance programs end. Building this local capacity should be an important objective of all USAID activities, since it is essential both to improved food security and to sustainable development.

In summary, this paper provides an overview of food security in the world today and identifies measures available to reduce hunger and malnutrition. These new Agency policies are fully consistent with existing legislation.

The principal policy consequences and management implications are:

- For Title III Programs
- Greater priority in allocating food aid will be given to countries most in need of food. Under current world conditions, those countries are primarily in Africa.
- Highest priority will be given to programs with direct linkages to increased agricultural production and consumption.

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- For Title II Programs
- Priority will be given to programs in those countries that need food most and where food insecurity is greatest. Title II programs will focus on improving household nutrition, especially in children and mothers, and on alleviating the causes of hunger, especially by increasing agricultural productivity.

- For all Programs
- USAID will allocate resources and manage programs to increase the impact U.S. food aid has in reducing hunger.
- Food aid will be integrated to a greater extent with other assistance resources (particularly USAID resources). Proceeds from the monetization of food can be used to complement direct feeding programs and to support development programs, particularly those which enhance agricultural productivity and/or improve household nutrition.
- Greater attention and resources will be allocated to strengthening the program development and management capacity of USAID's food aid partners: the Private Voluntary Organizations, local non-governmental organizations and the World Food Program. USAID field missions will strengthen collaboration and dialogue with these partners in working to achieve mutually agreed objectives.
- USAID will seek to identify greater budgetary flexibility to respond to emergencies. Since overall food aid appropriations are likely to be reduced, this flexibility will need to come from such measures as expanding the types of commodities in existing reserve systems and improved multilateral coordination.
- Greater priority will be given to the relief to development continuum. Food insecure countries must be prepared to cope with recurring drought and with political conflict. Equally important, relief programs must ensure families are able to return as quickly as possible to productive lives.

In adopting these policy and management reforms, USAID is recommitting itself to the effective and efficient use of food aid as a resource for sustainable development. Field managers and PVOs will be expected to fully consider this guidance and justify program proposals in terms of food security results. In turn, they will be held accountable for achieving such results once programs have been approved.

FOOD AID & FOOD SECURITY

I. INTRODUCTION

The ability of the world to feed itself has improved dramatically over the last three decades. Intensive agriculture and new crop varieties have fueled steadily increasing per capita food production. Decreasing world food prices have made food more available to a greater number of people. In 1975, approximately one in three people in developing countries was underfed; today, the number of underfed has dropped to one in five.

The long-term sustainability of this progress, however, is increasingly at risk. Advances in major crop yields, such as wheat and rice, have slowed. The intensive use of land and water, which brought major production increases, now brings growing environmental costs. And most significantly, world population continues to grow at the rate of nearly 100 million people per year—mostly in the developing world.

Though millions have benefitted from the world's agricultural progress, the distribution of global food supplies is very uneven, with hunger still prevalent in some regions of the world, particularly South Asia and sub-Saharan Africa.

The challenge of world hunger in the 1990s is real:

- 800 million people are chronically undernourished.
- More than 180 million children around the world are severely underweight.
- 13 million people die every year from hunger and related causes (mostly children under age 5).
- An estimated 35 million people "at risk" needed 4.5 million tons of emergency food assistance in 1994.

Most hunger is still found in rural areas—large regions of persistent poverty, such as the Horn of Africa, where development has failed and fragile ecosystems and civil strife combine to keep hunger alive. Rapid urbanization has also drawn growing numbers of rural poor who have little or no access to jobs and are therefore unable to feed their families.

For the United States, global hunger is both a humanitarian concern and a strategic problem. Americans have traditionally supported humanitarian assistance for those in need and in crisis. However, our aid reflects not just a noble humanitarian impulse, but also an investment in preventive diplomacy. Hunger and food insecurity contribute to political instability; exacerbate environmental degradation; create migration pressures and displaced populations; and prevent sustainable development. Ultimately, global hunger affects our own basic interests as a nation.

However, alleviating hunger is a daunting challenge, especially so if self reliance is the goal. The causes of hunger are complex, and improvements in food security are difficult to sustain.

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- Hunger results from lack of broad-based economic growth, especially for the very poor. Hunger prevents people from being economic participants, except in desperation or as supplicants—and lack of economic opportunity engenders poverty. Increased food productivity plays an important role in alleviating hunger and in broad-based economic growth. Very few countries have experienced rapid economic growth without growth in food productivity preceding or accompanying it.
- Hunger results from environmental degradation. Food insecurity drives the exploitation of marginal lands, the misuse of water supplies, the exhaustion of soils, and deforestation. Nearly two-thirds of tropical deforestation currently comes at the hands of small-scale agriculturalists attempting to grow more food.
- Hunger results from lack of access to family planning services. World population is growing by 100 million per year, straining the productive capacity of agriculture. Hunger also causes poor maternal health and high rates of infant mortality—the latter a factor that drives higher birth rates.
- Hunger is a democracy issue. Pursuit of democracy is hampered when basic human needs are lacking. Conversely, democratic governments tend to be more responsive to the basic needs of their people.

II. FOOD SECURITY

A. Definition of Food Security.

People are "food secure" when they have regular access (either through production or purchasing power) to sufficient food for a healthy and productive life.

Drawing on the 1990 legislative reforms to P.L. 480, USAID in 1992 issued a broad definition of food security: "When all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life." This definition further notes that "three distinct variables are central to the attainment of food security: availability, access, and utilization." These variables are interrelated.

> **Food availability** is achieved when sufficient quantities of food are consistently available to all individuals within a country. Such food can be supplied through household production, other domestic output, commercial imports or food assistance.

Food access is ensured when households and all individuals within them have adequate resources to obtain appropriate foods for a nutritious diet. Access depends upon income available to the household, on the distribution of income within the household and on the price of food.

Food utilization is the proper biological use of food, requiring a diet providing sufficient energy and essential nutrients, potable water, and adequate sanitation.

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Effective food utilization depends in large measure on knowledge within the household of food storage and processing techniques, basic principles of nutrition and proper child care.

B. Food Insecurity Today

Global agriculture currently produces ample calories and nutrients to provide all the world's people healthy and productive lives. However, food is not distributed equally to regions, countries, households and individuals. A substantial share of the world's supply of calories and nutrients is allocated to diets rich in animal protein. At the same time, many families have insufficient food to meet their basic needs and must be considered chronically food insecure.

Food aid can help meet a fraction of the needs of the poor. However, improved access to food—through increased agricultural productivity and incomes—is essential to meet the food needs of the world's growing population. Agricultural productivity includes measures across the entire spectrum of the food system which reduce food costs in real terms and increase incomes.

If historical patterns hold, rising incomes will result in increased effective demand for food, and, in turn, increased production. In a world where there are already many food insecure people, this process will create additional uncertainty about food supplies for the poor, especially if food prices also rise. However, it also means there is real potential for expanding the incomes of the poor if ways can be found to improve their productivity both on and off the farm.

South Asia and Sub-Saharan Africa are the regions most affected by chronic food insecurity.

African food security has declined in the 1980s due to rapid population growth, economic stagnation, and civil strife. The combination of growing population and lagging food production in sub-Saharan Africa points to an impending crisis for the region. During the decade of the 1990s, the food gap in Africa is expected to more than quadruple to 50 million tons of grain equivalent, an amount far beyond either the ability of African nations to import or developed countries to supply through food aid.

While the trends in South Asia are not as disquieting, food insecurity will remain a significant problem. Crop yields are increasing at a slower rate than over the past three decades. By the year 2025, the cereal food gap alone in Asia is expected to be 255 million tons.[1]

Basic economic statistics and more complex indexes including measures of nutritional status can be used to evaluate the food security status of a population. At the simplest level, per capita income growth, per capita food production, the percentage of total household income spent on basic foods, and the percentage of

[1] The "food gap" is the difference between needs and domestic consumption and imports. Estimate noted in "Sustainable Agriculture for a Food Secure World", Conway Panel, CGIAR Oversight Committee.

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the population falling below the country's poverty line are useful indicators. For example, a six year decline in per capita income in several African countries is indicative of growing food insecurity. Similarly, per capita food production declined in twenty-six African countries, without any significant growth in the industrial or service sector to compensate for production, employment and revenue losses. Among the poorest Asian households, sixty to seventy percent of income is spent to purchase basic foods.

FAO has prepared a food security index. It derives from four measures:

- the proportion of the population, on average during the course of the year, who do not have enough food to maintain body-weight and support light activity;
- the magnitude of the food gap of this undernourished group from the national average requirements for dietary energy;
- an estimate of the extent of risk associated with facing temporary annual shortfalls in dietary energy supplies; and
- the effects of cereal food aid shipments.[2]

Food insecurity today has a devastating impact on families and on the countries in which they live. Where the food insecure make up a substantial portion of the total population, as they do in some parts of South Asia and in Africa, the impact can overwhelm a country's development opportunities. Food insecure people are, by definition, unable to lead healthy and fully productive lives. They drain the social service budgets of the poorest developing countries, and they lack the simple physical energy needed to contribute fully to their own livelihood.

The most pernicious impact of food insecurity, however, is its toll on children. Severe malnutrition results in very high infant and child mortality and, for those children who survive, there are many life-long medical complications, including mental retardation. Recent research has also demonstrated that even mild-to-moderate malnutrition significantly raises the risk of mortality in children. Since this mild-to-moderate malnutrition is so much more common in the poorest countries, this means it is prominent in total child mortality.

C. *Causes of Food Insecurity*

Many factors interact to create food-insecure situations: chronic poverty, low agricultural productivity, high rates of population growth, civil conflict, poor infrastructure, ecological constraints, inappropriate economic policies, limited arable land and even cultural practices developed over many years. These are not discrete, independent factors, but related elements of the food security equation.

The chief cause of food insecurity is chronic poverty: persistent lack of economic opportunity either to produce adequate food or to exchange labor for the income to purchase adequate food.

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[2] Attachment I provides FAO's index.

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In some countries, such poverty results from the unequal distribution of economic opportunities and benefits due to political exploitation or poor economic policies. In others, poverty results from pervasive failure of the national economy to grow and as a result to generate broad based opportunities to produce food or income.

A related major factor affecting food security is the underlying dynamic of population growth. Approximately 100 million people will be added to the world population every year for the foreseeable future. By the year 2025, the population will total 8.5 billion, of whom 7 billion will live in developing countries. Sub-Saharan Africa will grow from 500 million today to 1.2 billion by 2025.

Although global rates of undernutrition are falling, rapid growth of population in some countries and regions inflates the number of malnourished, and weakens the capacity of these countries to become food self-reliant through domestic production and commercial imports. The United Nations Children's Fund (UNICEF) reports that the annual number of births is declining in Latin America; births will peak in Asia in the mid-1990s (the year 2000 for South Asia) and then begin to fall. However, in Africa the annual number of births will continue to rise well into the next century.

Agricultural output, is another major factor in the world hunger equation.[3] In Africa, for example, food production increased by 33% in the 1980s, but per capita output of food actually declined as population growth outstripped increased food production.

A related factor contributing to food insecurity is poor infrastructure. Improved on-farm productivity will not increase food security if farm production is unable to make it to market. Farm-to-market roads, for example, may be poor to non-existent, hampering distribution and access to food. Sufficient and well-functioning infrastructure is essential to facilitate exchange and access to markets.

Inappropriate policies which result in disincentives to local production and efficient marketing are another cause of food insecurity. Often local farmers have no incentive to invest in sound agricultural or environmental practices because of price controls, insecure land tenure and/or overly centralized government structures which stifle local initiative. Private food distribution may be discouraged by excessive regulations and by unfair competition from subsidized and inefficient government-run parastatals.

Food insecurity can be exacerbated by disease, poor water and sanitation systems, inadequate nutritional knowledge, and cultural conditions which affect consumption patterns. The integration of food security initiatives with other health and education programs can effectively address many of these problems. UNICEF recently estimated that child nutrition could be enhanced as well or better through prevention of diarrheal disease as through supplementary feedings.

Civil war and ethnic conflicts also threaten food security by cutting off whole segments of a country's population from food supplies and disrupting traditional

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[3] See Attachment II for a breakdown of agricultural growth rates needed to: 1) maintain status quo consumption; and 2) meet nutritional requirements.

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agriculture. Chronic food shortages in the Horn of Africa have been exacerbated by civil conflict.

D. *Food Insecurity in Emergencies*

All countries confront natural disasters at one time or another. All countries experience some form of political conflict. However, food insecure countries are particularly vulnerable. The sense that they will not be able to feed themselves and their children is one of the most important "tripping mechanisms" in inducing families to leave their homes and become refugees or internally displaced. In Africa, the number of refugees and internally displaced has risen from one million in the early 1970s to over twelve million now.

The demand for emergency food aid has grown dramatically. Between 1989 and 1993, world-wide emergency food needs have doubled from $1.1 billion to $2.5 billion per year, according to the World Food Program (WFP). One of the reasons for this phenomenon is the increase in protracted emergencies. "Complex disasters" [4] are placing continuing burden on relief agencies: e.g., Sudan since 1983, Angola since 1989, Somalia since 1991. In 1992, NIS and Eastern Europe became new recipients of U.S. food aid, and now constitute a large share of total aid (22% this year). Additional short-term needs tied to civil strife in Bosnia, Rwanda, Haiti, and elsewhere will likely continue to place growing demands on food resources.

III. *MEASURES TO IMPROVE FOOD SECURITY*

In a real and important sense, USAID's entire portfolio contributes to food security. USAID's strategic priorities—economic growth, health and population, the environment, democracy, and humanitarian assistance—each supports improved food security. Helping countries to achieve sustainable development is the surest way to eliminate the chronic poverty which is the root cause of food insecurity. USAID will continue this integrated approach, drawing on development assistance resources to target critical problems in needy countries.

In the case of very poor developing countries, improved agricultural productivity has played a critical role in establishing basic food security. In the major development success stories in Asia—first Korea and Taiwan, then Thailand India and Indonesia, and now even Bangladesh—efforts to promote productivity growth resulted in basic food security for large numbers of people and provided the initial stimulus for economic growth and development. Through productivity increases, food production expanded rapidly and food prices fell relative to nominal wages. The poor were able to procure more food for their families, helping to improve household nutrition, and at

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[4] "Complex disasters" are emergencies which combine natural disasters (such as famine, earthquake, flooding) with ongoing civil conflict. As a result, complex disasters tend to be less amenable to resolution or amelioration, and consequently involve donor assistance over longer periods of time.

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the same time to devote some of their resources to other basic needs, including education. Demand for family planning services increased as the importance of child labor in agriculture declined. Incomes grew in rural areas, stimulating investment in off-farm activities and eventually leading to sustained growth.

USAID investments in agriculture played a leading role in this effort. The International Agricultural Research Centers provided key technological breakthroughs which led directly to this "green revolution." USAID bilateral assistance programs provided policy counsel, coordination with other donors and international institutions such as the World Bank, and direct investments in agriculture. Food aid was used to improve access to food and provide balance of payments support. In some cases, direct feeding was used to improve household nutrition.

Achieving food security has always been a complex development challenge. Individual country circumstances vary widely and selecting appropriate measures requires experience and the ability to respond to local needs. Sustaining improvements in food security requires the ability to understand issues at the global, national, community and household level. Most important, achieving food security requires the initiative and hard work of the people themselves and the institutional and free-market environment which will permit their efforts to be successful.

A. *Importance of the Global Agricultural Economy*

The impact on the developing countries of expanding world food production and growing agricultural trade can be significant. The price of basic grains is determined in the global market, and can be critically important for poor, food deficit countries. A growing market also offers opportunities for many developing countries to expand agricultural production, incomes and exports.

The new GATT agreement includes important new measures to reduce subsidies and open markets. As a result, prices are expected to be somewhat higher than they otherwise would be, which will benefit producing countries. Increasing international prices will also provide production incentives for developing countries. Expanded market access, which will result from the GATT, will encourage expansion and diversification of production as well.

The impact of the global food economy on any individual developing country depends on the country's specific circumstances and its ability to adjust to change. The degree to which a country benefits in this volatile economy depends, among other factors, on its promotion of a sound and supportive domestic policy environment. As an example, in 1993/94 food production per capita declined in 45 of 70 low income food deficit countries when compared to average production the previous five years. However, per capita food use declined in only 20 of these countries. The other 25 were able to adjust and use commercial food imports and food aid to support consumption increases.

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Those countries which make the necessary adjustments will benefit in the new global agricultural economy. For those that do not, higher prices for imported basic food commodities will drain development budgets and, perhaps, increase dependency on food aid. The GATT negotiators recognized that the poor, food-deficit countries have traditionally had difficulty adjusting and that food aid in the near term could be especially important. However, food aid simply cannot fill the supply gap over the longer term, and it is essential that the poor, food deficit countries develop the expertise and the political will to adjust to more open international markets. In countries where this is an important issue, USAID field missions can play an essential supportive role with technical assistance and multilateral contacts.

The U.S. Government has in past played a leadership role in negotiating and monitoring the international agreements which regulate the global agricultural economy. However, the lead agencies—State and USDA—have properly concentrated on the interests of U.S. agriculture and its developed economy competitors. USAID has had little role, and the potential impact of trade on poor, food deficit countries has not been monitored closely.. USAID needs to do more in future.

As important, sustained improvement of global agricultural productivity depends heavily on research investments. Past successes have focused on the crops and farming systems of the developed countries and Asia—rice, wheat and corn. To some extent national systems in the countries which are making progress on food security can be relied upon for continued research products suitable to their domestic crops. However, the poorest countries will continue to rely on the International Agricultural Research Centers. USAID continues to view these institutions as important contributors to food security in poor countries and deserving of significant support.

B. USAID Agriculture Programs in Poor Countries

Growth of agricultural productivity and improved household nutrition have been the keys to establishing food security in poor countries. Historically, USAID missions in very poor countries where food security is a major problem have given high priority in their strategic planning to agriculture.

Efforts to expand production of staple food crops have been pursued through improvements in agricultural policies, bringing more land under cultivation, and by increasing yields on existing lands through more intensive use of inputs and through introduction of improved crop varieties.

Now, bringing more land under cultivation is rarely an environmentally acceptable alternative in most regions. In Asia, where total food demand is greatest, the potential for new arable lands or even new irrigated land is already limited. Use of new lands would cause irreversible ecological damage as forests and hillsides are cleared for agriculture.

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At the same time, some believe the potential for significant increases in yields on available lands is declining. On a global scale, grain production per person has shown signs of stagnation if not a slight decline since 1985.[5] In part, this results from removing lands from production in the U.S. and in Europe in response to policies designed to control excess production. However, it also appears growth in productivity of the best agricultural lands in Asia has flattened out in recent years. Some have attributed this "plateauing" in yields to lack of sufficient investment in improved technologies. Food production per capita is actually declining in several African countries.

Nevertheless, as most countries in Latin America and Asia have made significant progress toward food security, overall USAID investments in agriculture have declined significantly. Some have suggested this very progress in many developing countries has resulted in a false sense of security about the world's capacity to feed itself. As a result, competition has arisen from other priority areas for scarce development assistance resources. Remaining funding for agriculture, which is now concentrated within USAID's Economic Growth priority area, has been squeezed even for the poor, food deficit countries. In Africa, funding for agriculture declined from a high of $200 million per year in 1988 to $125 million in 1993.

C. *USAID Household Nutrition Programs in Poor Countries*

Within households, food consumption by family members is dictated by a variety of cultural priorities. It is essential that adequate income or household production provide sufficient calories and nutritional balance for all. Equally important, families must have access to clean water and to fuel for preparing food, must understand the basic requirements of family nutrition, and must have access to basic health care services. Access to family planning services and adequate post-natal care, including breast feeding, are also essential.

Within households, all of these food security responsibilities fall most heavily on women. Their decisions translate the basic conditions necessary for food security—availability, access and utilization—into the reality of food secure families. Yet, these same women suffer heavily from the effects of malnutrition. In 1990, an estimated 370 million women between 15 and 49 years of age were anemic, a condition that contributes to high maternal mortality rates, especially during childbirth. Hence, programs to support and enhance the role of women in developing countries can often make an important contribution to food security.

USAID also supports research on nutrition at the household level and is particularly interested in the potential contribution of vitamin A and other micronutrients. There is increasing evidence that availability of these critical elements in the diets of children can help reduce morbidity and mortality. As important, there is also recent evidence that mild to moderate malnutrition, which is closely associated with the overall supply of calories, significantly increases the risks of child mortality. In combination, these findings demonstrate that adequate supply of food, a balanced

[5] Conway Panel, Ibid.

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diet, and knowledge of proper food preparation and nutrition are all essential to sustained food security.

As with agriculture, the competition for foreign assistance resources has meant that only modest funding can be made available for international nutrition programs.

D. Integrated Programs

Achieving food security in the poorest developing countries is proving an especially complex development challenge. The physical environment in much of Africa is fragile and subject to periodic drought. Many areas of Africa and all of South Asia are already densely populated, and growth rates continue to be very high. Basic food crops of the poor—sorghum, millet, and cassava—have not received sufficient attention in global agricultural research. The political and cultural traditions

of many of the poorest countries, particularly in Africa, remain distorted by the legacy of colonialism and by poverty. Ethnic conflict and other civil strife regularly disrupt economic progress and sends waves of refugees across national borders.

In this complex environment, marginal efforts are unlikely to succeed. USAID, working with other donors and the recipient countries, must be prepared to mount a comprehensive, sustained effort. Where USAID field missions decide food security is a major problem—and the Agency concludes it can and should pursue improvements in food security as a program objective—the USAID mission must be prepared to allocate the full range of Agency resources to the effort. Donor coordination must also be given high priority.

Since funding for agriculture and nutrition programs—and for broad-based economic growth in general—will continue to be sharply constrained, it is also essential that U.S. food aid be used as efficiently and effectively as possible. This will require a good understanding of the development context for individual countries and regions and a sound analytical framework to guide policies which support sustained progress.

USAID evaluations of food aid programs have shown that food assistance is most effective where it is programmed in conjunction with dollar funding for technical assistance and with local currency for logistical support and grass-roots development activities. In fact, sustained progress toward food security will depend heavily on progress on the full range of factors contributing to sustainable development. This means food aid will be most effective where it is integrated with other USAID resources.

IV. FOOD AID

Title II and Title III of P.L. 480–the food aid programs USAID administers directly—total nearly $1 billion per year. Food aid is a very flexible resource and can be used to support improved food security in a variety of ways. However, food aid is also a

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specialized resource which requires careful consideration of programming circumstances and careful management.

A. *The Nature of Food Aid*

Food aid is a resource transfer which can be conveyed in kind or monetized. In past, food aid has served a wide range of U.S. government purposes: surplus commodity disposal, relief aid and diverse development interventions. It has proven flexible enough so that it can be used in a variety of forms: balance of payments support, local currency for projects, or in directed feeding programs. In many cases, food-aid sales transactions within the recipient country have, in their own right, been an important development tool, helping to strengthen markets and encouraging policy change.

U.S. private voluntary organizations (PVOs) manage more than half of USAID administered food aid. Drawing on their own resources and management capacity, PVOs provide a unique and invaluable capacity to manage local, community-based programs which directly reach the poor. Local currency generated from the sale of food commodities provides an important complementary resource the PVOs can reinvest in activities designed to improve food security.

1. *Special Strengths:*

One of the obvious strengths of food aid is its immediate application in feeding people—either as part of a humanitarian relief effort, as part of a recovery strategy or as part of a broader development effort. In situations where food-as-food is critical to humanitarian or development progress, food aid is the preferred USAID resource.

Food aid can also enhance the effectiveness of other development programs such as nutrition education, family planning, child survival, and community development projects. This can be accomplished either through directed feeding or through "monetization" to generate local currency.

An historic advantage of food aid was it was "cheap" in terms of costs to the U.S. foreign assistance budget. For nearly four decades, food aid helped dispose of U.S. domestic agricultural surplus. It provided real benefits to American farmers, and reduced storage and handling costs to the U.S. government. However, with the onset in the late 1980s of new agricultural policies designed to reduce surpluses, (now embodied as well in the Uruguay Round of GATT), surplus commodities have and will continue to decline precipitously.

No longer can food aid be considered a cheap resource for development and relief. The budget for food aid is now equally subject to the constraints which confront the overall U.S. foreign assistance budget. A dollar spent on food aid is a dollar not spent on "development assistance" and vice versa.

2. *Special Considerations:*

Food aid also has several distinct characteristics which must be carefully considered when USAID missions and PVOs decide to use food as a development tool—and as humanitarian relief assistance.

Food aid should be managed so that it supports local agricultural production. This may require special efforts to utilize local markets for the distribution of food and careful timing of deliveries. Otherwise, the introduction of food aid can disrupt local agricultural markets, depressing prices and discouraging local farm production. Commodity selection is also important. Food aid may prove counterproductive if the commodity is unacceptable to local preferences and, in extreme cases, can also distort local consumption patterns, with long-term consequences for local agricultural markets.

Food aid can also be expensive to deliver and manage. Shipping costs, including U.S. cargo preference and any necessary inland transportation, add to the costs of delivering U.S. commodities. Proper monitoring of the commodities themselves to guard against waste and diversion is essential and can be costly. Monetization of food aid requires managing the conversion of food into local currency and then acceptable oversight of the disposition of the local currency. All these costs must be carefully weighed against the benefits in considering alternative approaches to accomplishing assistance objectives.

In most cases, food aid requires complementary investments to achieve maximum impact, and USAID missions and the PVOs need to ensure those resources will be available as food is delivered. Even with narrowly stated objectives, such as nutritional improvement in poor children, sustainable development is so complex a process that complementary interventions are necessary. These interventions can be financed with monetization, other local currency sources, or dollar funding. However, they all have their own costs and require significant management commitment.

In developing food aid programs, it is important to capitalize on the special strengths of food aid. To do so requires full consideration of the special circumstances which influence the costs and effectiveness of these programs.

B. *FOOD AID PROGRAMS*

While food security is the umbrella policy goal for all food aid programs, each of the USG food aid programs has different characteristics.

1. *Title I*

P.L. 480 Title I export credit programs develop foreign markets for U.S. farm products. This government-to-government assistance is provided on a concessional

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loan basis and entails untargeted food distribution through normal commercial channels. Title I is managed by USDA.

2. *Title II*

(a) Development Programs

Title II development programs provide food aid grants which are implemented by PVOs or the World Food Program. Activities include pilot programs for small-holder agriculture, supporting market liberalization through policy change, nutrition and other child survival programs, community development such as water and sanitation and environmental restoration, or small scale infrastructure development. A portion of Title II commodities can also be monetized by PVO partners to fund complementary development interventions to enhance the impact of food programs and contribute to food security.

(b) Emergency Programs

Title II is also used for direct feeding activities to respond to short-term, unanticipated food shortages. Emergency programs may be implemented by PVOs, WFP or on a government-to-government basis. Increasingly, emergency feeding is a component of relief efforts in complex emergencies involving political conflict. (Sometimes these "emergencies" can last for several years.) Food aid is sometimes monetized to fund complementary activities such as distribution, repackaging, and wet feeding in refugee camps. Emergency feeding is usually managed by PVOs or the World Food Program.

(c) World Food Program

The World Food Program (WFP) is a UN Agency. It is the principal multilateral channel for food aid. It provides food aid used in feeding programs of the UN High Commissioner for Refugees. WFP also manages both development and emergency feeding programs for bilateral donors, including the U.S. The U.S. makes a biennial pledge of assistance to WFP (currently $300 million) to cover both commodity and transportation costs for WFP development and refugee projects. Emergency food aid channeled through WFP is committed in response to appeals for emergency food for disaster relief. Direct contributions to WFP for management have so far been minimal.

3. *Title III*

Title III of P.L. 480 funds government-to-government grants for development activities. Title III programs normally include policy reform conditions and frequently generate local currencies for development projects.

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Because Title III commodities most often enter untargeted commercial distribution systems, Title III Agreements may contain commitments by the host government to foster the availability and accessibility of basic foods to the most disenfranchised households.

In May of 1994, USAID approved Title III guidance which states that beginning in 1995 priority will be given to countries where there is the greatest food need, and that the focus of new Title III programs will be on policy reforms and activities directly affecting or improving food production and consumption, including nutrition.

4. Section 416(b)

This program is administered by USDA. Section 416(b) of the Agricultural Act of 1949 provides for overseas donation of surplus agricultural commodities acquired by the Commodity Credit Corporation (CCC) as part of its price support activities. Over the years, this program has provided commodities worth hundreds of millions of dollars to meet emergency needs and for developing countries, most recently in the new independent states of the former Soviet Union. However, CCC-owned inventories have been declining as domestic farm programs have brought supply into closer relationship to demand, and availability of resources for future commodity donations under this authority will be much less than in the past.

5. Food for Progress

This program is administered by USDA. The Food for Progress Act of 1985 authorizes USDA to provide a maximum of 500,000 metric tons of commodities on a grant or credit basis, using (a) funds appropriated to Title I, Public Law 480, (b) the inventories which are available for section 416(b) use; or © funds available to CCC, for needed commodities which are available neither under P.L. 480 nor from CCC inventory. To the extent that CCC funds are used for commodities from the latter two categories, not more than $30 million may be spent annually for noncommodity costs. The grants and credits are to go to developing countries that are engaged in economic policy reforms, particularly within the food and agriculture sectors, and for emerging democracies. Food for Progress assistance is intended to cushion the effects of structural economic adjustment or other domestic economic shocks which may affect food security.

6. Direct Dollar Procurement

Under special circumstances, USAID may also utilize dollar appropriations for direct procurement of food. The International Disaster Assistance account is used for local food procurement in emergencies. Under the Freedom Support Act, USAID manages a small food aid program ($38 million in FY 1994) for countries of the former Soviet Union.

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V. *FOOD AID POLICY AGENDA*

As this paper has documented, there have been significant changes in the food security of developing countries, with progress in many places but real problems in others, particularly in Africa. In addition, the global agricultural economy is changing rapidly, with surpluses being eliminated and greater reliance on market forces. In response, USAID has refined its policy guidance on food aid.

This new guidance will assist USAID field missions and PVOs in planning the orderly evolution of U.S. food aid programs. The broad definition of food security contained in the 1990 amendments to P.L. 480 will continue to govern food-aid program development.[6]

Within that broad frame of reference, USAID will provide implementation guidance on how food commodities will be allocated and utilized to meet food security objectives. This detailed implementation guidance will be developed in consultation with the PVOs and USAID's field missions.

A. *Policy Guidance on Food Aid and Sustainable Development*

Food aid can be a valuable tool for advancing food security goals in developing countries. The role of food aid in promoting food security must be carefully designed, however, if USAID and the PVOs are to achieve maximum effectiveness from this highly specialized assistance instrument.

In providing food aid, it is essential to both understand the food security problem in the recipient country and clearly identify the food insecure population which U.S. assistance is designed to benefit. This initial analysis—carried out by USAID missions and PVOs—will determine the specific program interventions most likely to succeed.

USAID recognizes there are many ways to promote food security, with appropriate interventions best determined by experienced field managers able to weigh individual country and local community circumstances. USAID's goal—and that of the PVO cooperating sponsors—must be the effective and efficient use of food aid resources. The measure of success in this regard will be the results which programs achieve in terms of sustained improvements in food security.

In general, USAID believes programs designed to enhance agricultural productivity and improve household nutrition have the greatest potential for sustained improvements in food security. This is true in countries where substantial numbers of the poor depend on agriculture for food or income, such as countries in sub-Saharan Africa and South Asia.

Accordingly, USAID will give priority in allocating food aid resources to programs which enhance agricultural productivity and improve household nutrition in the most

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[6] Section 402(s) of P.L. 480 defines food security as "access by all people at all times to sufficient food and nutrition for a healthy and productive life."

food insecure countries. These program and country priorities are not intended to prescribe arbitrary solutions to real world problems nor to restrict the flexibility of field managers. Rather, USAID's intention is to provide guidance on what has worked well and what appears to be in the mainstream of current scientific thinking on how most effectively to improve food security over the long run.

Over time, the application of these priorities is expected to concentrate resources more heavily in Africa (particularly Title III resources) and South Asia and that a growing share of total resources will be used for programs to enhance agricultural productivity and improve household nutrition. However, USAID will continue to approve new food aid activities in other regions of the world and in other program areas (particularly for Title II development programs). In such cases, approval will depend on the ability of field managers to demonstrate that resources will have a sustained impact on food security. In short, the key to program approval will be the ability to demonstrate results.

In focusing the use of P.L. 480 resources, care will be taken not to allow short-term food security goals to create disincentives to longer-term self-reliance in food. A program which focuses on short-term hunger must also address longer-term constraints if USAID is to support sustainable development in food insecure countries. The optimal use of food aid will be where it can have both short and longer term impacts. In many cases, this will involve integration of government-to-government programs such as Title III and PVO programs such as Title II. In most cases, food aid will be programmed in conjunction with other assistance instruments.

To implement this new results-oriented strategy, USAID will shift its oversight focus from inputs and food aid distribution to the results of these integrated programs. PVO partners will have greater control over day-to-day implementation. USAID will focus increasingly on results. Appropriate methods for evaluating these results will be included during the program design phase. The criteria for measurement of successful results must be quantifiable and precise. Detailed implementation guidance for this "Managing for Results" strategy will be developed in consultation with the PVOs.

In allocating funding for both PVO food programs and government-to-government food assistance, priority will be given to programs that enhance agricultural productivity, particularly benefitting small farmers and the poor, and to programs that improve household nutrition for poor families. A broad definition of both these priorities will guide resource allocations. The objective will be to give priority to activities which have significant impact across the entire food system of a recipient country.

The following are illustrative interventions.. Priority will be given to these types of activities. However, USAID will always be open to innovative proposals from field missions and PVOs which offer prospects for significant improvements in food security. USAID is committed to giving field managers the flexibility needed to achieve food security results.

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Agricultural Productivity programs

Food aid interventions might address: agricultural training, technologies, and practices; agricultural policies, including pricing, marketing, tax and tariff policies; development and funding of private credit institutions; provision and marketing of agricultural inputs; improved on-farm utilization of water resources; marketing and transportation systems which promote the cost-effective movement of food from source to need; food losses associated with ineffective and inefficient harvesting, storage, processing and handling; off-farm microenterprises which improve the marketing of food or agricultural inputs; introduction of cash crops to improve rural incomes; and pilot farming-systems activities at the grass-roots level.

Household Nutrition programs:

Food aid interventions might address: knowledge and practice of health techniques, including those related to nutrition, child care, and sanitation; education to reform practices that limit consumption of a nutritionally adequate diet by certain groups or family members; provision of potable water and sanitation; fortification of foods with vitamins and minerals; pilot programs to improve local storage and household preparation of food; urban feeding programs for vulnerable groups; and demonstration feeding programs designed to develop social safety nets.

B. Policy Guidance on Emergency Food and the Relief-Recovery-Development Continuum

While "relief" food aid and "development" food aid are often considered and managed as distinct entities, they are, in reality, part of a continuum. Long-term food security efforts constitute the best "preventive strategy" for dealing with acute food needs; conversely, how emergency food needs are met can help influence longer term food security.

The distinction between relief and development is one of degree not kind. "At risk" populations are not just those at immediate risk of starvation, but those who live on the edge of economic viability and who represent potential "emergency" victims. Recurrent famines in the Horn of Africa are not "sudden" events caused only by drought, but a manifestation of many complex factors, including decades of war, failed development and disenfranchisement. USAID and PVO cooperating sponsors should seek to design interventions that address food vulnerability at various stages and via different means.

A new framework is needed to assess need and to program resources across the relief-development continuum. Specifically, relief and development activities should focus on key, mutually reinforcing interventions, including:

- maintaining productive capacity;
- preventing migration;
- reinforcing development efforts; and
- enhancing disaster management capacity.

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Relief interventions must be designed and implemented on the basis of the same principles that guide sustainable development: capacity building, participation and sustainability. Decentralization and human capital development should be pursued, to the maximum extent practicable, in the course of relief operations.

Similarly, developmental activities should be undertaken in a manner that decreases the need for relief intervention (i.e., through addressing vulnerability). Development food aid programs, in conjunction with other USAID resources, should help enable vulnerable groups to develop means to cope with future periods of drought and even political conflict. Programs which help the poor protect against or which mitigate the impact of disasters also facilitate economic and social recovery from crisis. There is need to develop additional interventions which serve both disaster mitigation and long term sustainable development. The following are examples of programs which might serve these twin objectives, recognizing that local circumstances differ greatly and adaption to indigenous cultural priorities is critical to success.

- Conservation of natural resources such as watershed management and sustainable harvesting of timber and non-timber products to preserve ecosystem health and biodiversity, and ensure the longevity of these resources.
- Diversification of farming systems to introduce drought-resistant cultivars and practices to enhance soil-moisture retention in order to reduce vulnerability to drought.
- Improved data collection to better identify vulnerable groups in order to permit targeting of food aid during crises. Such surveys can also identify cultural practices and beneficiaries' perceptions which affect the relief-to-development continuum.
- Strengthening local NGOs and their linkages to national institutions to assist with both disaster mitigation and recovery as well as introduction of activities to promote economic growth.

These sorts of programs can increase resilience in the face of natural and man-made disasters and promote rapid return to sustainable development.

VI. FOOD AID MANAGEMENT OBJECTIVES

A. A New Approach to Emergencies

Emergency food relief needs are growing as crises become more complex and longer-lasting. To enhance long-term planning and to meet recurrent emergency needs without draining food aid for development, a mechanism is needed to provide a budgetary "cushion" to meet unforeseen emergency needs. Development of such a mechanism will require collaboration within the Executive Branch and with Congress. New legislation will likely also be necessary. USAID will initiate a dialogue which can lead to this objective.

B. *Managing for Results with Title II*

The partnership between USAID and the PVOs will focus on improved food security in the neediest developing countries. This partnership can be strengthened through increased sharing of information, including greater access by PVOs to USAID data sources. Better communication and coordination between PVOs and field missions in the development of strategic plans is also needed. USAID and the PVOs must move toward a real "shared responsibility" concept in planning and managing food programs.

Especially in key food-insecure countries, Title II development food aid should be integrated with USAID strategic objectives, while respecting the independence of PVOs. It is essential that USAID and PVO programs work together to achieve maximum effectiveness where the need is greatest.

USAID and PVOs should develop and implement a shared framework for measuring results—as well as inputs—in food aid programs.

USAID must support PVO capacity building to help ensure results are achieved.

USAID must also provide technical expertise and field support to mission and PVO food security programs in the neediest countries.

C. *Reshaping Agricultural Research*

In chronic food insecure areas, USAID will support a comprehensive approach which offers economically attractive agricultural alternatives for farm families. Specifically, USAID will encourage development of highly adapted "food security" crops. Examples of promising technologies include:

- new, highly productive, drought-resistant maize by the CGIAR wheat/maize center;
- "super cassava" developed by IITA (CGIAR center in humid/subhumid Africa) offering African farmers not only 200% yield increases but also new business opportunities for processing/marketing their products.
- Systems integrating trees (for fuelwood, forage and fruit), livestock, and crops for environmental sustainability and enhancement of nutrition, as well as economic savings and capital accumulation.

As part of its renewed commitment to participatory development, USAID will adopt a broader and more inclusive vision in approaching food security and agricultural research. USAID will work with national systems (public and private) U.S. centers of excellence (universities, USDA, private sector) and the IARCs. USAID is uniquely positioned to help national systems access and adapt both technologies and policies. Local currencies generated by P.L. 480 Title III could support country-level programs in this effort.

D. *Donor Coordination*

USAID should play a more active role in donor coordination to improve food security in the neediest developing countries. The U.S. role as a major provider of humanitarian aid, combined with USAID's major field presence, places USAID in a strong position to facilitate donor coordination. An integrated food aid and development strategy—possibly with a regional focus, as in the Horn of Africa—demands significant coordination among donors, host governments, U.S. and local NGOs and PVOs, and the multilateral institutions, including WFP.

VII. PROGRAM AND MANAGEMENT POLICY CONCLUSIONS

1. There is growing difference among countries in terms of their ability to provide food security to their people. As a result, many millions of people, particularly in the poorest countries, have little prospect of escaping a marginal life of hunger and malnutrition. Food aid is a resource which is uniquely suited to addressing this need—in fact current P.L. 480 legislation instructs USAID to give priority to the neediest countries.

   Many different ways can be devised to determine which countries are "neediest." There are indices which have been developed by USAID, FAO and others. All have their strengths and weaknesses. It is sensible not to be too rigid in defining need, especially since P.L. 480 itself provides some flexibility in country selection. However, all measures point to basically the same set of countries, most of which are in sub-Saharan Africa, as being most needy. There are also many needy people in South Asia, though the trends there are more encouraging.

   Greatest priority in allocating food aid, particularly for Title III programs, should go to countries most in need of food, which will mean for the foreseeable future an increasing share of U.S. food aid will go to sub-Saharan Africa.

   Within countries, USAID will continue to give priority to assisting food insecure households. Targeting mechanisms will be developed for community level assessments so that assistance reaches the most vulnerable and provides for sustainable improvements in food security.

2. P.L. 480 provides a flexible definition of food security, and USAID has adopted an equally flexible definition in PD 19. This provides a range of possible interventions within the terms of law and policy, allowing line managers in USAID and the PVOs to adapt specific interventions to country circumstances. Nevertheless, it is also important for USAID, working with the PVOs for the programs they manage, to convey clearly the priorities to be used in allocating resources.

   Experience has shown the surest way to achieve improved availability, access and utilization of food is through increases in agricultural productivity and

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improved nutrition for the poor. Such programs increase incomes and reduce the cost of food in real terms, together with more effective utilization of this food by the poor. USAID will always be prepared to support any program which promises similar results. **Title III resources will be allocated to programs with direct linkages to increased agricultural production and consumption. Title II resources will focus on improving household nutrition, especially in children and mothers, and on alleviating the causes of hunger, especially by increasing agricultural productivity.**

3. Resources available for food security programs are under increasing budgetary pressure. The overall need to reduce the federal deficit will continue for the foreseeable future. In the case of food aid, declining U.S. agricultural surpluses is expected to result in elimination of 416(b) surplus commodities. In the case of FAA resources, competition from other priorities and earmarks will limit funding available for agriculture. (Note that some of these priorities, such as population programs, can also have a significant impact on food security.)

   As a practical matter, food aid is a key resource directly available for food security programs. However, there is growing evidence that food, programmed by itself, has uneven impact as a development resource. Food aid is most effective when used in conjunction with other resources in promoting increased agricultural productivity and improved household nutrition. Food will be programmed where it has intrinsic value as food. This also means USAID missions with significant food aid programs will need to ensure that adequate resources are made available to fund complementary activities needed to assure maximum impact. These resources can come from dollar appropriations, Title III local currency generations or Title II monetization.

   USAID will also be expected to maintain appropriate central support for food security programs in terms of research and field support.

   Food aid should be integrated to a greater extent with other USAID assistance resources. Greater priority on this integration must be the responsibility of both missions and the PVOs. Proceeds from monetization of food should complement direct feeding programs or should be used to enhance agricultural productivity and improve household nutrition.

4. USAID is committed to bringing food aid programs into a "managing for results" system. This will help ensure the greatest possible impact from scarce food aid resources. It will help ensure that complementary resources necessary for success are identified and allocated. It will help shift the focus of discussion on USAID programs and policies from levels of inputs provided (either dollars or food) to the impact of those resources.

   USAID also intends to assist its partners, the PVOs and the World Food Program, move in this direction. As USAID and its partners reach agreement on the objectives and results intended and are confident of the basic soundness of program plans, it should be possible for USAID to leave routine oversight of implementation of food aid programs to these partners. To reach this objective, it will be important for food aid program proposals to demonstrate the same

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analytical rigor required of dollar funded programs. This will require some "capacity building."

Ultimately the success of food aid programs must be measured by sustainability of results. In large measure, sustainability will depend on the capacity of local institutions.

Greater attention and resources will be allocated to strengthening the program development and management capacity of USAID's food aid partners: Private Voluntary Organizations, the World Food Program, and local non-governmental organizations.

5. The growing number of complex emergencies, which frequently include emergency feeding as a major relief component, have created pressure on food aid development budgets. USAID is committed to the policy position that sustainable development, including food security as a high priority, is essential in the long run to preventing these complex emergencies—or at least mitigating their human impact.

   USAID is also committed to responding effectively to emergencies. Reconciling these two positions in the current budgetary environment is very difficult. Certainly more effective coordination and wider burdensharing among donors for emergencies is part of the answer. Better planning for complex emergencies, which can extend for many years, is also important. In addition, the Executive Branch and Congress need to develop new mechanisms to provide necessary food aid to cope with sudden-onset emergencies, of which Rwanda is a recent example. **Greater flexibility needs to be developed so that necessary resources are available to respond to emergencies without draining away food aid planned for development programs.**

6. Food aid provides the largest share of resources allocated to emergencies. In the past it has played an important role in the relief to development continuum. For example, in the 1992 drought in Southern Africa, it was programmed to utilize normal commercial channels as well as targeted feeding programs to reach hungry people in their villages, without resort to refugee camps. Local currency was used to provide necessary inputs to encourage an early return to normal agriculture.

   Equally important, food aid development programs often focus at the grass-roots level, helping to build the food security resilience of the poorest families. At this level it is possible to support individual coping strategies for short- and long-term food security. When drought or civil strife comes, families which have prepared are better able to weather the crisis.

   Greater priority will be given to the relief to development continuum. Food insecure countries must be prepared to cope with recurring drought and even with political conflict. Equally important, relief programs must ensure families are able to return as quickly as possible to productive lives.

FOOD SECURITY DISCUSSION PAPER

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The views and interpretations expressed in this report are those of the authors and should not be attributed to the Agency for International Development.

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EXECUTIVE SUMMARY

Globally, some one billion persons suffer chronic food insecurity, defined as *long-term* utilization of too little food for a healthy, active life. At least another quarter billion people suffer acute food insecurity, defined as *transitory* utilization of too little food for an active and healthy life. The ideal is for all people at all times to be food secure; i.e., to have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life.

The purpose of this paper is to outline a conceptual framework that will be useful to the U.S. Agency for International Development (USAID) in identifying food security constraints in developing countries and in using its economic assistance and food aid programs to address these constraints. The first two sections of the paper establish a conceptual framework and strategy for broad-based, sustainable economic progress to provide food security. The third section outlines causes and cures for transitory food insecurity. The final section details options for USAID strategies for food security uniquely suited to needs of developing countries at various stages of development.

CONCEPTUAL FRAMEWORK

Food security depends on food availability, accessibility, and proper utilization. In recent decades, the world has had sufficient *aggregate* food supplies to provide all people with an adequate diet; hence, global food availability has not been the principal problem. The lack of food accessibility at the individual and household level has been far more serious. Accessibility has been constrained by lack of buying power in people with too little human, material, and technological capital to produce enough food or income to feed themselves, and by inability of others to provide sufficient food transfers to them. Some individuals with access to food do not utilize food properly because of illness, ignorance, or culture. Nutrition, education, and health programs are important means of improving utilization.

The principal cause of transitory and chronic food insecurity is poverty. People with adequate buying power are able to overcome the frictions of time (e.g., unpredictable, unstable harvests from year to year) and space (e.g., local food shortages) to be food secure.

Given the inseparability of food insecurity and poverty, the provision of food security requires a dual approach through national policy: (1) broad-based, sustainable economic development and (2) targeted food or income transfers for those who lack resources, family support, or other means to food security. Economic development is necessary for food security because it is cost-effective and indeed the only feasible means to lift most people out of food and income poverty. But development alone is not sufficient to end food insecurity. A sufficient condition is food and income transfers to food insecure people bypassed by development.

BROAD-BASED, SUSTAINABLE ECONOMIC PROGRESS

Broad-based, sustainable economic progress can attack food insecurity by lifting most people out of poverty in developing countries and also by providing the wherewithal to redistribute income and food to the disabled, elderly, and others unable to be food secure without transfers. The goal is for each developing country to progress to the point where domestic production and export earnings are sufficient to end food shortages. Such food self-reliance includes sufficient domestic economic surplus to provide transfers to individuals and households unable to provide for themselves.

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Experience provides a strategy to promote food security through broad-based, sustainable economic progress. Most economic activity and decisions are by the private sector. Goods and services are allocated by market prices set by supply and demand. For the private sector to flourish, a lean but effective public sector needs to perform a few functions well. These functions include sound institutional, monetary, fiscal, and trade policies; provision of infrastructure such as port facilities and all-weather roads; and support for services such as basic schooling, primary health care, information systems, and agricultural research and extension.

Universal access to: (1) basic schooling and primary health care designed to provide citizens with the intellectual and physical capacity to be more efficient and productive and (2) agricultural research and extension services designed to encourage investment in environmentally sound practices not only provides economic payoffs, it also helps make development broad-based and sustainable. Such access is possible only in a growing, market-led economy, based on sound, consistent macroeconomic and public-sector policies.

POLICIES MORE SPECIFICALLY FOR FOOD SECURITY

The market alone will not provide food security for all. Some who might otherwise be bypassed can achieve food security by well-chosen public policies that create a future stream of earnings. Others are most cost-effectively provided food security by food and income transfers.

Sound macroeconomic, institutional, and public administration policies provide an environment where markets can work to enlarge the economic base. The larger economic base can finance basic schooling and primary health care, infrastructure, and agricultural research and extension. These investments in turn promote environmentally sound practices, foster economic growth that reduces birth rates, and make development broad-based and sustainable. The process is naturally reinforcing. For example, technology transfer raising agricultural productivity can help to supply income for investments that promote the development process. Some especially important components in the development *synthesis* are discussed below:

1. ***Sound macroeconomic policies.*** Sound macroeconomic policies are of value not just for their direct benefit to society but also indirectly in that they are essential for other policies to work. Efficient public administration and competent legal and judicial systems provide the atmosphere enabling the private sector and market forces to work. Supportive monetary, fiscal, and trade policies are critical to alleviating poverty and food insecurity. Countries incurring large current account deficits and in general attempting to live beyond their means accrue debt and often end up printing excessive money. Large foreign debt means that considerable foreign exchange earnings go to service debt rather than to purchase imports consistent with food security. Excessive creation of money results in inflation, overvalued currency, and a shortage of foreign exchange.

   The most cost-effective "buffer stock" is international trade (imports). Unsound macroeconomic policies deny a country full use of that cost-effective food security tool. The Economic Degradation Process has two phases: (1) an expansionary phase while a nation is living beyond its means and perhaps benefiting food insecure people and (2) a stabilization or structural adjustment phase of austerity and retrenchment to a sustainable economy. These two phases average lower economic growth, more instability, and greater food insecurity than would a sustainable macroeconomic policy. Economic assistance and food aid may be useful to ease the burden on the poor during structural adjustment to a sound economy.

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2. ***Schooling and related social services.*** Standards of living are a function of the level of human and material resources and how efficiently they are used. Even where land reform is possible, it cannot solve everyone's asset poverty, especially in societies that are increasingly urban. But capital accumulation by the poor and non-poor can be expanded widely by investing in human resources through general schooling, vocational-technical training, and on-the-job experience. Universal access to basic schooling and primary health care is critical for broad-based development. (Removing racial, ethnic, gender, and wealth barriers to social services is consistent with economic equity and efficiency.)

3. ***Infrastructure.*** Roads and bridges promote food security by reducing isolation. Low-cost transportation releases local food security from the vagaries of local weather. Arbitrage can occur with food moving from areas of abundance and low prices to areas of shortage and high prices. Improved production inputs can be purchased and farm output sold in a productive commercial agriculture that provides food for domestic consumption and earns foreign exchange for imports. Public investment in irrigation systems can free food production from the caprice of local seasonal rainfall.

4. ***Information systems.*** Information is essential for efficient food arbitrage over time and space. Modern data collection, processing (e.g., microcomputers), communication, and transportation systems help private markets to function better. Price information helps markets, consumers, and producers to make better decisions. Crop forecasts provide early warning of food shortfalls or surpluses. Information systems have "public goods" properties as do other policies listed here. That means that private markets alone do not suffice and a public role is justified.

5. ***Agricultural research and extension.*** Agriculture accounts for the bulk of resources and employment in most low-income developing countries. A productive indigenous agriculture directly provides food for farm operators as well as others and indirectly provides food by earning foreign exchange to purchase imports. A productive agriculture can help to supply the tax base necessary for public services and food assistance transfers. The public role extends beyond improving production. For example, the extension service can work with individuals and private firms to improve food processing and marketing for better nutrition and for longer shelf life and storage.

   Studies show that agricultural research and extension in developing countries can have a very high economic payoff. Improved technology and management made possible by agricultural research and extension lowers food costs and enhances food security. A more productive agriculture can support investments in people that lead to diversification into small and medium-scale industry. Diversified income sources help food security.

6. ***An environmentally sound agriculture.*** Broad-based and *sustainable* economic development is threatened by environmentally unsound practices. Such practices result in soil erosion, salt-buildup and waterlogging of irrigated land, deforestation, desertification, and in chemical contamination of food and water supplies and of field workers. Pressures on land and water resources to supply the food demands of growing populations intensify environmental problems in developing countries. Many such countries lack the public resources required to educate producers or to enforce regulations and fund incentives for aligning private and social costs (benefits) essential for an environmentally sound agriculture.

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7. ***Public safety net.*** Broad-based, sustainable, market-led economic development will eventually remove most but not all people from food insecurity. Those suffering *chronic food insecurity* rarely get enough to eat. Those who only periodically do not get enough food suffer *transitory food insecurity*. Many of those suffering chronic or transitory food insecurity can benefit from a public safety net. Those who are not able-bodied, who are bypassed by development, and who cannot rely on family or others for food security can especially benefit from a public safety net providing food and income transfers. USAID can provide critical transfers, but the height and form of the core public safety net is for each country to determine for itself. Some assistance to alleviate food insecurity such as food-for-work programs can jointly serve economic equity and efficiency objectives.

8. ***Nutrition education.*** As indicated earlier, some people for whom food is available and accessible do not utilize food properly because of illness, ignorance, culture, or habit. A public development strategy to provide food security can make cost-effective use of health and education personnel to instruct people in sound nutrition, sanitation, and health practices.

Several policies have serious shortcomings.

1. ***Public buffer stocks.*** These are costly and difficult to manage properly. However, enough buffer stocks are needed to provide supplies until imports can alleviate unforeseen food shortfalls. International trade is the lowest-cost "buffer stock." Sound monetary, fiscal, trade, and development policy will ensure access to foreign exchange or credit markets for importing food when domestic supplies fall short of meeting needs.

2. ***Price controls.*** Price controls on food depress incentives for producers and others to supply additional food. On the other hand, policies to support food prices above market levels tax consumers, unduly burden treasuries, and cause excess production of supported commodities. Developing countries ordinarily have not managed commodity programs well and such programs are best avoided. For countries committed to market intervention to stabilize prices, however, a variable duty is recommended to hold domestic commodity prices within a band around a moving average of past world prices. Taxes on imports when world prices are low are expected to offset subsidies when world prices are high, minimizing the cost of stabilization.

3. ***Self-sufficiency.*** Food self-sufficiency is not necessarily a worthy goal. Pursuit of self-sufficiency may cause so much inefficiency that it compromises broad-based, sustainable economic development capable of providing food security. A more worthy objective is *self-reliance*, defined as ability to provide food security from domestic production and imports made possible by adequate buying power both of individual households and the nation as a whole. Export cropping need not be restricted. The decision of whether to produce domestic food crops or export crops is usually best left to markets.

THE ROLE OF USAID IN FOOD SECURITY

In broad perspective, the role of USAID in food security can be to promote broad-based, sustainable, market-led development; and to provide a food safety net, if needed to maximize the potential for success in pursuing such development. Implementing that role must recognize USAID's comparative advantage, funding limitations, tradeoffs inherent in the *synthesis*, and compatibility with key USAID initiatives.

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The general rule is that USAID use its resources where social payoffs are highest to promote food security. Some guidelines are suggested:

1. ***Avoid doing things other public agencies or the private sector will do as well or better.***

2. ***Avoid activities likely to fail.*** Creating an indigenous policy analysis capability can be a wise use of USAID resources in a country receptive to policy reform but can be unproductive if the country has an established record of ignoring policy analysis and rejecting reform.

3. ***Seek activities where benefits can be leveraged*** by inducing others to pool resources or in other ways join in collaborative efforts to bring success.

4. ***Foster activities in which USAID has a comparative advantage.***

USAID has demonstrated comparative advantages and strength in several areas including human capital development, institution building, access to food reserves, and private sector emphasis. Sectoral capabilities of the Agency are recognized in food and agriculture, nutrition, education and training, and health services and are important to food security.

A critical area of comparative advantage is *policy reform*. Policy reform matters: economic growth and eventual food self-reliance will result if a nation follows the food security framework depicted in Chapter 2. On the other hand, economic growth and food self-reliance are unattainable if a country violates too many of the components listed in Chapter 2.

Options for USAID in policy reform are as follows:

1. ***Provide policy analysis*** — if the recipient nation indicates an interest in policy reform.

2. ***Use Title III food aid, the Economic Support Fund, Development Assistance, and DFA to encourage policy reform.*** USAID influence may not be decisive in bringing about a balanced current account in a country. But USAID may be able to induce privatization of agricultural input supply and product marketing parastatals by using Title III support to reduce the burden of adjustment.

3. ***If, based on a food security and economic analysis of a country, it is determined that the government is unable or unwilling to pursue economic reforms needed to enhance food security, an appropriate donor stance is to provide only humanitarian food and medical aid.*** This approach recognizes that aid ineffective in promoting development in one country can be used more cost-effectively in another country.

FORMULATING A USAID OPERATIONAL FRAMEWORK FOR FOOD SECURITY AT THE COUNTRY LEVEL

The USAID Mission Program Officer may be designated to take the initiative in formulating a comprehensive operational food security plan for a specific country. That Office's broad perspective is critical because food security encompasses virtually every USAID activity in a country, as well as activities of other developmental institutions, the government, and the private sector.

It is essential to set priorities, utilize USAID's comparative advantage capabilities, and collaborate with other donors, the country's government, and non-governmental organizations (NGOs), among others.

It is especially important for Missions to look for and work sequentially to alleviate constraints or "bottlenecks" to food security not fully addressed by others, but whose removal would especially facilitate food security.

At the country level, a tradeoff is likely between the short-term safety net and long-term economic development components of food security. The Mission Program Officer can help to balance emphasis and resources between development and safety net components.

The food security country framework contains several components: (1) a food security inventory, (2) famine relief and early warning system, (3) a comprehensive operational food security plan, (4) food security review, and (5) monitoring and evaluation.

FOOD SECURITY INVENTORY

A food security inventory appraises the current food *availability* based on production, inventories, and access to imports, including PL 480 supplies. It also requires information on food *access*. It identifies those vulnerable to food insecurity, the causes, and cost-effective remedial measures. The inventory ascertains food availability at the national and regional level, food requirements, and the gap between availability and requirements. Identifying potential food gaps among individuals and families lacking buying power is important so that effective remedial measures such as food transfers can be designed and implemented.

Devising a national food security plan requires country-specific knowledge of food production, consumption, nutrition, and marketing at the village, household, and individual level. The depth and detail of the needs inventory will depend on resources and time available. Useful national inventories to devise safety-net strategies have been assembled in a few weeks at low cost by relying heavily on existing census and survey data and publications. This is supplemented by expert opinions from field extension and health workers, teachers, churchmen, donor agency experts, and others. Special, small surveys are taken to fill data gaps.

FAMINE RELIEF AND EARLY WARNING SYSTEM

The top priority in an operational food security framework is to respond to famine. In such circumstances, local and national food supplies may be inadequate. What local supplies are available must not be horded but must reach those nutritionally at risk. Ready access to PL 480 food reserves can be decisive. Having an emergency food delivery plan in place before a food shortage becomes critical can speed response time.

Problems of food insecurity must be addressed until self-reliance is achieved. Specific measures for addressing *transitory* food insecurity include: an early warning system to give advance notice of food insecurity; administrative structures and plans to distribute food assistance on short notice; provision for financing from internal or external sources; available food supplies from PL 480, in-country stocks, and imports; and an appropriate distributional network of in-country public and private organizations, and of multilateral and other organizations and agencies coordinating food assistance.

Working with governments, NGOs, PVOs, and other agencies, USAID can play a pivotal role in establishing a food security network and early warning system. Networks of local health, school, government, and other personnel also can assist in keeping current the early warning system originating from a national inventory of food security.

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The urgency of a food needs inventory and famine relief and early warning system depends on the level and stability of food availability and access. Developing countries with a historic record of no famines, stable food production, civil peace, diversified income sources, sound macro management, and with some income, stock, and foreign exchange buffer can do without the system. For countries such as Ethiopia or Bangladesh, an early warning and response system is fundamental.

COMPREHENSIVE OPERATIONAL FOOD SECURITY PLAN

A comprehensive food security plan appraises national policies relevant to food production, transportation, processing, marketing, and consumption. The indicative plan will focus on macroeconomic and public sector policies and the legal/regulatory framework that underpins them. The objective is to assess the compatibility of the existing/emerging policy framework with the requirements of broad-based, market-led sustainable economic growth and the achievement of food security based on self-reliance. The food security plan will assess host country commitment to and progress toward the establishment of a new, more compatible policy framework through economic/administrative policy reform.

The comprehensive food security plan encompasses virtually every aspect of a nation's economy ranging from broad macroeconomic and trade information to marketing and production information. To keep requirements manageable, Missions can draw on comprehensive World Bank and IMF reports found in many developing countries, secondary data from census and other agencies, special surveys, local experts, and outside consultants.

Because the economic development component of the comprehensive plan is somewhat conventional, this report especially emphasizes the food component. The food security component reviews the current situation and identifies new or modified efforts for Missions that will increase food security. In achieving food security, it is useful to identify food insecure groups who will benefit from both interventions to foster *economic development* and *safety net* interventions — and the most cost-effective options for addressing the needs of those groups. For example, able-bodied safety net recipients may benefit from food-for-work programs while the non-able-bodied require pure transfers. Some of the food insecure can grow home gardens and others can receive help from family and community.

Missions must give special attention to the difference between goals expressed as the capacity to grow or buy enough food and the more ambitious aim of assuring adequate individual *consumption/utilization*. In many cases, achievement of access to food will *not* be accompanied by adequate individual nutrition because of poor eating habits, control of income by a nutritionally insensitive parent, illness, or the existence of competing needs. By at least considering the likely consumption outcomes of proposed projects, the food security strategy can often be modified to improve intake without jeopardizing achievement of other goals. Coordination of agricultural and other economic development activities with already existing health and education efforts, for example, can alleviate food insecurity induced by the influence of advertising on consumption. Public policy can make private advertising a positive influence on eating habits.

The first priority given to famine relief appears to contrast with the theme of this report — that food security is served by reducing poverty through economic development. That same conflict between short-term and long-term objectives will characterize a plan of action. Any food security operational plan must address developmental and safety net features. *A danger is that in a search for quick and transparent results, short-term measures will drive out the long-term developmental measures.*

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A food security operational framework must be designed for a country's level of economic development. Appropriate policies are unique to each country. Selected options for developing countries by stage of growth are suggested in the text.

FOOD SECURITY REVIEW

The sectoral focus of Mission programs provides a comparative advantage for both food security review *and* for sectoral projects designed to fill critical gaps in the framework for private sector development activities that improve food security. Food security review is designed to identify opportunities to promote food security through modifications or modest additions to projects not necessarily designed for food security. In building a road for example, rerouting at modest cost may make many previously isolated families more accessible to markets. Food security review could tip the balance of research on a cash crop and a food crop with similar overall economic payoff towards the food crop. Food security review could encourage search for new or improved crops that are more resistant to drought and pests.

MONITORING AND EVALUATION

Finally, monitoring and evaluation are continuing needs to improve food security. Food insecurity changes almost from day to day and among households and regions. Those short-term changes properly influence safety net programs but need not influence development programs. Development programs should result in sustainable food security improvements in the medium to long term.

The food safety net and economic development dimensions of monitoring and evaluation, although with the same ultimate food security goal, must have overlapping but different guidelines and procedures. The food security framework outlined herein deemphasizes glamorous projects that produce quick, showy but short-lived results. Instead, the framework calls for long-term investments in policy and public administration reform, infrastructure, and public services judged essential for eventual food security and food self-reliance in the country of question. The appropriate procedure is to formally or informally evaluate *ex ante* whether a proposed effort will contribute to food security-relevant aspects of economic equity, efficiency, and stability over various time frames. Such efforts need to be undertaken if they give promise of raising food security through raising real national income, distributing it more equitably, and with stability/sustainability. Rates of return on investment; costs, benefits, and their distribution among groups; and coefficients of variation are standard measures of economic performance limited to food security. In broad-based sustainable economic development, prices need to be adjusted for environmental impacts, and the distribution of benefits and costs take on significance.

Efforts evaluated *ex ante* need to be monitored periodically *ex post* to determine if they are fulfilling expectations. Developmental efforts that pass the above tests can be expected to contribute markedly to transitory and chronic food security and self-reliance — but not necessarily in the short term. It is particularly important to periodically monitor whether economic progress as well as safety-net programs are enhancing food security.

THE SAFETY NET, TARGETED ASSISTANCE, AND FOOD AID

This concluding subsection addresses four remaining food security issues:

1. ***Height of the Safety Net.*** A safety net set too low helps no one. On the other hand, a food safety net set too high absorbs donor and host-nation resources, cutting off opportunities for economic growth and self-reliance. Food must not be subsidized to the point that its low cost and ready availability cause it to be wasted or fed to animals. The shared striving for security

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has held families and communities together in developing countries. Too high a safety net can undermine the family. A role of USAID can be to provide awareness of tradeoffs so that countries can make sound decisions and, given the tradeoff selected, work toward cost-effective use of the food and other aid to achieve equity, efficiency, and stability.

2. *Targeting Transfers.* No developing country can afford across-the-board food subsidies; targeting is essential. Targeted transfers are appropriate for each stage of development. At the lowest income stage, transfers to severely food-deficit families can be targeted informally by health, education, church, and PVO workers who identify the food poor. At the second stage, targeting may be achieved by fair price shops stocking foods acceptable to the poor but avoided by more well-off consumers. At a higher stage of development, food stamps or cash transfers may be income conditioned. The appropriate delivery system depends on circumstances, however. For example, fair price shops have worked better in Asia than in Africa or Latin America.

3. *Monetizing Food Aid.* Food aid *per se* has special value because it is sometimes available when other aid is not, and because it is vital to respond rapidly to emergency food needs. For the latter, accessible food reserves must be drawn upon on short notice for direct distribution to people starving because local food is unavailable. Turning from transitory to chronic food insecurity, food aid can be directly distributed by health clinics to at-risk groups such as pregnant and lactating women and their infants, and by schools in lunches for low-income students. If the right kinds of food aid are available, supplies can be targeted to poor people by fair price shops or other self-selecting mechanisms.

   Because untied cash aid can be used to purchase food or any other component of a food security strategy giving a higher payoff than food aid, it follows that cash aid is more valuable than food aid (at face value) for food security. Food aid, however, is often more available. In part this is because $1 of food aid effectively costs the American government less than $1, given that the alternative is to pay American farmers not to produce. Administrative and transport costs of food aid may be high as food moves from the fields of developed countries to the households of developing countries. In short, food aid may be less valuable than unspecified cash aid but its availability and the opportunities to monetize it for serving critical needs make it useful.

4. *Phase Out of Food Aid.* It is neither realistic nor in the best interest of the affected population to conceive of the donor's participation in and support of the safety net as open-ended. It cannot be assumed that surplus food will be available at current levels indefinitely, particularly given prospects for liberalization of international food markets. Moreover, open-ended food aid commitments can develop undesirable dependency relationships that destroy human initiative. Rather, the donor's role should be to address the underlying problems and any ongoing need for a safety net. Thus, as with other types of development assistance, food aid programs to address safety net needs should include phase-out plans. The plans should include appropriate benchmarks to measure progress toward the achievement of phase-out objectives and, in particular, the sustainability of newly established host country capacities.

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CHAPTER 1
PROBLEM AND PERSPECTIVES

1.1 PROBLEM

Some one billion people chronically consume too little food for a healthy, active life. At least an additional quarter billion people periodically suffer inadequate food consumption as food accessibility is interrupted by unstable weather, prices, and employment, and by pestilence such as drought, disease, and wars.[1] Asia has the greatest number of food insecure people while Africa has the highest proportion of its people rated as food insecure (Reutlinger and Alderman). Asia is making considerable progress in reducing food insecurity; Africa is not. Worldwide, an estimated 18-24 million people die of hunger each year (Alamgir and Arora, p. 2). Numbers are unreliable and probably underestimated. One reason is because many people die prematurely from diseases such as diarrhea and measles that ordinarily are not fatal but cause death among persons weakened by undernutrition.

Food security impacts many dimensions of well being. Women without adequate diets give birth to children with low birth weights and high mortality rates. Mothers cannot breast-feed their babies properly. In children, inadequate food consumption can impair cognitive and neurological development which in turn can reduce learning capacity, attention span, and school performance (USAID Policy Paper on *Nutrition*, p. ii). Adults without proper food intake have low productivity and, thus, low capacity to be food secure. These adults produce children with problems described above, completing the food insecurity cycle. *The ideal is for all people at all times to have physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life.*

The Food, Agriculture, Conservation, and Trade Act of 1990 (FACT) amended the Agricultural Trade Development and Assistance Act of 1954 (Public Law 480) to give USAID responsibility for administering Titles II and III of Public Law 480. The Agency's responsibility for promoting food security, however, extends beyond administration of food aid. Indeed, the USAID Policy Paper on *Food and Agricultural Development* states that "the *overall objective* of United States *bilateral economic assistance* is to stimulate in developing countries broadly-based, self-sustaining economic growth that promotes international peace and stability and that assists people to conquer poverty, *hunger*, illness, and ignorance," (p. 1, emphasis added).

1.2 OBJECTIVE

The objective of this discussion paper is to outline a framework for food security, emphasizing the potential role of USAID. That framework is designed to:

1. Enhance food security in developing countries receiving U.S. economic assistance;

2. Provide a conceptual framework for preparing a USAID policy for pursuing food security through U.S. economic assistance programs; and

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[1] For a more comprehensive treatment of the global dimensions of food insecurity, see Von Braun et al. Chapter 4. It is extremely difficult to determine how many people are *chronically* food insecure in the sense that they never have access to enough food and how many are in *transitory* food insecurity. We suspect that most people classified as chronically food insecure have, at least in some years, enough food because many are rural people whose access to food is subject to large fluctuations in local weather and employment opportunities.

3. Respond to provisions in the new Public Law 480 which established the enhancement of food security as the foreign policy objective of U.S. food aid programs.

Chapter 2 of this paper establishes a conceptual framework for broad-based, sustainable economic progress to provide food security. Chapter 3 discusses transitory food security and the means to deal with it. Chapter 4 lists possible USAID options for food security. Definitions and dimensions of food security are addressed below before outlining elements of a framework to promote food security.

1.3 DEFINITION OF FOOD SECURITY

The World Bank (1986, p.1) defines food security as "access by all people at all times to enough food for an active, healthy life."

Other groups and agencies use similar definitions. The Food, Agriculture, Conservation, and Trade Act of 1990 (PL 101-624) defines food security as "access by all people at all times to sufficient food and nutrition for a healthy and productive life."

According to the Food and Agriculture Organization (FAO) Committee on World Food Security, food security means "that all people at all times have both physical and economic access to the basic food they need." (see Huddleston, p. 72).

The European Community holds that "food security can most simply be defined as the absence of hunger and malnutrition. For this to be possible, households, villages, or countries must have enough resources to produce or otherwise obtain food." (Kennes)

In April 1992, the USAID Policy Determination No. 19 adopted the following basic definition of food security: "when all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life."

This definition is consistent with the above definitions and is used in this report.

These definitions encompass dimensions of food security shown in Figure 1. *Accessibility* or effective demand is emphasized in each of the definitions. This emphasis contrasts with earlier definitions of food security which more narrowly focused on food *availability*. Food availability emphasized policies such as buffer stocks, excess production capacity, and production practices (e.g., diversification, flexibility, drought resistant varieties) to ensure food supply in the face of pestilence and unstable weather from year to year.

Whereas food availability highlighted *supply* of food (from production, stocks, and imports) at the national level, and production and inventory at the farm level, food accessibility highlights effective *demand* and purchasing power of consumers. Given that *world* supplies of food have been adequate every year in recent decades to provide an adequate diet for every consumer, but that millions of persons have gone hungry for lack of buying power from earnings or transfers, food accessibility is felicitously emphasized in the above definitions.

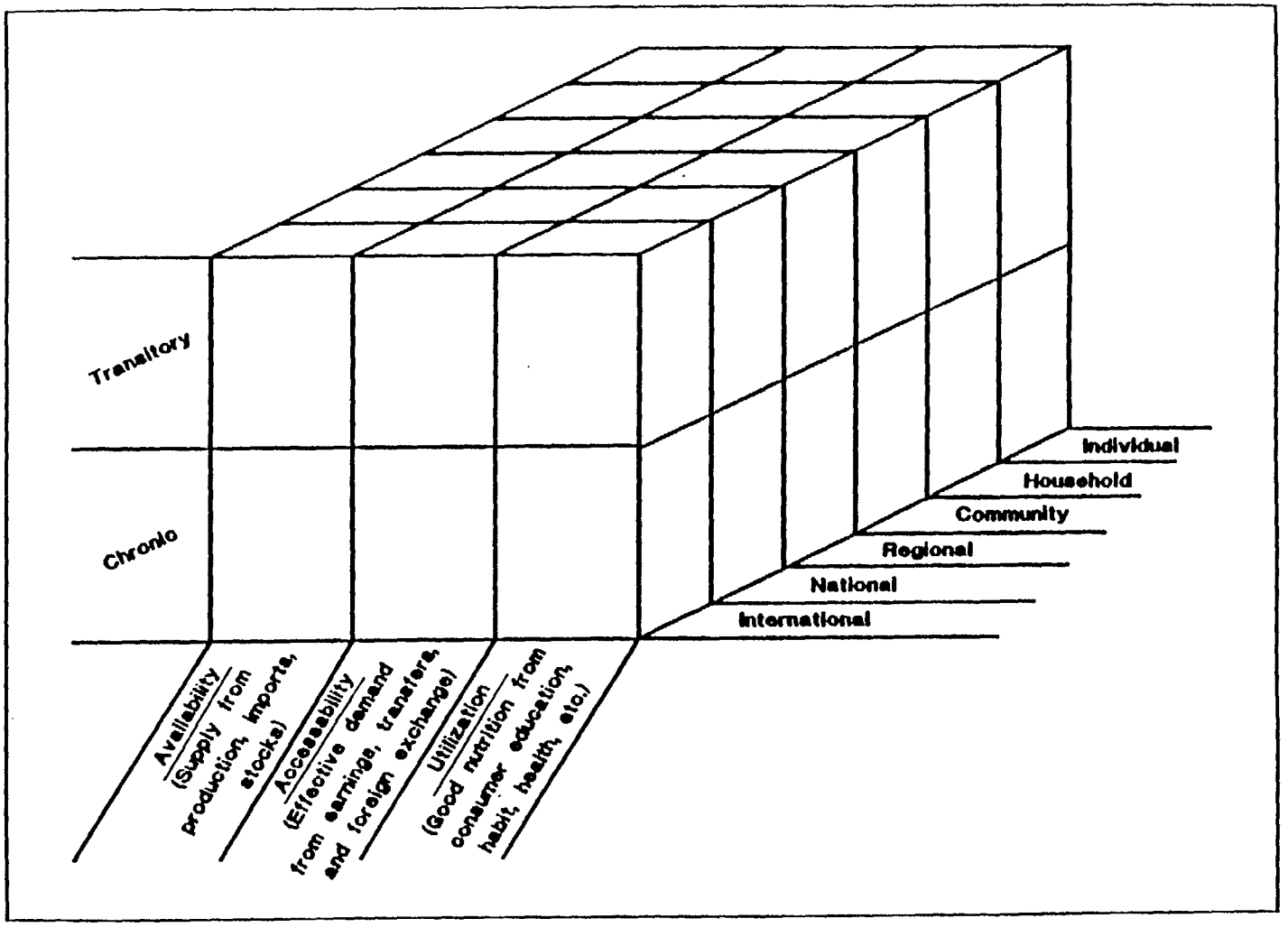

Figure 1. Some Dimensions of Food Security.

Source: This figure has some similarities to that reported in *Food Security in Africa Cooperative Agreement* between the Africa Bureau and Bureau of Research and Development of the USAID, and the Department of Agricultural Economics, Michigan State University.

Ideally, food security means that all persons at all times *utilize* food necessary for an active and healthy life.[2] People for whom food is available and accessible but who fail to consume and absorb adequate nutrients experience food insecurity. Thus food security goes beyond availability and accessibility to include proper utilization — the latter encompassing consumption, digestion, and biological absorption.

Given food accessibility, improper food utilization is the result of personal tastes, culture, peer pressures, lack of knowledge, inadequate household processing and storage, inadequate food labeling, misleading advertising, and physical and mental illnesses. Many of these causes are worthy of public concern. Proper health care and nutrition education are indeed within the domain of USAID's concerns for food security. Issues of utilization are addressed in the USAID Policy Paper on *Nutrition* and by the panel reporting on a PL 480 Performance Monitoring and Evaluation Plan. The third component, utilization, is included in Figure 1, however, to remind that consumer education, information systems, health, and nutrition are components of food security.

Food security may be viewed along other dimensions. Issues at the world level, such as internationally coordinated buffer stocks, can differ sharply from issues at the individual or household level, such as the elderly or young being the residual claimants on the family food supply (Figure 1). Food security policies at the community and regional level will be influenced by communication and transportation linkages. Internationally, a food security strategy for developing countries cannot be properly devised without reference to trade, aid, and commodity-program and stock policies of developed countries.

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2 Some analysts (see Lowdermilk, p. 4) have included *utilization* with availability and accessibility dimensions of food security. According to Lowdermilk, adequate utilization "rests upon the adequate health and nutrition of the individual." The term *food utilization* for purposes of this report has dimensions of food consumption and absorption. Proper food consumption means eating an adequate diet. Those who consume adequate diets may not absorb available nutrients because of digestive and other health problems.

Adequate utilization implies adequate intake of vitamins, protein, minerals, and fiber as well as calories. Malnutrition in *developed* countries often is a very real problem of obesity from chronic excess calorie consumption. The focus of this paper is food insecurity and undernutrition associated with poverty in *developing* countries.

Food security *for all people at all times* goes beyond transitory food-supply or buying-power shortfalls to encompass the much larger dimension of chronic food insecurity (Figure 1). For chronically food-insecure people, food consumption is hardly ever adequate. Broadening the concept of insecurity beyond the uncertain, unexpected, or random setback recognizes that transitory food insecurity cannot be cleanly separated from chronic food insecurity. Individuals and nations troubled by chronic food insecurity are most prone to transitory food insecurity. Those with resources to avoid chronic food insecurity are likely to be able to purchase, borrow, save, or in other ways escape transitory food insecurity.[3] Thus *food security is inseparable from poverty.*

The concept of chronic food insecurity recognizes dimensions of food availability, accessibility, and utilization *over the long run*. Policy for such a trajectory has few bounds! Because the food insecure are poor people who typically devote 60 to 80 percent of their income to food, food insecurity attends poverty.[4] And because poverty is a function of the level and distribution of national income, *food security cannot be separated from economic development*. In short, food security encompasses disciplines ranging from nutrition at the individual level, to family economics at the household level, to all-weather road construction and maintenance at the regional level, to economic development policy at the national level, and to trade and aid at the international level.

The resources of USAID are far too limited to alleviate all sources of food insecurity. Many other public and private initiatives are involved. For example, road, bridge, and port construction essential to food security typically has been the domain of indigenous governments and of the World Bank and other lenders, not USAID. However, in developing countries, USAID is recognized for its contributions in nearly all areas relating to food and agriculture. Its personnel need to be familiar with the broader issues of food security even though the Agency is clearly in no position to fund or control every aspect. Hence this paper addresses broader issues of economic development relating to food security.

Other dimensions of food security are revealing. Manarolla (p. 9) uses the term *food self reliance* to refer to a nation's ability to produce food domestically and to import commercially the food it does not produce. Food self reliance gets to the heart of development strategies to eliminate hunger because it recognizes the role of domestic income and foreign exchange on the demand side and domestic food production and food imports on the supply side.

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3 Transitory as well as chronic food insecurity are sometimes said to be caused by poverty rather than by inadequate food production. That proposition is oversimplified, however, because agricultural production is the major determinant of the income of the rural poor in many developing countries. Poverty and low production are not separable — low productivity and low production means low income and buying power, given prices. In agricultural economies, food demand and supply are closely related. Because agriculture is the direct source of family food and of exports to provide foreign exchange to import food, it is the main source of supply. It is also the main income of producers and, hence, the source of demand and buying power. Analogously, countries are not food insecure (and are not plagued by excessive food prices in their domain) just because they have a poor harvest, but because they lack foreign exchange. Again the interaction between demand and supply is apparent because a poor harvest is likely to mean less quantity to export to earn foreign exchange.

4 The numbers mean that 20 to 40 percent of the income of the poor is spent for nonfood purposes such as shelter, clothing, medical care, and transportation. Hence, a food deficit of $X among the poor will not be filled by $X of transfer payments because 20–40 percent of those payments will "leak" to purchase other goods and services deemed important by consumers. Although food commodity programs or food stamps target families, studies show that these transfers often are traded and hence fungible. Thus food security is not entirely separable from income (in cash or kind) security, and hence from shelter, medical care, etc. security.

The above definitions avoid defining food security as self-sufficiency. In a primitive stage, society engages in subsistence production, autarky (no trade), and self-sufficiency. Famine and other pestilence are common in such societies. As development proceeds and health and nutrition improve, death rates fall and incomes rise, causing a sharp increase in food demand from population growth and income growth. A large proportion of additional income goes to purchase food as formerly poor people improve their diets. Food production does not keep pace with food consumption growth as development proceeds. Fortunately, developing countries experiencing rapid income growth generate export earnings used to purchase needed food from developed countries which have sharply increased food production per capita.

As developing economies mature, food demand expansion slows as the population growth rate falls with lower birth rates and as a smaller proportion of added income is used to purchase food. Meanwhile, the supply of food expands as earlier investments in local agricultural research and extension finally pay off with improved practices and technology. Consequently, some developing countries become exporters as they become developed. This transition may require decades of growth. Other formerly low-income countries such as Japan, South Korea, and Taiwan paradoxically became less self-sufficient even as they became more food secure. Thus, *economic development brings food self reliance but not necessarily food self-sufficiency.*

Attempts at self-sufficiency can reduce buying power at the household level and economic development at the national level, reducing food security. Buying power as measured by family or individual income is closely correlated with food security as measured by personal food consumption.

A recurring theme in this report is that food security has two principal components at the national level: (1) broad-based, sustainable economic progress relying on the private sector under supportive public policies to raise most people out of income and food insecurity; and (2) targeted food and other transfers to those who lack resources and income or other means for food security. Chapter 2 emphasizes policies for economic development to provide food security.

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CHAPTER 2
ELEMENTS OF A BROAD-BASED, SUSTAINABLE ECONOMIC DEVELOPMENT STRATEGY TO PROMOTE FOOD SECURITY

The principal source of food insecurity is poverty. Because the most cost effective means to reduce poverty in developing countries is by increased productivity and buying power, the cornerstone of a successful food security strategy is *economic development*.[5] Some individuals and families are bypassed by the market; hence, *economic development is necessary but not sufficient for food security*. Although economic development bypasses some, it provides the wherewithal to finance food imports and food and income transfers to those left behind. Given economic development, the sufficient condition to end food insecurity is the political will and administrative capacity for essential transfers.

Economic development to address food and income insecurity differs from conventional economic development in that it must be *broad-based and sustainable* (BBS). Elements of such a BBS economic development strategy are presented in this section. A brief conceptual framework is outlined before turning to policy options.

2.1 CONCEPTUAL FRAMEWORK FOR FOOD SECURITY UNDER ECONOMIC DEVELOPMENT

Figures 2 and 3 illustrate issues for food security in a traditional underdeveloped economy (Figure 2) and an economy characterized by economic development (Figure 3). Full income from subsistence and other sources represented by the *income line* in Figure 2A illustrates that a major proportion of the population 0a/0b is below a socially acceptable food and income security threshold. The huge food deficit in this largely subsistence society is partially closed by redistribution of food and income, mainly within families, from those in surplus to those in deficit. In the hypothetical illustration in Figure 2B, the proportion of persons below the security threshold is actually increased from 0a to 0a′ as those near the security threshold make transfers to those in more difficult circumstances. The food deficit is only partially closed. It cannot be closed completely because real income (output) is too low for the food and income surplus to fill the food and income deficit — even if redistribution were complete.

The income line after redistribution remains perilously close to (and just under for many persons) the security threshold in Figure 2B. Large numbers of persons consume too little food for an active and healthy life. Starvation results when the after-redistribution income line falls much below the threshold. Disease and other sources of morbidity and early mortality are all too frequent in a traditional economy before economic development can provide the means for a better life — either directly from more buying power or indirectly from transfers.

An important point is that a society without economic progress is likely to remain in a precarious situation of food insecurity with many people chronically and acutely undernourished. A crop shortfall or other shock is likely to result in widespread hunger because no reserve of food stocks, buying power, and foreign exchange is available to buffer unforeseeable setbacks from pests, weather, war, or other sources.

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[5] Food poverty is defined as persons falling below the FAO/WHO calorie requirements which vary by circumstance but average approximately 2,300 calories per person. This is also the food security threshold discussed later.

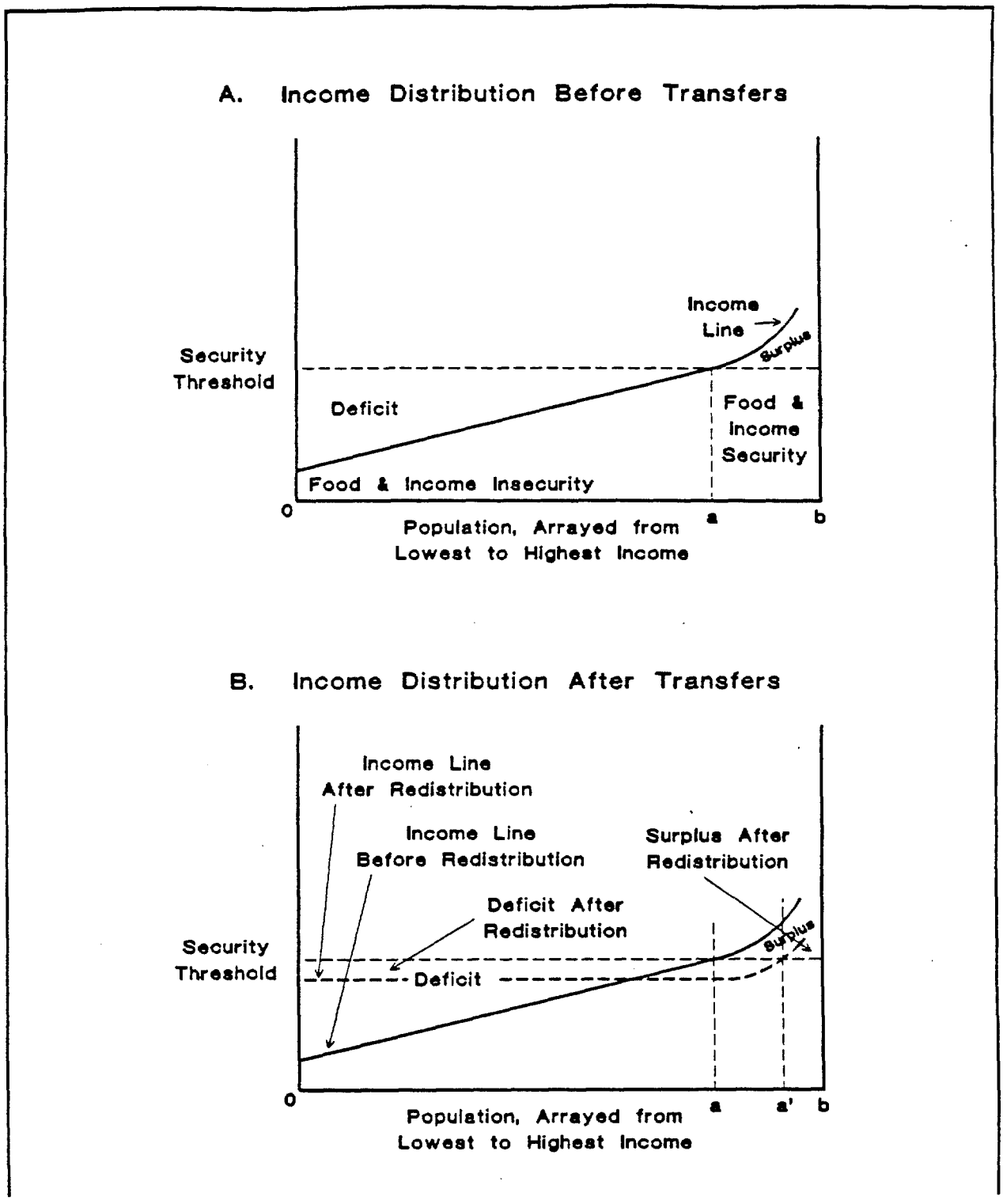

Figure 2. Food and Income Security in a Traditional Economy.

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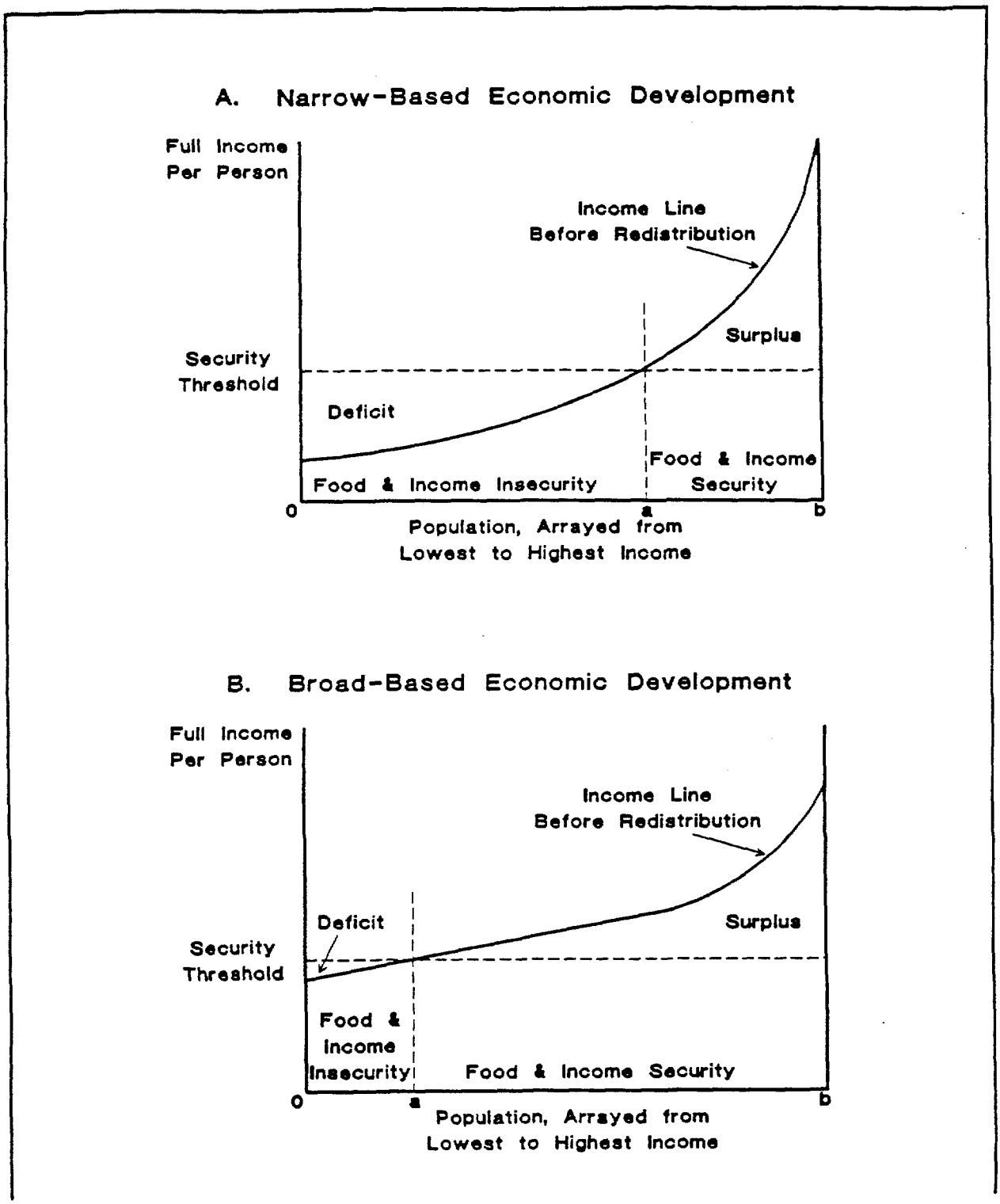

Figure 3. Food and Income Security Under Economic Development.

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Figure 3 illustrates two broad strategies of economic development to reduce food and income insecurity. The first strategy depicted in Figure 3A is *narrow-based* economic growth. One example is a dual economy in which only a portion of the population is favored by public policies for economic growth. This favored sector progresses with human, material, and technological capital formation, raising income well above the security threshold. The sizable surplus may be used to redistribute incomes to fill the food deficit of the non-favored sector. But an economy that has established policies to favor one sector of the nation for growth is also likely to discriminate against the other sectors in food redistribution policies to close the food gap to the left of a in Figure 3A. Of course, some of the food gap will be closed by family and other private redistribution so that the after-redistribution income line (not shown) will be flatter than the before-redistribution curve shown in the figure.[6]

Figure 3B illustrates the preferred strategy of *broad-based, sustainable* economic growth. It is *broad-based* in that policies are designed to raise productivity and buying power of the entire population. It is *sustainable* in that policies that buy short-term gains at the expense of future growth (e.g., over-exploitation of resources and excessive borrowing, money creation, and government current account deficits) are avoided. It avoids the boom and bust policies of business and political cycles that create instability and food insecurity. It is efficient, allocating resources where social payoffs are highest to raise income and living standards. The before-transfer income line is so high that few people (0a in Figure 3B) fall below the security threshold. The substantial surplus provides the economic base for transfer payments so that the after-transfer income line (not shown) can lie above the security threshold over its entire range. The surplus produced by a strategy of BBS development provides an economic base to purchase foreign currency and food imports or to purchase domestic buffer reserves of stocks. The surplus provides the wherewithal to supply public goods such as agricultural research, infrastructure, and schooling services that are efficient sources of future food and income streams. The surplus from economic development supports technology and practices to conserve soil and pursue other dimensions of an environmentally sound agriculture.

A final lesson from Figures 2 and 3 is the existence of tradeoffs and complementarities between development and redistribution. Too much emphasis on redistribution in the early stages of development destroys the surplus of savings and investment required for human, material, and technological capital formation and economic progress. A "pie" of income must exist before equity in the division of that pie can be pursued. Finding the proper mix of economic efficiency and growth versus equity and distributive justice is a challenge to any government. Food and other assistance from USAID can make that tradeoff less onerous. Technical assistance and policy analysis can help to identify equity-growth tradeoffs for decision-makers.

In short, the objective of moving all peoples at all times to a position of food security requires a combination of market-oriented development activities, safety nets redistributing food and income, and public and private actions designed to foster both. Such complexity is simplified by the Food Security Pyramid presented in Annex A.

2.2 EMPIRICAL EVIDENCE OF FOOD SECURITY PROMOTED BY ECONOMIC DEVELOPMENT

That economic growth reduces food and income insecurity is apparent from long-term data for 11 developing countries as reported in the *World Development Report 1990* (World Bank, p. 48). Each 1 percentage point increment in annual mean income growth reduced the proportion of persons in poverty

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6 A public food and income redistribution policy is likely to cost more than anticipated because intra-family and community redistribution will be partially displaced.

by 2.3 percentage points over a 10 year period.[7] The *Report* succinctly concluded that "growth reduces poverty" (World Bank, 1990, p. 47), and that the poorest of the poor participated in economic growth (p. 48).

The obverse (that food and income shortfalls especially disadvantage the poor) is also important to recognize. For example, because of the greater proportion of income spent on food and more elastic demand for food, relative food consumption falls 10 times as much for the poor as for the wealthiest 5 percent after a given reduction in food supplies (Mellor, 1987). That setback for the poor detracts from their already low nutritional status.

In India, the four states with the fastest growth rates in their agricultural sectors reduced the proportion of the rural population in absolute poverty by over half in a twenty year period (1963 to 1983) with similar weather at the beginning and the end. The states that did poorly in agricultural growth actually experienced an increase in the proportion of their rural population in poverty. Countries that have done well in agricultural development (e.g., Thailand, Indonesia, and Taiwan) have all experienced a radical decline in absolute poverty and, hence, have dramatically improved food security.

Studies show a close link between income and social indicators other than food security. Infant mortality rises with poverty (World Bank, 1990, p. 31). The incidence of rural malnutrition declines significantly as gross national product increases to approximately $1,000 per capita based on data for 18 low-income countries shown in Figure 4.

Empirical evidence is compelling that the poorest nations are in no position to undertake redistributions that successfully close food deficits. Of the 30 lowest income countries in 1988, only 2 had an average calorie supply of 2,300 or more per capita (World Bank, 1991, p. 258). Transfers of at least 15 percent of current gross domestic product (GDP) would be needed to eliminate the poverty gap in Bangladesh (World Bank, 1990, p. 50). Transfers of only 1.1 percent of current GDP would be required in Brazil, a country with greater income. Given the leakage of transfers for administration, to the middle class (to gain their political support), and to others, actual transfers would need to be much larger than indicated. Large transfers require taxes that reduce GDP. Real GDP (deadweight) losses from taxes and other market distortions required to finance transfers are massive in Egypt, for example, where transfers are a relatively high 7 percent of GDP (World Bank, 1990, p. 50).

2.3 ROLE OF THE PRIVATE SECTOR IN PROMOTING FOOD SECURITY

Because the number of food insecure persons is so large and because national income is so low in many developing countries, food insecurity cannot be eliminated by food and income transfers. In the case of the able-bodied, development rather than transfers is the lowest-cost means to food security.

Much of this paper focuses on public policies for food security. That focus must not veil the larger fact that *most of the task of providing food security in developing countries will be accomplished by the private producers and marketers responding to price incentives set by supply and demand in markets*. A food security strategy not harnessing the efficiency of markets will fail. The private sector will make decisions whether to produce food or fiber for home consumption or the market, for the domestic market or for export, and for consumption or storage. It will determine whether to use labor, land, or capital-intensive

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[7] The equation was $P = .71 + .23Y$ $R^2 = .61$
(.06)
where P is percentage point reduction in poverty per year and Y is annual percent growth in mean incomes. Data periods differed by country but were mostly for the 1960s, 1970s, and 1980s. The standard error (in parenthesis) indicates that the coefficient of Y is different from zero at the .004 probability level.

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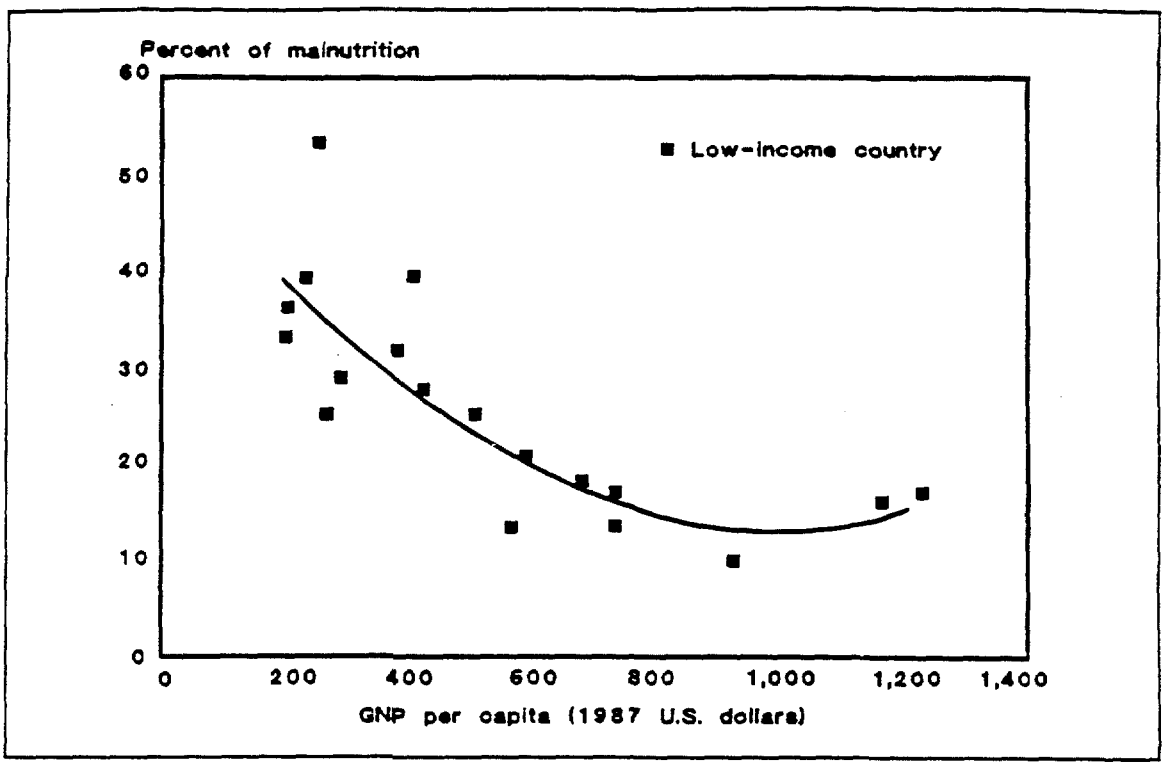

Figure 4. Rural Malnutrition in 18 Low-Income Countries in the Mid-1980s.
Source: IFPRI, p. 35.

production methods, whether to employ conventional or new technologies, and whether to borrow or lend. As explained later, the public sector can influence some of these decisions but it cannot make them because the millions of decisions required daily even in a small economy would overwhelm public decision-makers.

2.4 PUBLIC SECTOR POLICIES AND INVESTMENTS TO FOSTER BROAD-BASED, SUSTAINABLE DEVELOPMENT

The private sector works well only in an environment of supportive public administration and policy. Providers of foreign assistance often are in a position to promote dialogue, educate, and support appropriate public policies in the developing world; hence, knowing what is appropriate public policy to support the private sector is important to donors and developing countries alike.[8]

At issue is what is sound public policy. In October 1991, Clive Crook in *The Economist* (p. 6) stated:

> In the past few years a new consensus on economic policy has emerged. ... Its elements include: a non-inflationary macroeconomic policy, based on modest budget deficits and prudent monetary policy; greater openness to trade and foreign

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[8] The *Agricultural Policy Analysis Project* funded by USAID is one of several examples of a policy analysis delivery system. Building a partnership between *business and development* is one of the four key initiatives of USAID.

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investment; and *greater reliance on market forces as allocators of resources, especially in industry and agriculture* [emphasis added].

This *consensus synthesis*, although not universal, is widely shared by economists and major international development institutions.

The conclusion of the major World Bank (1990) study of poverty was that countries that have most successfully reduced poverty have encouraged economic growth but have done so with policies that *encourage efficient use of labor* and that *add to human capital of the poor*. A role for the public sector is to provide public goods and correct externalities to help the private sector function more effectively. A relatively lean, modest-sized but effective public sector is essential for a well-functioning private sector.

2.4.1 ACHIEVING PRIVATE-PUBLIC SECTOR SYNERGISM

The public sector needs to perform well the following activities for economic development:

1. Institutional Reform

- *Public administration*. Many food-insecure countries have established institutional arrangements that seriously constrain the operation of both private and public market forces. For example, inappropriate policies and bureaucratic incentives have created underemployed, control-oriented, underpaid, rent-seeking public bureaucracies that impose prohibitively high transaction costs on private entrepreneurs and that are incapable of effectively providing needed public services. These inappropriate institutional arrangements have contributed heavily to the serious economic, social, and political decline and the major increase in food insecurity in much of the developing world, but particularly in Africa.

  Appropriate laws and regulations dealing with fundamental aspects of liberalized markets such as ownership, contracting, investment, commerce, and labor combined with *effective technical and legal bureaucracies that efficiently and equitably apply them*, provide an environment enabling the private sector and competitive market forces to work. These institutional arrangements (laws, regulations, and bureaucratic structures that apply them) are critical to alleviating poverty and promoting economic development.

- *Security, stability, and order*. A supportive, legal and judicial system is essential to promote savings, investment, and capital formation in an environment where long-term private and public investments can be planned and carried through. A supportive institutional environment of rules, laws, and judicial procedures must be designed to create incentives for productive commercial activity, individual initiative, and freedom. Oppressive regulations protect monopoly and drive the private sector into an underground economy subject to exploitation and food insecurity.

  Democracy is highly desirable for economic progress. Democracy needs to extend to local governments which can provide essential community services and infrastructure, and have taxing power to support those activities. Excessive military (or unproductive civil service) spending is especially burdensome because it reduces civilian investment and diverts the able-bodied from gainful employment.

- *Property rights.* An institutional system of property rights with official commitment to respect for private property (including that owned by foreign firms) fosters savings, investment, and capital accumulation.

- *Competition.* A competitive environment avoids monopoly power of private or public firms; natural monopolies (where only one firm can operate to supply the market at low cost) are regulated as necessary. Openness to foreign trade and investment is one protection against exploitation by concentrated industries. Parastatals (state owned and operated industries) are best avoided. Free firm entry and exit and deregulated markets are useful objectives, with exceptions such as for health, safety, and environmental protection.

2. **Sound Macroeconomic Policies**

- *Fiscal responsibility.* The current account of government needs to be balanced. Deficits during recession must be offset by surpluses during better times. A capital account deficit (borrowing) is justified where returns are sufficient to leave a social dividend after paying interest and principal.

- *Monetary restraint.* To avoid inflation, the money supply needs to rise no faster than growth in real output. Sound fiscal policy reduces pressure on the central bank to create money and thereby induce inflation to finance government deficits. Positive real interest rates are important to mobilize savings and direct investment to priority uses.

3. **Liberal Trade Policy**

- *Properly valued foreign exchange.* Fiscal responsibility and monetary restraint will help to avoid an overvalued foreign exchange rate and foreign exchange shortage, which are serious threats to food security.

- *Open economy.* An economy open to foreign trade and investment needs to be as free of market distortions as possible consistent with environmental protection and collection of taxes to support essential functions. These latter functions, such as provision of public infrastructure and social services (listed below), need to be supported or guided by the public sector, but often are performed most efficiently by private firms.

4. **Infrastructure**

Road, bridge, seaport, airport, electricity, communication, and major irrigation facilities can be worthy public investments serving the private sector and food security. Infrastructure will be discussed in more detail later as an important element of broad-based development.

5. **Social Services**

Services such as schooling, adaptive agricultural research, extension, information systems, commodity grades and standards, primary health care, and sanitary water supplies are needed. These services are addressed later as critical elements of broad-based development.

6. **Appropriate Taxation (e.g., sales, value added, property tax)**

Export taxes are especially onerous because they often entail large deadweight losses that fall on domestic producers and destroy incentives. Property taxes have long been neglected in developing countries. They can entail less deadweight cost than export taxes and may encourage efficient land use. If graduated, property taxes provide incentives to reduce concentration of land ownership, spread ownership among more families, and reduce disruption of productivity that can attend alternative redistribution efforts such as land reform.[9] Property taxes can supply revenues to support local public infrastructure and social services.

7. **Environmental Protection (discussed in Section 2.4.3)**

The above *consensus synthesis* says nothing of infant industry, agricultural commodity price support, and public employment policies. Cases can be found where governments have protected new industry from foreign competition until it became efficient enough to compete without subsidies in world markets (e.g., Taiwan and Korea), where crop procurement prices (minimal forward prices announced before plantings and guaranteed by government) encouraged investment in efficient agricultural production (e.g., Indonesia), and where food-for-work and other public employment measures built needed infrastructure at low cost (e.g., India). Many governments, however, have insufficient administrative capacity, political will, or discipline to operate such programs efficiently.

Most commodity price interventions either discourage farm production with commodity taxes and price ceilings or tax consumers with excessive price supports. Economic progress and food security are for the most part best served by avoiding such policies.

In some cases, commodity prices are held above market-clearing levels to benefit farmers. Weber *et al.*, however, found that in Africa many small farmers are net purchasers of staples and are made more food insecure by high food prices. The disadvantage to small farmers of higher food prices is even more pronounced in Asia. Consumers, disadvantaged by high food prices, exceed the number of producers in every country.

In other cases, commodity prices are held below market-clearing levels to benefit consumers. The result is the reduction of farm purchasing power, incentives to save and invest (in human, material, and technological capital), and the ability to allocate resources to their best use consistent with opportunity costs. Farm production is discouraged and more affluent urban consumers subsidized. The efficient policy is to allow border prices (world prices "backed up" to local markets) for traded goods. Nontraded goods (ordinarily neither exported nor imported) will on the average be priced by the market to cover costs of production determined by the value of resources in producing traded goods and services. Despite private storage, fluctuations in food prices arising sometimes from international markets burden the poor.

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9 With economic development, opportunities for more equitable distribution of wealth is much greater with human resource development than with land reform. Land initially is a major portion of wealth, but becomes increasingly unimportant as economic development proceeds. A vision of future potential for developing countries is provided by the example of the United States. Some 70 to 95 percent of the $16 trillion estimated U.S. asset wealth was human capital in 1990 (Carlson, pp. 4, 5). *Farm real estate accounted for approximately $600 billion* or *4 percent of that wealth*! Thus in the long run, broad-based economic development offers vastly more opportunity for equitable distribution of wealth through access to education, training, basic health and sanitation services, and other human capital formation opportunities than through land reform.

Many governments take measures to reduce variation in domestic farm and food prices below variation in world prices. For countries desiring to stabilize food prices, a policy proposal is made in Chapter 3 for reducing price instability without sizably misallocating resources.

It is ordinarily inappropriate for governments to dictate through price supports or controls the allocation of farm resources produced for domestic food versus export markets. That decision is best left to producers reacting to their own best interests and market incentives. In the early 1980s, analysts (Epplin and Musah, p. 25) estimated that the resources of a typical farm family in Liberia could access three times as much rice (the main staple food) by producing tree crops for export and purchasing imported rice rather than by producing rice for local consumption. Export cropping entails risks of possible interruptions as later events in that country made all too evident. Producers anticipated risks and were diversifying production accordingly between producing rice for household consumption and tree crops for export well before civil strife began in the 1980s.

Export cropping and other diversification from food production is viewed by many as inconsistent with food security. But Staatz *et al.* noted that farmers in highly unstable and low rainfall areas of northern Mali had as much food security as farmers in southern areas with more stable, higher rainfall. The north had adapted to uncertainty by diversifying income sources and relying more on the market for food supplies.

The foregoing *synthesis* for economic development provides considerable scope for tradeoff between goals of economic growth, equity, and stability. The appropriate tradeoffs are best chosen by representatives of informed governments. However, *a development policy for food security must be broad-based, sustainable, and market oriented.* The interests of food security are best served by allowing prices to reflect scarcity values and guide resource allocations while using targeted food assistance and broad-based growth policies, such as investments in human resources, to target equity needs of the food insecure lacking resources to meet basic needs.

Every component of the conventional economic development framework outlined above is necessary for BBS development; the difference is in emphasis. But one component must be added to make necessary conditions sufficient for food security — a safety net. The next three subsections address broad-based development, sustainable development, and the safety net.

2.4.2 ACHIEVING BROAD-BASED DEVELOPMENT

The private sector is most successful in achieving broad-based development consistent with food security when nationwide supportive macroeconomic policies are accompanied by growth policies reaching the disadvantaged. Such measures are at once equitable and efficient (in raising national income) by helping people to lead more healthy and productive lives. Examples of disadvantaged groups include landless peasants, small landholders, and the urban poor. These groups often have underdeveloped human resources and few material resources, and are therefore especially vulnerable to food insecurity. Targeted food assistance is the only option to provide food security for some, but public investment in schooling and infrastructure can be both equitable and efficient.

Experience indicates that in addition to a sound monetary and fiscal policy mix along the lines described above, broad-based economic development requires that administrative and judicial bureaucracies be in place that are capable of efficiently and effectively providing the supportive public services (education, health, infrastructure, dispute resolution, etc.) required by a competitive, dynamic private sector. Unfortunately, many of the most food-insecure countries lack both an appropriate macroeconomic policy mix and public bureaucracies capable of effectively implementing it.

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Unless the inappropriate institutional arrangements (laws, regulations, and the bureaucratic structures responsible for implementing them) are reformed, the public sector will not be in a position to develop the social infrastructure and human capital required for private-led dynamic and sustainable economic growth, nor will it be able to provide a sustainable safety net for the food insecure. Thus, appropriate macroeconomic policies (including public administration) are a prerequisite for achieving broad-based development and food security. If these policies are in place or are created through reform, public investment in schooling and infrastructure and safety net programs can be both equitable and efficient.

2.4.2.1 Schooling and Related Social Services

Standards of living are a function of the level of human and material resources and how efficiently they are used. Capital accumulation by the poor can be expanded widely by investing in human resources through general schooling, vocational-technical training, and on-the-job experience. Universal access to primary schooling and health services is critical for broad-based development. Extension education, general education, and primary health care can teach nutrition and other components of food security.

Given limited resources to fund even basic health services, effort may focus on preventative rather than curative procedures. Diarrheal control (through oral rehydration), immunization, family planning, and sanitary water supplies are examples of basic health services. Health and education agencies and personnel can help to identify people vulnerable to food insecurity.

Removing racial, ethnic, gender, and wealth barriers to social services is consistent with economic equity and efficiency. The role of women in food security is especially important. Women account for an estimated 60-80 percent of all agricultural work in Africa (USAID Policy Paper on *Women in Development*, p. 3). Income of the woman, not the man, often provides the basic food and health care survival needs of the family. Women often are responsible for food production, meal preparation, and nutrition education. Compared to men, women generally receive less education and less access to land, credit, improved farming inputs, and agricultural extension services in developing countries. Improved access for women to services, inputs, and cost-effective labor-saving technologies can do much to improve food security.

2.4.2.2 Agricultural Services

Broad-based, sustainable economic development emphasizes allocation of resources to where social returns are highest. In many of the poorest countries, that emphasis requires a focus on agriculture and rural areas where the bulk of people, resources, and opportunities are located. In such countries, it is typical for half the rural population to be food insecure and for 80 to 90 percent of the food insecure to be in rural areas. It follows that a development strategy accelerating growth in the agricultural sector is often essential for radical reduction of poverty. Productivity advances in agriculture provide the economic base for human resource development through schooling, health services and infrastructure, which in turn make possible further productivity gains. Local labor-intensive small and medium-scale industries form to provide additional employment and diversification of income useful for food security. In other countries or regions where the initial economic base is tourism, mining, or other non-agricultural industry, this same process of development and diversification toward income and food security proceeds, but with different origins.

A productive indigenous agriculture directly provides food for farm operators and others, and indirectly provides food by earning foreign exchange to purchase imports. Improved technology and management made possible by agricultural research and extension lowers food costs and enhances food security. A productive agriculture helps to supply the tax base necessary for food assistance transfers.

The public role extends beyond improving production through adaptive research, extension education, institution building, and technology transfer. For example, the extension service can work with individuals and private firms to improve food processing and marketing for better nutrition and for longer shelf life and home storage. (Information systems are discussed later.)

Studies show that agricultural research and extension in developing countries can have a very high economic payoff. Few developing countries can afford in-country basic research, but the payoff has been almost universally high from applied research emphasizing local adaptation of technologies from elsewhere (Iqbal). When encouraged to do so, the private input supply sector has strongly supplemented the public sector provision of agricultural research and extension to improve food production and marketing practices and technology. (Jordan is a good example.)

Credit services can be provided by the private sector but can benefit from public regulatory safeguards and, in early stages, from technical assistance. The most successful credit programs to generate self-employment and stabilize consumption for the poor combine peer pressure, small groups, modest size loans, and technical assistance as in Bangladesh's Grameen Bank (Hossein).

2.4.2.3 Infrastructure

An efficient economy requires effective communication and transportation systems. Because these have "public good" properties, the private sector acting alone will not provide the optimal level. The public role, however, is often best restricted to funding and regulation, while construction and day-to-day operation should be provided by private firms.

Appropriate infrastructure makes private markets work better and raises national income. Such infrastructure serves food security by reducing the frictions of space and time. All-weather roads are essential to transport produce from food surplus to food deficit areas and to allow efficient input supply and product marketing activities consistent with increasingly productive farm and nonfarm industries. Food can be quickly and efficiently moved from areas of surplus to areas of shortage. Mobility enhanced by appropriate infrastructure helps entrepreneurs and workers take advantage of the best opportunities available in the country, thereby raising individual and national buying power and food security.

2.4.2.4 Information Systems

Information is essential to allocate food efficiently over time and space. Modern data collection, processing (e.g., microcomputers), communication, and transportation systems help private markets function to their potential. Price information helps markets,

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consumers, and producers to make better decisions. Crop forecasts provide early warning of food shortfalls or surpluses.

In review, crop production forecasts and market information on food prices, shortages, and surpluses help markets work better. A free press and open political system also facilitate the flow of information and response. Information systems also have "public goods" properties. That means that private markets alone do not suffice and a public role is justified.

2.4.3 ACHIEVING SUSTAINABLE DEVELOPMENT

Infrastructure, schooling, and agricultural research and extension policies not only make development broad-based, they also make it sustainable. Two additional policies are especially important for sustainability and, hence, for food security.

2.4.3.1 Sound Macroeconomic Policies

The Economic Degradation Process (Tweeten, 1989), beginning with a nation living beyond its means and culminating in a shortage of foreign exchange, has two main phases: (1) an expansionary phase while the nation is living beyond its means and perhaps benefiting food insecure people, and (2) a stabilization or structural adjustment phase of retrenchment to a sustainable economy. These two phases average lower economic growth, more instability, and greater food insecurity than would a sustainable macroeconomic policy.

Countries incurring large current account deficits and generally attempting to live beyond their means accrue burdensome debt and often end up printing excessive money. Large foreign debt absorbs considerable foreign exchange earnings to service debt rather than to purchase imports consistent with food security. Excessive creation of money results in inflation, overvalued currency, and a shortage of foreign exchange.

Buffer stocks are discussed in the next section, but here we note that the most cost-effective national "buffer stock" for most developing countries is international trade (imports). Unsound macroeconomic policies deny a country full use of this cost-effective food security tool. Food aid may be useful in the short-term to ease the burden on the poor during structural adjustment to a sound economy which will provide self reliance and food security in the long-term (see Annex B).

2.4.3.2 An Environmentally Sound Agriculture

Broad-based and *sustainable* economic development is threatened by environmentally unsound practices. Such practices result in soil erosion, salt-buildup and waterlogging of irrigated land, deforestation, and desertification. Some practices cause chemical contamination of food, water supplies and field workers. Pressures on land and water resources to supply the food demands of growing but very poor populations intensify environmental problems in the developing world (World Bank, 1991, p. 61). Many such countries lack the public resources required to educate producers or to provide controls and incentives for aligning private and social costs (benefits) essential for an environmentally sound agriculture.

So called "low input sustainable agriculture" (LISA) is a relatively recent approach to achieve an environmentally sound agriculture (Tweeten, 1992). The approach has much to offer in attempting to capture the synergisms possible with a systems framework. That framework combines (1) integrated crop management (often employing forage legumes in crop rotations, alley cropping, etc. to reduce chemical fertilizer and pesticide use), (2) conservation tillage (often employing no-till or other residue management techniques to reduce soil erosion and conserve moisture), (3) integrated pest management (employing biological pest control and minimizing pesticide use consistent with "best management practices,") and (4) crop-livestock systems to make better use of farming resources including forage legumes and to supply high-quality protein in the form of meat, milk, and eggs.[10]

Market distortions can be corrected to reduce environmental degradation. Underpricing by government for logs taken from public forest lands invites excessive cutting for export by the private sector without proper attention to replanting or protection of fragile cutover lands from farm squatters. Underpricing of farm irrigation water (e.g., Egypt) and of synthetic fertilizers and pesticides (e.g., Indonesia) have degraded the environment. Overvalued currency and high taxes on crop exports (e.g., Tanzania and Uganda) have impoverished farmers. Combined with high population growth, poverty is a major cause of soil erosion and hence of food insecurity.

2.4.4 FOOD AND INCOME TRANSFER SAFETY NET

A final element required to turn the broad-based, sustainable development framework discussed above into a *food security framework* is a public safety net for those unable to achieve a socially acceptable level of well-being by depending on the market, family, and other sources.

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10 Several pitfalls need to be kept in mind when considering LISA as a food security framework:

- LISA should not be confused with organic farming which excludes all synthetic chemical fertilizers and pesticides. Rejection of prudent economic use of highly productive commercial fertilizers and pesticides can sharply restrain productivity gains and threaten food security.
- LISA is an unproven approach that needs much basic and applied research and evaluation before being widely adopted by producers. Each of the four components of LISA listed in the text is conventional and has been adopted successfully by many farmers, but the components combined often reduce yields and net economic returns, especially during a transition period of four to six years. (Food aid might be used to ease the burden on adopters during the transition.) The key is to combine the four components listed above (or at least as many as feasible) into a *synergistic* system producing a whole greater than the sum of the parts. That requires above average management by producers and further technological breakthroughs such as improved biological control of pests. Further advancements in basic technologies, such as biological control of pests and high-yielding cultivars, are essential to make LISA widely profitable. Research in developed countries and in internationally supported research efforts located in the developing world (e.g., CGIAR) will play a crucial role in basic research.
- LISA will not be adopted unless producers are motivated by profits and other perceived advantages of the approach.
- LISA entails difficult environmental tradeoffs. Conservation tillage to save soil, for example, may require toxic chemical herbicides to control weeds. Pest-resistant varieties may contain high concentrations of natural toxins hazardous to pests and people alike.
- Given the above points, public pursuit of LISA for poor smallholders, renters, and women operators must not detract from providing them with access to productive technology and resources already available to other farmers.

Through misfortune, some people will lack the capability to provide self-sustaining food security for themselves. The food insecure form a gradation which offers scope for programs ranging from developmental to straight redistributional. For example, food distribution programs can provide free food to the non-able-bodied poor and destitute, education programs can include school lunch programs that attract children to school and relieve food insecurity directly, and road building programs can employ the food insecure and pay them with either food or cash for purchasing food.

Even public efforts to address transitory food insecurity can promote development and need not be solely redistributional transfers. With proper advanced planning, public works projects can be initiated to build or repair roads that raise private agricultural efficiency.

Many ongoing programs have the basic administrative structure and the capacity to respond to short-term emergencies. Indeed, ongoing programs become predictors of increased transitory food insecurity as demand for the employment and other benefits increases at early stages of a food security problem.

Safety net efforts can also be private sector initiatives. For example, private voluntary organizations frequently provide early warning of famine and take the lead in distributing food supplied by the public sector.

2.5 PRIORITIES IN THE SYNTHESIS

Several issues guide priorities:

- Economic and administrative reforms are interconnected and interdependent. It is clearly impossible temporally, politically, intellectually, and procedurally to implement all reforms at once. Often, major reform implementation involves an iterative, learn-as-you-go process.

- Host country leaders are faced with extremely difficult, sensitive, and inadequately informed choices regarding which reforms to implement so as to minimize the social and political costs. Donor assistance can and should be used to influence both the process and direction of policy reform to enhance their impact on food security.

- Reforms must occur in both the public and private sectors, and across economic and social sectors.

- Priorities/sequence must be determined based on need, speed of impact, social cost, interdependency relationships, and targets of opportunity.

- Success of one reform often depends on success of other reforms. Thus reforms need to be made as quickly and jointly as is feasible.

- Policies causing food insecurity take time to reform. Adjustment assistance can alleviate food insecurity while reform is in progress. Such assistance properly addresses humanitarian concerns, and needs to recognize the difference between humanitarian concerns and political concerns. For example, able bodied, educated personnel released for employment in the private sector may generate strong political opposition to reform but may not constitute a care for humanitarian food assistance. Nonetheless, adjustment assistance must recognize the need for political support for reforms.

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- Given frequent failure of governments to make promised reforms after they have received development assistance, a point of departure is to require at least minimum critical structural reforms (those not putting nutritional status at risk) *before* assistance is granted.

Macroeconomic and Administrative Reforms

Macroeconomic and administrative policy reforms are necessary preconditions for broad-based, sustainable, market-led development and hence are of highest priority. Markets will not function well without a supportive legal and security framework; infrastructure and public services such as education cannot be properly supported without a well-functioning market economy. A balanced current account is often a precondition to stop printing money. Prices and interest rates will signal proper scarcity values to markets only when freed from the "noise" of inflation and controls.

Fiscal responsibility is likely to require (1) fuller collection of existing taxes and expansion of coverage to broadly based taxes and (2) cutting government payments to state owned enterprises and to redundant civil and parastatal employers. A related macroeconomic priority is freeing of overvalued exchange rates and controls. Quantitative restrictions can best be converted to tariffs and reduced over time. Freer trade is the ultimate objective, but takes time for realization. Corruption, waste, and mismanagement by public officials sap the vitality of reforms, and need to be corrected by programs of selective pruning, education, and narrowing of government functions. The private sector does not function well where private property is not respected and where laws are vague, antibusiness, or not enforced.

Administrative reform is of high priority. Privatization, breakup of public or private monopolies, ending of growth-depressing regulations, and administrative reform to streamline government can at once stimulate the economy and demonstrate a commitment by government to reform. The role of government becomes one of increasing *real* national income by supplying only public goods and facilitating rather than impeding private enterprise. By this stage, prices should be free of controls.

Investment in Social Services and Infrastructure. As the initial shock of macroeconomic policy austerity wears off, as confidence builds, as foreign and domestic investment rise, and the economy picks up, attention must turn expeditiously to the next major priority — longer-term high-payoff *investments for growth* such as human resource development, agricultural research and technology, and infrastructure investments.

Many people can be made food insecure by restraining money supply, government budget balancing, and ending a nation's living beyond its means. Here, a food safety net to help the disadvantaged can cushion adjustment pains. The many persons released from overstaffed government bureaucracies and state owned enterprises usually have more human and material assets than the average worker, and can adjust more readily to productive (if not more remunerative) private employment or business opportunities.

It is inappropriate in any of these activities for the state to be the employer of "first resort" or "last resort." The state needs to employ individuals only as necessary to efficiently provide needed public services. Even these services often can be provided more efficiently by private suppliers — with public regulation and support as necessary.

2.6 DEVELOPED COUNTRY DOMESTIC POLICIES CONSISTENT WITH ECONOMIC PROGRESS IN DEVELOPING COUNTRIES

The foregoing food security framework is most easily achieved in developing countries when developed countries pursue supportive domestic policies, including open markets to developing country exports.

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Market access is important not only in primary commodities but also clothing, textiles, footwear, processed foods, and other products into which developing countries diversify as development progresses. (The importance of diversified income sources to food security has been noted.) Other important facilitators of growth in addition to direct aid include basic research and holding emergency food reserve buffer stocks — efforts which developing countries cannot afford. These and other developed country policies to benefit low-income countries are discussed in Annex C.

Global trade liberalization, for which developed countries have taken the initiative but for which developing countries also need to take initiative, has much to offer in terms of food security in developing countries. According to estimates in the *World Development Report 1986* (World Bank, p. 131), global liberalization of agricultural commodity programs and border protections would reduce the coefficient of variation in the world price of wheat from .45 under 1985-type conditions to .10 after liberalization, and in rice from .31 under 1985-type conditions to .08 after liberalization.

All aspects of trade and commodity program liberalization are not favorable to developing countries, however. As developed countries reduce agricultural market interventions, reserve food and feed stocks held by the United States and Western Europe may decline. Developing countries need to be prepared for the impact of such a decline on access to food reserves. In the absence of massive stocks accumulated by commodity programs, governments of developed countries need to give greater attention to special food reserves for responding quickly to food crises that inevitably emerge from time to time in developing countries.

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CHAPTER 3
COPING WITH TRANSITORY FOOD INSECURITY

Transitory food insecurity is addressed in this section because it poses unique issues for foreign assistance. To be sure, transitory food insecurity potentially can be alleviated by BBS economic progress because growth makes stock reserves, imports, food transfers, and other coping strategies affordable in developing countries. Despite economic progress, many countries alleviating chronic food insecurity through structural adjustments will be unable to cope with unforeseeable large transitory food shocks. Transitory food insecurity arising from drought, floods, pests, and armed conflict frequently cannot be foreseen or protected against. Food aid can be especially important to address transitory food insecurity if in-country food supplies are unavailable. This section addresses problems of and policies for transitory food insecurity.

3.1 STABILIZING FOOD PRICES AND AVAILABILITY

People need to eat every day. But the ability to acquire food from current income or from current self-provisioning production fluctuates greatly over the seasons and from one year to the next. Seasonal fluctuations are fairly predictable. Annual fluctuations are random; at best, only the probabilities of supply in future years are known.

Much private and public economic activity in low-income agricultural economies is devoted to stabilizing access to food. Subsistence farmers diversify crops and cultivation practices, stagger planting times, choose cultivars resistant to climatic adversity, and spread harvests of various crops over as much of the year as feasible. They also store commodities. Similarly, market stabilization is fostered over time and space by *arbitrage*, defined as buying when and where prices are low and selling when and where prices are high. Obtaining proper access to food consumption over time and space comes at significant cost, whether the stabilizing is done by the private or the public sector.

Although often not recognized or appreciated, the role of private action in stabilizing people's access to food is critical and continuing. Two fundamental questions are addressed here: (1) what is the appropriate role of the public sector in stabilizing people's access to food? and (2) what are the most cost-effective means to accomplish that role?

3.1.1 SEASONAL INSTABILITY BETWEEN HARVESTS

Daily consumption requirements and access to food are aligned within a season mostly because the private sector engages in a great deal of stabilization. Only poor people suffer from seasonal hunger. However, even they are not necessarily well served by government programs stabilizing access to food reserves on their behalf. Often, assistance that augments their human resource productivity and, thus, their overall annual income is more cost-effective.

3.1.2 STABILIZING AGAINST FLUCTUATING HARVESTS

For a subsistence farming household, transitory food insecurity can mean having less than the usual food reserve in the granary, seeking outside employment, sharing food with other families, and selling less market surplus. For people who purchase their food in the market, a major concern is how to cope with fluctuating and often unpredictable food prices due to the instability in national and international food production.

While instability in the food supply is usually the major source of unstable food prices, unstable exchange rates and fluctuating demand also contribute. In the extreme case of famine, people suffer from a dramatic shortfall in access to food.

To illustrate the cost of ensuring consumption against random year-to-year fluctuation in food supply, prices, and income, consider a Robinson Crusoe living in a very unstable climatic environment and relying for his consumption on a single food crop. If he is risk averse, he could insure consumption against a string of bad harvests by building facilities to store supplies several fold as large as his annual consumption requirements. Costs of the storage facilities, spoilage, interest, and management would accrue.

His other option would be to forego storage but employ more resources for production. To be confident of having enough food, each year he must produce more than what he can use in most years. Whether storage or producing useless surpluses is the least costly option for stabilization depends on the relative cost of storing and producing food.

The above example illustrates two central propositions: one is that stabilization in the face of instability can be very costly; the other is the good fortune of not living on an isolated island. The absence of high correlation in production among nations enables national and international trading to be the most promising instrument for achieving stabilization. Poor crops in one place are offset by bumper crops in other places, leaving overall world food supplies with only modest year-to-year variation. If every farmer and country held individual stock reserves independently to buffer their own production, reserves would have to be vastly larger than with open world trade and internationally accessible stocks.

Different crops, often grown in different locations and subject to different growing conditions, can be substituted in human diets. Thus trade is a powerful and relatively low-cost option for stabilizing people's access to food everywhere if yields tend to average out among regions, people are not too isolated from each other, transport costs are kept low, and policy barriers are not erected against trade.

As in the case of seasonal food insecurity, the private sector plays a major role in reducing the instability caused by random events affecting food harvests in different years.[11] (As much as 90 percent of all storing at any particular time takes place on farms and in homes, even when countries hold sizable public stocks.) Yet, major differences exist between mechanisms for coping with seasonal and inter-year transitory food insecurity. Brisk international trading is likely to be a more cost-effective buffer instrument in the case of the latter, while local storage and intra-country trade are more important for ensuring stable seasonal access to food.

For developing countries, buffer stocks are a costly instrument for inter-year stabilization. Stocks often have to be held for several years and storage facility costs accrue even when storehouses are empty. Since private entrepreneurs usually face high risk, they require a premium return on their resources to justify holding buffer stocks. There is much uncertainty about the timing and profitability of the operation. Timing of purchases and sales to cover storage costs is made difficult by unpredictable domestic harvests and foreign markets. Fluctuating exchange rates and government trade policies sensitive to political considerations add to the uncertainties.

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[11] *Buffer* stocks are for inter-year stabilization, *seasonal* stocks are for seasonal (within-year) stabilization between harvests, and *pipeline* stocks are minimal stocks in transit and on shelves for markets to function.

Studies (see Reutlinger *et al.*) which simulate the profitability of an investment in inter-year buffer stocks in an open, free market have repeatedly shown that they are not profitable except when they are held on a small scale, in which case they provide little stabilization. Private traders hold few buffer stocks.

So the important question remains: is potential instability in the access to food a legitimate concern for public intervention? If consumers prefer instability to paying the high cost for buffer stocks, why have publicly financed storage operations? Some of the possible arguments in favor of a public role in enhancing stability in food availability and prices are reviewed briefly here.

1. It is sometimes administratively more difficult and costly to augment people's purchasing power than it is to increase the stability of food prices and availability.

2. Some individuals and households cannot master the self-discipline necessary to save (or store) for a "rainy day."

3. A public role might be justified to correct externalities. Stability in food markets benefits more people than those directly paying for the stabilizing. Stability decreases the cost of doing business throughout an agrarian economy. For example, it saves on costs specifically associated with accelerating and decelerating economic activity of many kinds. Also, the private sector might demand a higher return to cover risk and hence store less than a public sector which can average out risks.

4. Finally, public stock reserves are held to preserve political stability. Governments have been brought down by civil unrest attending food shortages. Public and private stocks need to be sufficient to meet food needs until imports can arrive. In other cases governments may wish to support buffer stocks of a staple such as rice characterized by a thin, volatile international trade market. Proper use of the stocks reduces political backlash from unstable prices.

One study (Pai and Tweeten) indicates that government buffer stock policies offer little or no improvement over reliance on the private sector. This conclusion was for the United States, but it is not clear that developing-country governments would perform any better.

The most effective way for governments to contribute to the alleviation of transitory food insecurity is to promote economic development and efficient food markets. Development ensures the needed purchasing power on a "rainy day" to acquire food from outside the affected region or from previously stored supplies. Well-functioning food markets are important because they lower the cost of transforming commodities in time and space, the basic prerequisite for stable prices. At present, markets rarely operate efficiently because of underinvestment in public infrastructure and because of restraint of trade — usually by governments and aggressively promoted by special interest groups. Therefore, until market efficiency is attained via policy/administrative reform, it may be efficient as well as desirable from a humanitarian perspective to consider some public intervention.

3.2 COST-EFFECTIVE PUBLIC ROLES IN STABILIZATION

In discussing public policies to address transitory food insecurity, it is important to distinguish between relatively mild, frequently occurring fluctuations in the access to food, and sudden, unpredictable famines or near famines. The former are predictable in a probability sense. The latter are rare and are not predictable from historical data. Most recent famines occurred as a result of war, political upheaval, or other infrequent and unpredictable causes for which neither the public nor private sectors can make adequate food provision at affordable cost.

3.2.1 MILD AND FREQUENTLY RECURRING INSTABILITY

The next few paragraphs briefly review the efficacy of various public instruments for stabilizing prices and supplies beyond what could be expected from a well-functioning market. Before proceeding, two issues applicable to the implementation of stabilization by any method are examined: (1) the source of instability, and (2) the problem of porous borders. Policy responses such as buffer stocks, variable tariffs, and self-sufficiency also are addressed.

The Source of Instability. The widespread belief that unstable domestic food prices and supplies are mainly caused by fluctuations in domestic food production and stock operations is much oversimplified. The fortunes of indigenous agriculture matter more as a provider of individual buying power and earner of foreign exchange.

Any country today has the option of consuming food that is either produced domestically or imported. This means that in a country that trades (poor countries caring for a stable food supply can hardly afford to do otherwise), the price and availability of food is determined by its border price which in turn depends on the world price and the exchange rate.

International prices of cereals have been relatively stable in recent history, in part because of American buffer stocks accumulated under commodity programs. In the next decade America is likely to hold fewer buffer stocks and the European Community more buffer stocks than in the 1950-90 period. Also, the European Community is likely to help to buffer world prices by transmitting more world price signals to its producers and consumers. The net impact of freer trade would be far more stable world prices according to the *World Development Report 1986* of the World Bank (cited in Chapter 2). Real exchange rates have been and can be expected to remain quite unstable. Perceiving correctly the potential role of foreign trade and finance is an essential component of any assessment of available instruments for stabilization. Because exchange rates are largely a function of macroeconomic policies, as noted in Chapter 2, the role of sound macroeconomic policy to address transitory food insecurity is reaffirmed.

Porous Borders. Whatever the instrument chosen for influencing the stability of food prices and supplies, a government unable to control the movement of commodities across its borders will have difficulty implementing a public stabilization agenda which differs from the "judgment of the market."

If commodities "leak" across borders — as is especially the case in small countries with long borders and modest-sized enforcement agencies — any stabilization measure will be less effective and more costly than suggested by the usual calculations which ignore the porosity of borders. One way of getting around this problem is for neighboring countries to synchronize their stabilization policies, which is rarely likely to happen. It would be generally undesirable to seal borders and pursue an independent food security strategy even if it were possible. Free trade not only supplies food, it also constrains governments from pursuing costly market distortions which reduce real income and foreign exchange earnings essential to buy food.[12]

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[12] For so called *nontraded commodities* (whose domestic price lies between the import and export price), prices will fluctuate without generating border trade. Since many nontraded commodities such as local fruits and vegetables are highly perishable they are not amenable to buffer stock stabilization. If prices are forced to diverge from supply-demand conditions by government interventions, national income usually is lost. Many economists conclude that the optimal policy ordinarily is to let commodity markets work (with appropriate provision of public goods and adjustment for externalities), and to use direct income or food payments rather than controlled prices to provide equity to the poor.

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We now turn to three instruments of potential use to stabilize food supplies and prices. Each has shortcomings.

Variable Duties. As indicated earlier, markets ordinarily are best left to allocate without pricing interventions. Pan-seasonal and pan-regional pricing, which holds prices constant over the marketing year and among regions, interferes with arbitrage and is unwise. An importing country intent on stabilizing food supplies and prices can do so at minimal net Treasury or national income loss with a variable duty. The practice is for the government to impose an import tax in years when the border (world) price is unacceptably low, and pay an import subsidy when the border price is unacceptably high. The preferred method is to keep domestic prices within a band of a certain percent (20 percent, for example) above and below a moving average of world price.[13] Since the tax collected when border prices are low and the subsidy paid when border prices are high tend to offset each other over time, the budgetary and economic cost of such a stabilization policy can be low. A similar scheme could be applied to a food exporter to help stabilize domestic prices.

The record of the European Community variable levy is not encouraging because, unlike the preceding proposal, domestic prices have been supported at high levels at great cost to domestic consumers and foreign producers. But carefully formulated variants of the above approach have been used with varying degrees of success in several developing countries (see footnote 13).

Before the scheme is attempted in developing countries, the main questions are:

1. Can the program be administered competently to avoid corruption?

2. Will governments use a biased reference border price resulting consistently in either subsidies or taxes?

3. Will governments master the self-discipline to operate and maintain a stabilization fund?

4. Can borders be controlled to prevent exports when domestic price is below the border price and to prevent illegal imports when domestic price exceeds the border price? and

5. Can the procedure avoid exporting instability to the other countries, creating more unstable world food prices?

Without attempting to address these questions in any detail, it is important to note that foreign assistance can play a positive role by influencing governments to discard costly and ineffective stabilization schemes. Foreign assistance (financial and food aid, bilateral and multilateral aid) can be provided in counter-cyclical fashion — more in years when the aid-receiving countries need more budgetary resources and

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[13] Some form of variable tariff has been used in Chile, Papua New Guinea, Côte d'Ivoire, and South Korea (Knudson and Nash, p. 4). The preferred method is to tax food imports by the shortfall of the difference between the world price and a certain percent (20 percent, for example) below a moving average of past world prices. A subsidy is paid equal to the difference between the world price and a certain percent (20 percent, for example) above a moving average of past world prices. This keeps domestic food prices within a band 20 percent above and below the moving average of the world price. Properly managed, the fund should average no net cost to government. A pitfall is incentives for corruption. Depending on how the stabilization scheme is operated, importers may have reason to report prices lower or higher than their actual import prices. If they report prices correctly, incentives are to import excessively high quality foodstuffs to avoid paying a tax or to receive a subsidy.

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foreign exchange to subsidize food prices, and less in other years when taxing is in order and foreign exchange is less needed.

Buffer Stocks. Modest-sized buffer stocks are useful to respond to unexpected food shortages before imports arrive.[14] Calculations based on realistic assumptions over many years of data suggest that aggressive foreign trading is more effective and less costly than buffer stocks in stabilizing a country's supply and prices. Storing money is cheaper than storing commodities. Money earns interest; buffer stocks cost interest, depreciation of facilities, and spoilage. Except for a country under the threat of military embargo, a developing country takes no more risk by depending on supplies from foreign markets than by relying on its domestic production and domestically held buffer stocks (World Bank, 1986).

One argument in favor of buffer stocks is that grain rather than money must be stored, irrespective of cost considerations, because it is difficult to master the discipline to save (foreign exchange) in years of good harvests. There is some justification for holding buffer stocks if a country's food price instability depends more on domestic availability and demand and less on the border price. Such is the case for "nontraded goods" characterized by a large gap between import and export price so that the country's comparative advantage suggests self-sufficiency over a wide range of border prices. The most likely reasons for a large gap between import and export prices are geographic isolation, poor road and port facilities, underdeveloped markets, and price interventions. The appropriate long-term solution is to overcome as many of these constraints as possible.

National Food Self-Sufficiency. Countries unwilling (or in a few instances unable, e.g., Malawi in recent years) to rely on trade as an instrument for stabilization can deliberately limit their options to self-sufficiency. Previous sections noted the high cost of relying on national buffer stocks or chronically committing resources to food production in excess of those needed in a more stable environment. In a normal year, the surplus output (from the effort to be sure of producing enough) results in depressed prices and production incentives. The consequence may be less production and food shortages in future years. These measures and price supports erode a country's financial resources to import or in other ways adjust to a short domestic crop.

3.2.2 DROUGHTS, FLOODS, AND WARS

Much of what has been said so far applies also to infrequent but drastic shortfalls in domestically produced food which, if unchecked, can result in famines. The majority of famines in the world today, however, are not the result of natural calamities but are caused by wars and civil disorders. Developing

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[14] The International Monetary Fund (IMF) has sought with limited success to facilitate borrowing by food-short developing countries to finance imports. The IMF's Compensatory Financing Facility (CFF) and the Food Financing Facility were set up to help countries troubled by export shortfalls and high import prices. The STABEX program of the European Community for African, Caribbean, and Pacific countries also were designed to help. The IMF Food Facility was an extension of CFF, making medium-term credit available for excess cereal imports not offset by export earnings. Loans for cereal imports were available for up to 100 percent of the IMF quota for a period of five years, with two years' grace, at an interest rate of 7 percent (Alamgir and Arora, p. 173).

Not much use has been made of the Food Facility. During 1981-87 only seven countries benefitted from it. Only 2 (out of 42) least-developed countries drew on it (Alamgir and Arora, p. 176). The Compensatory and Contingency Financing Facility (CCFF) of the IMF, set up in 1988, offers other possibilities, but with its focus only on countries implementing IMF-supported adjustment measures, too, it is unlikely to be widely used by developing countries.

countries would be unwise to put large quantities of grain in storage for such events with very low probability of occurrence.

An alternative available in most countries is early warning systems that improve ability to make import arrangements and appeal for foreign aid before food shortages become severe. Attention must be given to ensuring sufficient port capacity to handle much larger than usual imports.

The appropriate instruments for ensuring stable food supplies even to disaster stricken populations are trade (imports) and modest stocks sufficient only until food imports can arrive. This presumes discipline in the management of fiscal policy and of foreign exchange by developing countries' governments and accessible international commodity and financial markets for borrowing and saving.

3.3 SUMMARY COMMENTS ON ALLEVIATING TRANSITORY FOOD INSECURITY

Government and external assistance agencies can play some role in stabilizing the food supply, particularly in the case of sudden breakdowns of the normal source of food supply. But far more important for reducing transitory food insecurity and avoiding famines is the creation of conditions whereby all people have stable and sufficient purchasing power and well-performing food markets. These conditions will not be achieved in many countries; hence, there is no alternative to massive periodic relief operations, preferably with more attention than in the past to cost-effectiveness and international cooperation among donors (see also USAID Policy Paper on *International Disaster Assistance*). The following summarizes key principles for foreign assistance to reduce transitory food insecurity.

3.3.1 COST-EFFECTIVE REDUCTIONS IN POVERTY

People and well-functioning markets are the best judges of how much to invest in stabilization. Wherever possible this means that foreign assistance should contribute to raising productivity and hence incomes (in money or in kind) from enterprise. Foreign assistance can play a major role in helping to restructure food distribution programs for cost-effectiveness so that more benefits target the food insecure without undue distortion of incentives for production.

3.3.2 STABILIZATION OF FOOD PRICES AND SUPPLIES THROUGH FOREIGN TRADE TRANSACTIONS

Foreign assistance, particularly food aid, can assist countries in coping with the unstable demand for foreign exchange that results from using foreign trade (food imports) to offset fluctuations in domestic food production and foreign exchange earnings. Food aid is appropriate periodically to aid countries which have made no provision for foreign exchange to purchase food imports under domestic food shortages. *It is unwise for countries to grow dependent on "emergency" food aid; instead countries need to follow policies that ordinarily avoid food crises*. Of course, food aid should not be denied when people face famine.

3.3.3 PROVISION OF EARLY WARNING

The appropriate policy is to avoid famines, but when they are unavoidable USAID and other agencies must act quickly to provide relief before long-term damage can occur. Sometimes emergency food aid can be combined with needed public works. Soil conservation measures and pre-designed public work programs are examples. Except for those unable to work, no sharp distinction need be made between relief and development assistance. Allowing human and other capital to deteriorate in the aftermath of a calamity is costly in lost development in subsequent years.

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3.3.4 PROMOTION OF WELL-FUNCTIONING MARKETS

Foreign assistance can help to improve the structure of food markets. It can encourage policies that promote competition, savings, investment, and technological progress. Technology can reduce the cost of transporting and storing commodities. Governments and foreign assistance can contribute to investment in public infrastructure, communication, and information in support of markets. They can encourage private and cooperative credit programs which in turn can improve private marketing and commercial storage. Governments can avoid macroeconomic policies which create instability, uncertainty, and high real interest rates, the latter discouraging storage. In short, policies to address transitory food insecurity and chronic food security (see Chapter 2) are similar.

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CHAPTER 4
THE ROLE OF USAID IN FOOD SECURITY

In broad perspective, the recommended role of USAID in food security is to promote the *synthesis* for broad-based, sustainable development and a food safety net described in Chapter 2. Implementing that role is complex and must recognize USAID's comparative advantage, funding limitations, tradeoffs inherent in the *synthesis*, and compatibility with key USAID initiatives. This section addresses these issues.

4.1 COMPARATIVE ADVANTAGE AND FOCUS OF USAID

USAID's short-term comparative advantage is its ability to supply food quickly in response to severe transitory food insecurity. USAID's long-term comparative advantage lies in promoting BBS economic development. Funding and other limitations preclude USAID from undertaking the entire *synthesis* outlined in Chapter 2. The Agency must narrow its focus to be effective. The general rule is that USAID needs to use its resources where social payoffs are highest to promote food security. This rule, too, must be narrowed for application. Some guidelines are suggested:

1. *Avoid doing things other public agencies or the private sector will do as well or better.* Funding constraints call for a collaborative and facilitative role rather than direct financial support for balance of payments (better left to IMF) or large infrastructure investments (better left to the World Bank and private investors). Although it can ill-afford to underwrite the *synthesis*, USAID can promote macroeconomic policy education and dialogue with national governments of developing countries and other institutions to foster broad-based, sustainable development along lines outlined in Chapter 2. USAID can make modest but strategic use of its resources to create incentives for governments to follow the *synthesis*.

2. *Avoid activities likely to fail.* USAID would be unwise to establish a policy advisory group for a government opposed to formation or advice of such a unit.

3. *Seek activities where benefits can be leveraged.* Induce others to pool resources or in other ways join in collaborative efforts to bring success. Another form of leveraging can be for USAID to support development by promoting public services and infrastructure that encourage rather than compete with the private sector, and that raise rather than lower real national income.

4. *Foster activities in which USAID has a comparative advantage.* This is discussed below.

Comparative advantage can also be viewed from the perspective of cross-cutting capabilities or sector analysis. USAID has demonstrated strength in several areas.

4.1.1 POLICY REFORM

Policy reform efforts of USAID have at times been brilliant and at other times failures (see Coutu). *Policy reform matters: economic growth and eventual food self-reliance will result if a nation follows the food security policy framework depicted in Chapter 2; on the other hand, economic growth and food self-reliance are unattainable if a country violates many of the synthesis components.*

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Technical assistance, human capital development, institution building, and mission staff provide capabilities to supply world-class policy advice. The problem is not the policy delivery system; *the problem is lack of effective demand for policy reform.* To be sure, large welfare gains have been possible from policy reform. But that potential gain does not translate into effective demand if policy decisions-makers deem that reform is inappropriate.

Options for USAID in policy reform are as follows:

a. Provide policy analysis — if the recipient nation indicates an interest in policy reform. Assist in developing indigenous policy analysis capabilities available to governments. Expatriates may be necessary in the short-term, but the longer-term goal is competent and objective indigenous policy analysis capabilities, especially in ministries of food, agriculture, planning, and finance.

b. Use Title III food aid, the Economic Support Fund, Development Assistance, and DFA to encourage policy reform. Such aid can provide incentives to governments and cushion adjustments, especially for the poor who may be most disadvantaged by reforms. In the long-term, the poor are major beneficiaries of policy reform. USAID can coordinate with structural adjustment programs of the World Bank and economic stabilization programs of the IMF.

c. If a country persists in policies that preclude economic progress and reforms are not feasible, an appropriate donor stance is to provide only humanitarian medical and food assistance. This approach recognizes that aid ineffective in promoting development in one country can be used more cost-effectively in another country.

4.1.2 HUMAN CAPITAL DEVELOPMENT

A recent BIFADEC report noted exemplary achievement by USAID in promoting development through education and training. This human capital development has been accomplished by in-country efforts and by sending local students abroad for higher education and training. These people become educators, managers, technicians, and leaders. Knowledge has high payoffs contributing to better decisions and to economic progress.

4.1.3 INSTITUTION BUILDING

Another strength of USAID is institution building, defined to include professional staff and administrative capabilities as well as physical structures. Examples include research and extension services, universities, and credit institutions.

4.1.4 TECHNICAL ASSISTANCE

USAID cannot maintain internal expertise in all dimensions of food security, but it has flexibility to draw on outside help — subject to budget constraints. That capability can be especially important as emerging frontiers of food security, such as bioengineering and sustainable systems, are advanced. Technical assistance can help to formulate comprehensive operational food security frameworks for countries.

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4.1.5 ACCESS TO FOOD RESERVES

Administration, especially of Title II of PL 480, gives USAID access to food reserves. Timeliness is essential to respond to famine; hence, that accessibility places USAID in a pivotal position to address severe transitory food insecurity. When use of counterpart currencies are considered along with direct food transfers, USAID is positioned to address a wide range of dimensions of food security. Safety net programs established through USAID can prevent or alleviate temporary food insecurity when the World Bank, IMF, and developing country governments undertake structural adjustments.

4.1.6 PRIVATE SECTOR EMPHASIS

USAID's special emphasis on private sector development is critical to a food security framework. (Annex E details the compatibility of food security with the *business and development partnership* initiative and other current USAID initiatives.) Private sector activities and resulting economic development must furnish the domestic food supply, the foreign exchange needed to buy remaining food requirements, and the effective demand needed for food access. Private sector activity can be complemented by the Agency's skills in designing food aid and other targeted interventions for helping vulnerable populations to achieve independent food security through entry into the private economic system, and providing a safety net for those temporarily or permanently unable to achieve that goal. Food distribution by PVOs has been a continuing component of food security.

4.1.7 SECTORAL CAPABILITIES

Human capital development, institution building, and technical assistance, listed above, are cross-cutting capabilities that contribute to sectoral capabilities. USAID's sectoral capabilities match well with requirements of the food security framework outlined in Chapter 2. Examples are comparative advantage in food, agriculture, education and training, and health sectors (see Annex E).

USAID has a long tradition of sectoral expertise in food and agriculture, although relative emphasis has declined in recent years. Elements important to improve agriculture include education, research, and extension outreach in technology adaptation and transfer, establishment of credit institutions, and the like. Marketing, information systems, and nutrition efforts of USAID have addressed food and agriculture.

Primary health services also are a sectoral capability of USAID. Such services, along with food, agriculture, and education, listed above, are components of USAID's *family* and *development* as well as other initiatives (see Annex E).

4.2 FORMULATING A USAID OPERATIONAL FRAMEWORK FOR FOOD SECURITY AT THE COUNTRY LEVEL

Thus far, this discussion paper has addressed food security broadly. The paper now turns to an operational food security framework for the individual country. The USAID Mission Program Officer may be designated to take the initiative in formulating an operational food security framework. That Officer's broad perspective is critical because food security encompasses virtually every USAID activity in a country — as well as activities of other developmental institutions, the government, and the private sector.

At the country level, a tradeoff is likely between the short-term safety net and long-term economic development components of food security. The Mission Program Officer can help to balance emphasis and resource allocation between the developmental and safety net components.

The country framework recognizes that development needs far outstrip Mission resources. Therefore, it is essential to set priorities, utilize USAID's comparative advantage capabilities, and collaborate with other donors, the country's government, NGOs, and others. *It is important for Missions to look for constraints or "bottlenecks" to food security not addressed by others, but whose removal would especially facilitate food security.*

The food security country framework contains several components:

1. A food security inventory,
2. Famine relief and early warning system,
3. A comprehensive operational food security plan,
4. Food security review, and
5. Monitoring and evaluation.

Each component is discussed in the following pages.

4.2.1 FOOD SECURITY INVENTORY

A food security inventory appraises the current food *availability* based on production, inventories, and access to imports, including PL 480 supplies. It also requires information on food *access*. It identifies those vulnerable to food insecurity, the causes, and cost-effective remedial measures. The inventory ascertains food availability at the national and regional levels, food requirements, and the gap between availability and requirements. Identifying potential food gaps among individuals and families lacking buying power is important so that effective remedial measures such as food transfers can be designed and implemented.

A comprehensive food security inventory requires country-specific knowledge of food production, consumption, nutrition, and marketing at the village, household, and individual levels.[15] Information

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[15] Early warning, monitoring, review, and evaluation systems can operate at a macro or micro level. Manarolla provides a useful example of a macro system. He devised a food security index and a performance or food security progress index for a group of 65-70 countries. The food security index was based on indicators of national food self-reliance to measure food availability, and household food access to measure food accessibility. Countries were ranked according to the composite index of food security. They were also categorized by means of a two-way matrix classification as follows:

		National Food Self-Reliance Index	
		Least	Most
		(category)	
Food	Least	1	2
Accessibility			
Index	Most	3	4

(continued on next page)

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is useful on food consumption patterns, cultural preferences, price and income elasticities, and the extent, timing, and capability of involvement of individuals in the market and in work (earnings). The depth and detail of the needs inventory will depend on resources and time available. Useful national inventories to devise safety-net strategies have been assembled in a few weeks at low cost by relying heavily on existing census and survey data and publications. This is supplemented by expert opinions from field extension and health workers, teachers, churchmen, donor agency experts, and others. Special, small surveys are taken to fill data gaps. (Some of these same sources can be used to provide early warning systems for food security.) Much of the above information is useful to design safety net programs.

4.2.2 FAMINE RELIEF AND EARLY WARNING SYSTEM

The top priority in an operational food security framework is to respond to famine. In such circumstances, local and national food supplies may be inadequate. What local supplies are available must not be horded but must reach those nutritionally at risk. Ready access to PL 480 food reserves can be decisive. Having an emergency food delivery plan in place before a food shortage becomes critical can speed response time.

Although broad-based, sustainable, market-led economic development eventually will make a country food self-reliant, in many countries that ideal will remain elusive for decades. A country not self-reliant must address problems of food insecurity until self-reliance is achieved. Specific measures for addressing *transitory* food insecurity include: an early warning system to give advance notice of food insecurity; administrative structures and plans to distribute food assistance on short notice; provision for financing from internal or external sources; available food supplies from PL 480, in-country stocks, and imports; and an appropriate distributional network of in-country public and private organizations, and of multilateral and other organizations and agencies coordinating food assistance.

The urgency of a food needs inventory and famine relief and early warning system depends on the level and stability of food availability and access. Countries with a historic record of stable food production, civil peace, diversified income sources, sound macro management, no famines, and holding some income, stock and foreign exchange buffer can do without the system. For countries such as Ethiopia or Bangladesh, though, an early warning and response system is fundamental.

Working with governments, NGOs, PVOs, and other agencies, USAID can play a pivotal role in establishing a food security network and early warning system. Networks of local health, school, government, and PVO personnel can assist in keeping current the information system originating from a national inventory of food security. After the imminent transitory food insecurity of famine is addressed, the next step is specific measures to promote economic development and food security in a plan of action unique to each country.

4.2.3 COMPREHENSIVE OPERATIONAL FOOD SECURITY PLAN

The first priority given to famine relief appears to contrast with the theme of this report — that food security is served by reducing poverty through economic development. That same conflict between short-term and long-term goals will characterize a plan of action. Any food security operational plan must

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Policies were suggested to target uniquely the food security requirements of each of the four categories above. With refinements in data and analysis, the approach can be a basis for *broad* policy orientation. Greater detail, however, is needed to design food security policies and programs for nations and smaller units.

address developmental and safety net features. *A danger is that in a search for quick and transparent results, short-term measures will drive out the long-term developmental measures.*

A comprehensive food security plan appraises national policies relevant to food production, transportation, processing, marketing, and consumption. The indicative plan will focus on macroeconomic and public sector policies and the legal and regulatory framework that underpins them. The objective is to assess the compatibility of the existing and emerging policy framework with growth and the achievement of food security based on self-reliance. The food security plan will assess host country commitment to and progress toward the establishment of a new, more compatible policy framework through economic and administrative policy reform. Given the broad nature of the information to be analyzed, this effort will rely heavily on secondary data, including publications of the World Bank and IMF as well as on those of other bilateral and multilateral donors.

The operational food security plan:

- Integrates a broad-based, sustainable economic development component with a food safety net component. The BBS development component is similar to conventional indicative economic development plans but differs in ways explained in Chapter 2.

- Applies to a longer run than the food needs inventory, on which it builds.

- Is an indicative plan. It is not central planning. It recognizes the need for a lean but effective public sector and the importance of capturing the efficiencies of a strong private sector as outlined in Chapter 2.

- Recognizes that PL 480 becomes an integral part of the comprehensive plan, with monetization of food aid for investment in economic development if that best serves objectives of the food security plan. An operational food security plan can maintain needed continuity if donors supporting the plan provide continuity (see Fletcher).

The comprehensive food security plan encompasses virtually every aspect of a nation's economy ranging from broad macroeconomic and trade information to marketing and production information. To keep requirements manageable, Missions can draw on comprehensive World Bank economic reports found in many developing countries, secondary data from census and other agencies, special surveys, local experts, and outside consultants.

Because the economic development component of the comprehensive plan is somewhat conventional, this section especially emphasizes the food component. The food security plan reviews the current situation and identifies new or modified efforts for Missions that will increase food security. In achieving food security, it is useful to identify food insecure groups who will benefit both from interventions to foster *economic development* and from *safety net* interventions — and the most cost-effective options for addressing their needs. For example, able-bodied safety net recipients may benefit from food-for-work programs while the non-able-bodied require pure transfers. Some of the food insecure can grow home gardens and others can receive help from family and community.

Responding to the Congressional mandate that food aid be used to improve food security, the strategy can earmark aspects of activities for funding through monetization, and can identify direct distribution of donated commodities as part of targeted development or safety net programs.

Missions must give special attention to the difference between goals expressed as the capacity to grow or buy enough food and the more ambitious aim of assuring adequate individual *consumption/utilization*. In many cases, achievement of access to food will *not* be accompanied by adequate individual nutrition because of poor eating habits, control of income by a nutritionally insensitive parent, illness, or the existence of competing needs. By at least considering the likely consumption outcomes of proposed projects, the food security strategy can often be modified to improve intake without jeopardizing achievement of other goals. Coordination of agricultural and other economic development activities with already existing health and education efforts, for example, can alleviate food insecurity induced by the influence of advertising on consumption. Public policy can make private advertising a positive influence on eating habits.

A food security operational framework must be designed for a country's level of economic development. Appropriate policies are unique to each country. Selected options for developing countries are suggested below. The options are only illustrative; in practice a plan needs to be carefully tailored to each country based on the food security framework presented in Chapter 2, comparative advantage of USAID, and the local circumstances as apparent from the needs inventory.

4.2.3.1 Low-Income Country[16]

- *Food safety net.* This involves targeted food assistance to respond to potential famine. Food or income transfers that are inadequate to go beyond minimum protection need to be provided. Low-cost food security measures such as home food gardens need to be encouraged by extension services and other agencies.

- *Increased agricultural productivity.* In tandem with administrative and macro policy reform, technology should be transferred through technical assistance where indigenous adaptive agricultural research and extension outreach is feasible. Capabilities of research, extension, and other public service personnel should be upgraded. This is likely to be the principal focus of USAID in early stages. Commitments need to be 10 years or longer to ensure continuity of efforts.

- *Rudimentary improvements in infrastructure.* In tandem with serious policy and administrative reform efforts to ensure minimum sustainable road maintenance and repairs, rudimentary infrastructure improvements are feasible. Improvements are costly relative to the tax base, but even modest improvements in roads, bridges, port facilities, irrigation systems, and communication can enhance food security. Funding limitations dictate need to utilize food for work, ties with the World Bank, as well as other arrangements. Provision needs to be made for recurrent costs.

- *Structural adjustments.* Monetary, fiscal, credit, and competition policies are likely to be chaotic. Institution building efforts to bring macroeconomic order and move away from a command and control economy toward market orientation can begin. Public administration is likely to be in disarray and in need of major reform. Foreign debt restructuring may be necessary. Title III counterpart funds, Development Assistance, Development Fund for Africa, and Economic Support

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16 In these countries, income is under $250 per capita, and most people are in agriculture. An alternative classification is the food security matrix developed by Manarolla as described in footnote 15.

Funds can encourage some changes. Close collaboration with the IMF, the World Bank and other development institutions is also important.

- *Health and education.* In tandem with serious administrative reform efforts, primary schools and health clinics can be improved and extended, along with a tax system to support these and other services and infrastructure. (Military and unproductive public service employment may need to be curtailed.) Nutrition can benefit markedly from even modest affordable preventative health care practices such as immunization, sanitation, parasite control, health and nutrition education, growth monitoring, prenatal care, and well-baby clinics (USAID Policy Paper on Nutrition, p. 6).

4.2.3.2 Intermediate-Income Country[17]

Many of the policies listed above apply to intermediate-income countries but at different levels. The food safety net can be expanded. Improvements in public administration, services, infrastructure, and macroeconomic and business environment can begin to pay off in economic growth and a larger tax base to fuel further economic progress and food security. Additional possible areas of policy emphasis include:

- *Agribusiness sector diversification and growth.* This involves technical assistance to stimulate food processing, storage, and export industries.

- *Industrial development.* Encouragement is needed for labor-intensive small and medium-scale industry, especially in rural areas. Other areas for potential intervention include vocational-technical skill training, improved primary education, and business and engineering training to stimulate entrepreneurship, technology, capital formation, and worker productivity.

- *Institution building.* Secondary and higher-education schooling should be improved and expanded. Local governments should be given more responsibility for local services and infrastructure. Financial institution intermediaries between savers and investors should be promoted to help mobilize savings and expand investment.

4.2.3.3 Higher-Income Country[18]

Again, a food security strategy for a higher-income country builds on that outlined above for lower-income countries. At this level of development, however, a country needs to prepare for independence from foreign aid. That means food self-reliance and ability to manage its own macroeconomic policies for economic and political stability and growth. Indicative food security planning is important for each stage of development, but responsibility for preparing the plan is likely to shift from the World Bank, USAID, and other agencies in an early development stage to the country itself in a higher development stage.

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[17] In these countries income is $250 to $750 per capita, and approximately half of the people are in agriculture.

[18] In these countries, income is over $750 per capita, and more than half of the people are not in agriculture.

Some policies will become more prominent in a higher-income developing country.

- *Protection of natural resources and the environment.* By this stage of development, internal capabilities can be present to analyze benefits and costs of public policies. Technical and managerial competence to carry through worthy environmental projects, and ability to finance them will be present. Where the above capabilities are not locally available, joint ventures will be commonplace.

- *Democratic institutions and human rights.* Representative government, respect for human rights and private property, a free press, an informed citizenry, and other dimensions of democracy can provide an atmosphere for truly broad-based, sustainable economic progress. Equality of opportunity in political and economic processes can provide an atmosphere for ending food insecurity. At this third stage, devolution of democratic processes to local governments may be most successful. Community involvement is useful at all stages of growth, but it becomes especially beneficial as investments in people and representative government pay off. Local governments can supply local services and infrastructure drawing on local property and other taxes.

For expository purposes in the foregoing discussion, food security strategies were outlined for stages of economic development. In fact, the process is continuous but policies change over time. *Donors must tailor strategies to the needs of each country.* Some policies will be *cross-cutting*, affecting nearly all activities at all stages. An example is human, material, and technological capital formation at all stages for nearly all activities.

Pockets of poverty and hunger (e.g., Northeast Brazil) are likely to be particularly difficult to alleviate even as a country makes impressive overall economic progress. The risk is that such pockets will develop growth-inhibiting subcultures resistent to education, human resource mobility, entrepreneurship, savings, and investment. To keep that from happening, several measures are important:

- Devolution of power and responsibility to local governments must not be used to cut off a lagging region from the rest of the nation in provision of essential infrastructure and social services including a food safety net. For success, a poverty enclave must follow the same growth framework (Chapter 2) as any other region.

- An economically depressed region may need a special stimulus from more prosperous parts of the country or foreign sources. Resource transfers from elsewhere can provide basic education, primary health care, and remedial programs designed to improve mobility of all resources. Private investment from domestic or foreign sources can be even more important. The objective is mobility of capital and labor to earn the best return anywhere rather than to pursue "place prosperity." Depending on market incentives, capital may move in to the enclave or labor may move out. A place prosperity policy can make the mistake of attempting to maintain jobs after an area has lost comparative advantage and its economic base.

- The mainline public development organizations, PVOs, and cooperatives may not be able to deal with concentrated pockets of disenfranchised poor separated from the rest of the country by differences such as religion or ethnicity. To deal with problems in such pockets, practical steps such as special training and other assistance to local leaders and NGOs can be taken early in the development process. Failing any impact on the problem through economic growth, the

government can establish cost-effective welfare interventions to at least avert the most devastating forms of food insecurity.

4.2.4 FOOD SECURITY REVIEW

The sectoral focus of Mission programs provides a comparative advantage for both food security review *and* for sectoral projects designed to fill critical gaps in the framework for private sector development activities that improve food security. Food security review is designed to identify opportunities to promote food security through modifications or modest additions to projects not necessarily designed for food security. In building a road for example, rerouting at modest cost may make many previously isolated families more accessible to markets. Food security review could tip the balance of research on a cash crop and a food crop with similar overall economic payoff towards the food crop. Food security review could encourage search for new or improved crops that are more resistant to drought and pests.

Emphasis on food security implications of agricultural sector projects could overcome relative neglect by the public sector of efforts to improve agricultural marketing. Interventions to improve market information and crop forecasting, and to strengthen the infrastructure that supports private food distribution can complement private sector activities to increase food security.

Helping a country to develop more effective private and public systems for disaster relief, with or without direct food assistance, may be an appropriate activity for addressing temporary food insecurity. Making regional, community, family, and individual food security explicit goals of rural development programs can incorporate some vulnerable populations into the market system and facilitate attainment of food security.

Because food security problems are multi-sectoral, developing a food security review does *not* call for a set of "food security projects." As with other USAID concerns (e.g., environment and women in development), a food security strategy must be "interstitial," filling gaps identified by reviewing the implications and consequences of current activities. It depends, too, on tilting private economic development toward the food security goal. As with a strategy addressed to improving the condition of women, the food security review must also seek to bring into the economic system those who are capable of, but have so far not succeeded in, benefitting from that system.

4.2.5 MONITORING AND EVALUATION

Finally, monitoring and evaluation are continuing needs to improve food security. Food insecurity changes almost from day to day and among households and regions. Those short-term changes properly influence safety net programs but need not influence development programs. Development programs should result in household and regional food security improvement in the medium to long-term.

The food safety net and economic development dimensions of monitoring and evaluation, although producing similar food security results, must have overlapping but different guidelines and procedures. The food security framework outlined herein deemphasizes glamorous projects that produce quick, showy but short-lived results. Instead, the framework calls for long-term investments in policy reform, infrastructure, and public services that are judged essential for eventual food security and food self-reliance in the country in question. The appropriate procedure is to formally or informally evaluate *ex ante* whether a proposed effort will contribute to food security. Such efforts need to be undertaken if they give promise of raising food security over various time frames by raising real national income, distributing it more equitably, and with stability/sustainability. Rates of return on investment; costs, benefits, and their distribution among groups; and coefficients of variation are standard measures of

economic performance. In BBS economic development, prices need to be adjusted for environmental impacts, and the distribution of benefits and costs take on significance. Efforts evaluated *ex ante* need to be monitored periodically to determine if they are fulfilling expectations. Developmental efforts that pass the above tests can be expected to contribute markedly to transitory and chronic food security and self-reliance but not necessarily in the short run. Of particular importance is to periodically monitor whether economic progress is enhancing food security.

An illustration can help to reveal the difference between short-term safety net and long-term development. In agriculture, a narrow food security focus might emphasize projects teaching urban households how to raise a home garden, can food, and obtain sanitary water. A longer-term development focus would upgrade capabilities of agricultural research and extension services so that these personnel would undertake *nationwide* food security projects of similar types. In addition, the long-term approach could deliver high yielding, drought and pest-resistant cultivars to growers everywhere.

Monitoring and evaluating a food safety net requires other measures of success. Although public works, health-related food distribution, and other safety-net options may be justified developmentally, much safety net compensation involves unproductive income transfers, except where better health, nutrition and sustainability improves human work capacity. Food stamps, targeted subsidies, and self-targeting subsidies that make use of less preferred staple foods may involve program and administrative costs without corresponding development benefits that eventually repay costs. Traditional guides such as rates of return or economic benefit-cost ratios to allocate resources and outputs will not suffice. Development of the safety net component in a food security strategy requires consideration of alternative techniques such as cost effectiveness (e.g., improvement in diet per unit of spending) and administrative feasibility. As stated earlier, the decision of how much overall emphasis to place on the safety net versus economic development is for nations to make through the political process, but USAID can influence decisions by identifying tradeoffs for those who make the decisions. USAID also can influence decisions at the margin by the mix of aid it provides.

4.3 THE SAFETY NET, TARGETED ASSISTANCE, AND FOOD AID

This concluding subsection addresses four remaining food security issues: (1) the height of the safety net, (2) whether to target transfers, (3) whether to monetize the food aid used to support the safety net, and (4) the timing of donor assistance phase-out.

4.3.1 HEIGHT OF SAFETY NET

As stated earlier, food security often is best served in the short run by food transfers and in the long run by economic development. The market will help make many decisions about food crops versus export crops, or farm versus nonfarm industry growth, but the market will not determine an appropriate safety net level.[19] That decision is best made by people through markets and representative political processes. A role of USAID can be to provide awareness of tradeoffs so that countries can make sound decisions,

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[19] The safety net level is part of a perennial issue of growth versus equity. This discussion paper emphasizes public investments in public health, education, infrastructure, and agricultural research that simultaneously promote growth and equity. The paper also emphasizes efforts to improve agricultural efficiency to reduce food costs, especially benefitting low-income consumers. But the paper avoids preoccupation with equity because it begets policies that promote neither growth nor equity as evidenced by Eastern Europe and Tanzania.

and given the tradeoff selected, work toward cost-effective use of the food and other aid to achieve equity, efficiency, and stability.

A safety net set too low helps no one. On the other hand, a food safety net set too high absorbs donor and host-nation resources, cutting off opportunities for economic growth and self-reliance. Food must not be subsidized to the point that its low cost and ready availability cause it to be wasted or fed to animals. The shared striving for security has held families and communities together in developing countries. Too high a safety net can undermine the family.

4.3.2 TARGETING TRANSFERS

No developing country can afford across-the-board food subsidies; targeting is essential. Targeted transfers are appropriate for each stage of development. At the lowest income stage, transfers to severely food-deficit families can be targeted informally by health, education, church, and PVO workers who identify the food poor. At the second stage, targeting may be achieved by fair price shops stocking foods acceptable to the poor but avoided by more well-off consumers. At a higher stage of development, food stamps or cash transfers may be income conditioned. The appropriate delivery system depends on circumstances, however. For example, fair price shops have worked better in Asia than in Africa or Latin America.

4.3.3 MONETIZING FOOD AID

This report emphasizes that BBS economic development must be the core of an operational food security framework for any country. This position is consistent with that of most international donor agencies discussed in Annex D. Infrastructure, public services, policy reform, and agricultural research and extension are central. None of these is most easily promoted by food aid. Food aid becomes fungible (useable for any purpose) if it is monetized (sold in the market for local currency).

Food aid *per se* has special value because it is sometimes available when other aid is not, and it is vital to respond rapidly to emergency food needs. For the latter, accessible food reserves must be drawn upon on short notice for direct distribution to people starving because local food is unavailable. Turning from transitory to chronic food insecurity, food aid can be directly distributed by health clinics to at-risk groups such as pregnant and lactating women and their infants, and by schools in lunches for low-income students. If the right kinds of food aid are available, supplies can be targeted to poor people by fair price shops or other self-selecting mechanisms.

Because untied cash aid can be used to purchase food or any other component of a food security strategy giving a higher payoff than food aid, it follows that cash aid is more valuable than food aid (at face value) for food security.[20] Food aid, however, is often more available. In part this is because $1 of food aid effectively costs the American government less than $1, given that the alternative is to pay American farmers not to produce. Administrative costs of food aid can be high, however. In short, food aid may be less valuable than unspecified cash aid but its availability and the opportunities to monetize it for serving critical needs make it useful.

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[20] Andersen and Tweeten (pp. 436, 437) found that for 1964-66 food aid had only 34 percent of the real aid component of cash aid. Since the cost to the U.S. Treasury of food aid, however, was low because of commodity stock surpluses having low alternative use value, food aid was economically justified. That study is outdated; food aid is now more costly to supply because of less excess capacity in American agriculture. This implies that for optimal use it needs to have a cash-equivalent real aid component greater than the 34 cents on the dollar found in 1964-66.

For most purposes the most efficient route to food security is to monetize food aid. Even for a public food aid safety net where food aid donor support is available, it is generally more cost-effective to sell the imported food at the port city, then buy local foods in the interior to serve the nutritional needs and tastes of the local safety net recipients at lower cost. The corollary is that the Economic Support Fund or Development Assistance funds ordinarily will be more valuable for food security than food aid measured at face value. Annex F indicates how food aid can be a valuable resource despite the above limitations and institutional restraints on its use.

Phase-out of Food Aid. It is neither realistic nor in the best interest of the affected population to conceive of the donor's participation in and support of a safety net as open-ended. It cannot be assumed that surplus food will be available at current levels indefinitely, particularly given improving prospects for a GATT agreement on the liberalization of international food markets. Moreover, open-ended food aid commitments can develop undesirable dependency relationships that destroy human initiative. Rather, the donor's role should be to address the underlying problems which create the need for the safety net. Thus, as with other types of development assistance, food aid programs to address safety net needs should include phase-out plans supported by appropriate benchmarks to measure progress toward phase-out objectives and, in particular, the sustainability of newly established host country capacities. For example, one means for phasing out a program to provide a sustainable safety net for truly indigent groups might be through the establishment of an endowment fund which generates sufficient interest income to meet the ongoing food/other needs of the group.

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ANNEX A
FOOD SECURITY PYRAMID

The current status of food security is depicted by the broad base of a Food Security Pyramid (Annex A, Figure 5) representing the one billion people chronically food insecure and the one quarter of a billion people in transitory food insecurity. The goal of improved food security is represented by progress towards the point of the pyramid at which food insecurity has been eliminated.

The front face of the pyramid is comprised of two segments representing selected policy packages for dealing with chronic and transitory food insecurity. Each of those packages is divided further into the components efficiently addressed by markets and development and the components requiring direct public action to provide a safety net of food and income transfers.

The side face of the pyramid designates the continuum of action from international through various levels of national organization, both public and private, reaching the ultimate objective of the family and the individual man, woman, and child within the family. Because of human disability and misfortune, the ultimate objective (the point of the pyramid) will not be reached solely by market processes. Hence specific public food distribution programs will continue to be necessary. This paper treats the range of public approaches to achieve food security: those that broaden the base and increase the efficiency of market-oriented development, and those that target safety nets on the most needy.

Because developing countries have very limited national income and because the number of people with incomes so low that they cannot command adequate food for a healthy, active life is so massive, food security cannot be achieved solely by income transfers. Thus, most of the width of the pyramid, both for chronic food insecurity and transitory food insecurity, is comprised of market-oriented growth activities. Those activities are much more numerous than what is depicted on the Food Security Pyramid. The Pyramid only includes those activities most oriented towards food security. As development proceeds, the need for public transfers required to achieve food security diminishes. (In fact, actual transfers may increase despite the smaller need because the means to provide them rises — they are filling previously unrecognized needs.)

Categories of public effort to create food security are depicted as horizontal bands on the pyramid, with those having the most direct effect near the top of the Pyramid and those having the most indirect effect near the base. Here both the public and private sectors may contribute. For example, public (or private) research may improve technology which in turn improves private input supply and product marketing sectors. The bands of public activities have dimensions ranging from individuals and households to the nation and the world — and so slice across the pyramid in each direction. Each is important in dealing with both chronic and transitory food insecurity.

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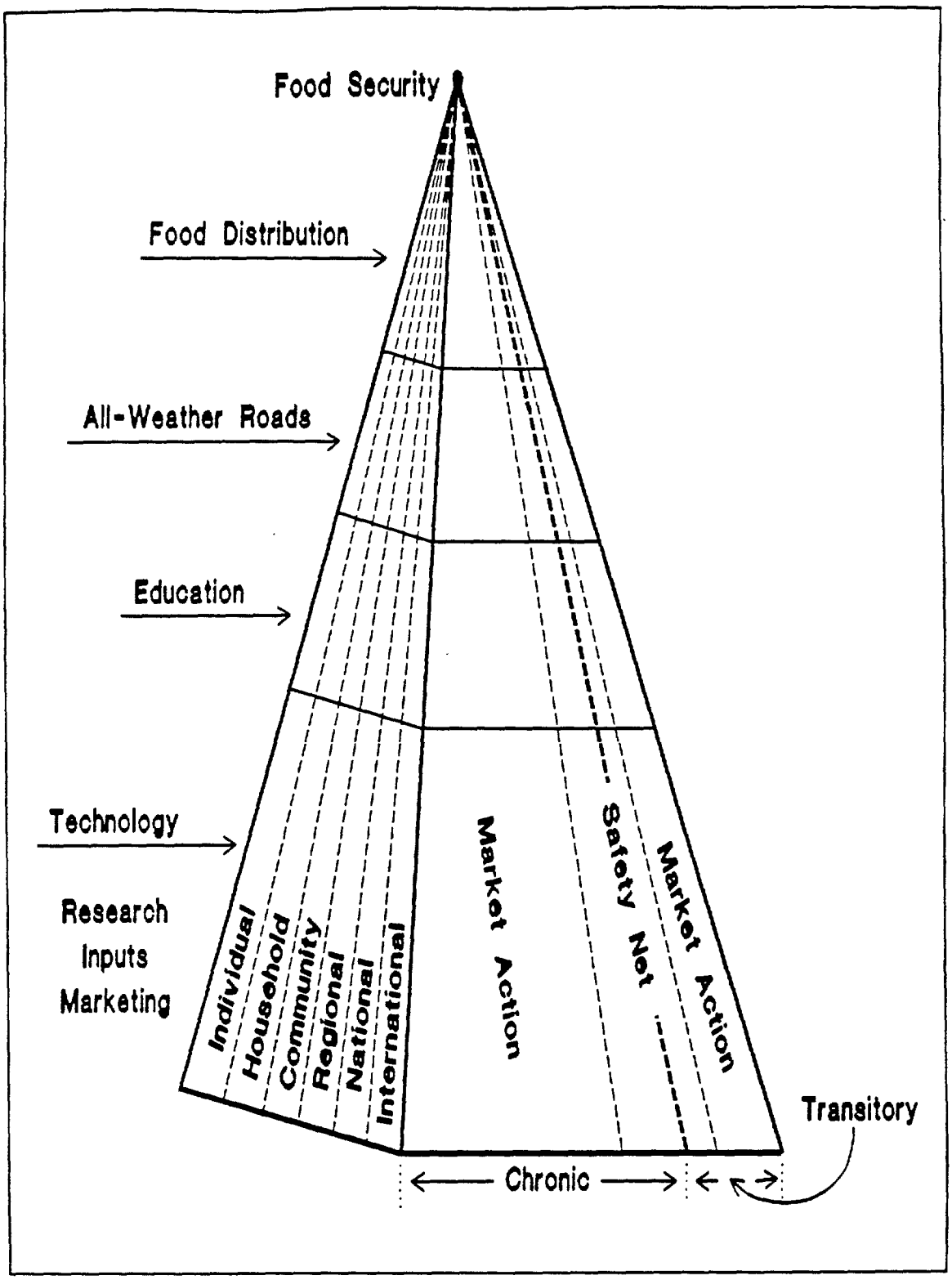

Figure 5. Food Security Pyramid.

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ANNEX B
STRUCTURAL ADJUSTMENTS

Food security of the most vulnerable in society may be threatened by structural adjustments called for by the International Monetary Fund (IMF) and the World Bank. Loans are extended to heavily-indebted countries to help them through the difficult adjustment to sound economic policies. Several observations are appropriate (see Tweeten, 1990):

1. Structural adjustment loans are extended to countries which have been living beyond their means and have accumulated massive debt that they are unable to repay. Austerity is inevitable — sooner or later. The adjustment loan should reduce the burden of austerity. The changes in policies called for by the World Bank and IMF follow the *synthesis* presented in Chapter 2, which is sound economics as best economists can determine. The hardships are unavoidable consequences of nations giving up unsustainable macroeconomic policies (living beyond their means) rather than consequences of the reforms such as privatization, an end to market distortions, and the like.

2. Reforms may cause transitory food insecurity even as they contribute to long-term food security by returning countries to economic policies for sustainable economic progress. Reforms of structural adjustment programs could ease transitory problems. Sometimes the people hardest hit by structural adjustments are those released from bloated government bureaucracies and state owned enterprises, as in the case of Argentina. These individuals usually are able-bodied, have more assets than the average citizen, and find more productive if not as remunerative employment before lack of access to food becomes an acute problem. Where the poor are acutely disadvantaged by austerity measures, food assistance can target the food insecure and make structural adjustment programs less traumatic.

3. Further indebtedness incurred to support structural adjustment does not resolve the debt problems of an already bankrupt country. Debt writeoff is often essential (it happens de facto anyway as countries are unable to service debt) before structural adjustment reforms can return countries to a sustainable economic growth path.

4. The best way to avoid the hardships of structural adjustment is to end unwise policies *before* they cause excessive debt, inflation, overvalued currency, and foreign exchange shortage described as the Economic Degradation Process (Tweeten, December 1989). The ideal for USAID and others providing policy advice is to move a country toward the *synthesis* (depicted earlier) before its economy deteriorates.

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ANNEX C
A NOTE ON THE ROLE OF DEVELOPED COUNTRY DOMESTIC POLICIES FOSTERING FOOD SECURITY IN DEVELOPING COUNTRIES

This section notes that food security policies of less developed countries (LDCs) will be most successful if carried out in a world of supportive developed country (DC) policies. Several such DC policies are listed below (Tweeten, 1989, pp. 226, 227):

1. Open Markets to LDC Exports

If countries do not export, they cannot import, and the world loses. Opening up DC markets could do much to promote trade, development, and food security in LDCs.

2. Hold Emergency Food Reserves

LDCs will not hold adequate food reserves to meet emergency food needs. Nor is it economic for them to hold such reserves. Purchasing food in export markets when supplies are short is much cheaper for LDC food security than are buffer stocks held in the country or attempts at food self-sufficiency. The IMF *Cereal Facility* was a laudatory attempt to make loans of foreign exchange to poor countries for food imports in times of domestic food and foreign exchange shortages. It has been little used, in part because lending terms were judged to be too costly or restrictive and food security was linked to policy reforms unacceptable to borrowers. Whether LDCs have foreign exchange or not, they must have a place to turn for food supplies to avoid famine when nature and pestilence combine to provide a small domestic crop or when food is inaccessible because of civil strife. Buffer food reserves will be held mainly by food-exporting DCs.

3. Conduct Basic Research in DCs

LDCs cannot afford basic research but it is the single brightest hope along with population restraint for dispelling the Malthusian specter in the long run. Biotechnology offers vast promise, but LDCs cannot afford the luxury of investing in costly research with uncertain payoffs and large spillout of benefits to other countries.

4. Conduct Adaptive Research in LDCs

A high priority is for LDCs to have local research capacities for adapting research from elsewhere. Poor LDCs have been unable to train, attract, and hold the brightest and best scientists available to them. Failure to maintain continuing support for such efforts is a major oversight which needs to be corrected. *This deficiency will be corrected only with assistance from DCs.* USAID and other donor funds can help pay for research, training, and infrastructure investments.

5. Improve Infrastructure in LDCs

The market alone will not provide adequate infrastructure; public sector involvement is essential, as noted earlier. LDCs acting alone will not build sufficient infrastructure for food security. Loans or grants from DCs can help to fund public infrastructure, helping private markets to work better. But as roads, for example, are built, provision must be made to maintain them. Construction and maintenance can be the responsibility of the private sector assisted by public funds, including food-for-work programs.

6. Develop Human Resources

The DCs can help LDCs improve educational and vocational training facilities and services. Contributions of donors can include education of current and prospective teachers in DCs, and teaching apparatus such as audio-visual equipment, facilities, and school lunches. Another need is low-cost primary health care employing local talent. Contributions of donors can include pharmacueticals, technology, and training for family planning, immunization, sanitation, and the like.

7. Implement Macroeconomic and Commodity Program Policies

Unfavorable monetary and fiscal policies in the United States and high rigid commodity price supports especially in the European Community and Japan, have had mostly unfavorable repercussions for LDCs in recent decades. One result is trade barriers to protect DC industry, unstable world prices, and unfair competition in agricultural commodities. Ending or sharply revising such policies in DCs would assist LDCs.

According to estimates in the *World Development Report 1986* of the World Bank (p. 131), global liberalization of agricultural commodity programs and border protections would reduce the coefficient of variation in the world price of wheat from .45 under 1985 type conditions to .10 after liberalization, and of rice from .31 under 1985 type conditions to .08 after liberalization.

As DCs reduce agricultural market interventions, reserve food and feed stocks held by the United States and Western Europe may decline. Developing countries need to be prepared for such changes. In the absence of massive stocks accumulated by commodity programs, governments of DCs need to give greater attention to special food reserves for responding quickly to food crises that inevitably emerge from time to time in developing countries.

ANNEX D
POSITIONS OF OTHER AGENCIES REGARDING FOOD SECURITY

Information was reviewed on the food security positions of the following international organizations: the World Bank (WB); the International Fund for Agricultural Development (IFAD); the World Food Programme (WFP); the World Food Council (WFC); the Food and Agriculture Organization of the United Nations (FAO); and the European Community (EC); two bilateral organizations, the Overseas Development Administration (ODA) of the United Kingdom, and the Canadian International Development Association (CIDA); several private voluntary organizations (PVOs); and three research institutions, the International Food Policy Research Institute (IFPRI), Michigan State University (MSU), and the Institute of Development Studies (IDS).

This review first summarizes positions of key donor agencies. It then summarizes positions on key issues.

Food and Agriculture Organization of the United Nations (FAO)

While nearly all donors address the issue of food security explicitly and emphasize its relation to the development process, FAO carries the approach to its ultimate. It has set forth a national food security approach involving smallholder food production, and then applied that to specific countries. The cases delineate in full detail the development projects and policies which are needed to achieve food security. The action plans give specific attention to the needs of the small-farmer food deficit households.

The most detailed effort to date entailed a major field effort delineating the specifics for Zambia within the general conceptual framework. The effort starts with the objective of food security and then traces through the agricultural production needs to achieve food security. This is, of course, in the context of the FAO emphasis on self-reliance rather than self-sufficiency but recognizes the important role of the small farmer whose production can be increased. In the case of Zambia, substantial effort is placed on increasing the supply and utilization of draft animals to increase the labor productivity of farmers operating in a land abundant country but with extraordinarily low levels of labor productivity and consequently, inadequate food production and income to achieve food security. The case also emphasizes increased use of fertilizer and improved cropping patterns.

Once the food insecurity problem has been diagnosed and the project needs delineated, a full costing is carried out within a computable framework for which the methodology and computer programs have been carefully developed. The approach is being applied to other counties in addition to Zambia.

International Fund for Agricultural Development (IFAD)

IFAD, in keeping with its orientation to the poor, has an explicit and detailed approach to food security which is detailed in a book issued by IFAD on that subject. IFAD's approach to food security emphasizes the impoverished, food deficit producer. It especially emphasizes the role of poor women, disproportionately represented among the hungry poor. The IFAD approach to food security is clear on the role of cash crops as a means of raising the incomes of food deficit households and thereby providing the purchasing power for increased food intake.

IFAD notes the common circumstance that food deficit households which increase production of a cash crop also increase their production of the food crops that they consume in the home. That is because the increased income from the cash crops provides the means for purchasing inputs which increase the

productivity of both the land and the labor of the impoverished small farmer. The converse is noted: increased food crop production achieved by productivity-increasing innovations also releases resources for cash crop production which further increases resource productivity, family income, and food security. Thus, cash crops and food crops may be highly complementary in achieving food security.

IFAD also notes complex interactions. It is not uncommon for production increases to be associated with transfer of control of income from women to men, and for that, in turn, to change family expenditure patterns to the detriment of food security. IFAD gives attention to dealing with such complexities of achieving increased food security. It is an institution rich in knowledge of how to deal with food security in a practical, operational context.

IFAD is following its detailed statement of food security needs with another major book dealing with poverty problems especially found in the rural areas of low-income countries. That work provides detailed analyses of IFAD's wideranging efforts to raise incomes and increase food security.

World Food Program (WFP)

Perhaps because WFP is clearly at the cutting edge of food security problems through its efforts to reduce both transitory hunger in the context of emergency food relief and the broader problems of chronic food insecurity through food use in development, it does not have an explicit statement of food security and its role in food security. Nevertheless, it is directing its resources at food insecurity situations and provides a wealth of operating experience in providing food in grossly food insecure situations.

WFP has operating experience not only in emergency relief, but in food-for-work programs as well as with monetization of food aid. It works closely with other institutions, including recent strong working relations with the WB intended to combine food with other resources for relief of food insecurity.

World Food Council (WFC)

The WFC explicitly treats food security problems in its ministerial meetings and its country strategies. As a body bringing together persons at the ministerial level to discuss food problems, WFC provides a major forum for focus on food security. Its positions are developed by a small staff from the work of other institutions, and thus fall in the mainstream of food security views and programs. It works actively to obtain consensus on action programs devoted to food security.

The World Bank (WB)

In keeping with its broad mandate as well as its position that food security is an approach, not a project area, the WB does not develop food security projects. Food security, however, receives explicit attention at the country operations level. For example, a major document from the WB for Malawi is entitled "Malawi Food Security Report." It was provided by the Agriculture Operations Division in the Southern Africa Department of the Africa Region. The 98-page document is part of a joint effort with WFP and FAO to develop food security strategies for several African countries. It delineates basic issues including the problems associated with structural adjustment programs. It also analyzes the food availability and malnutrition situation, the range of problems in increasing food production (particularly in food insecure households), the policies needed for improvement, and the specific government institutions for food security. The Malawi case is particularly instructive because of the unusually large proportion of food-insecure population. The report represents an approach that USAID would find beneficial to examine and perhaps emulate in specific countries.

Definitions

Definitions were reviewed in Chapter 1. WB definition of food security is widely accepted. In essence then, food security is seen as a very broad concept aiming at access to food for all people at all times to achieve an active and healthy life. In contrast, Chapter 1 of this report includes utilization (consumption, absorption) along with availability and accessibility as dimensions of food security.

Transitory and Chronic Food Security

In keeping with the broad definition of food security, both transitory and chronic food security are explicitly of concern to essentially all the institutions reviewed. The EC is more explicit than most of the other institutions in noting the role of micronutrient (e.g., vitamins and minerals) deficiencies as an element of food insecurity. Because this element of food insecurity may occur among people with adequate income to provide basic calorie sources, it leads into a different set of problems and policies.

Relation to Development

Again, in common with the encompassing definition, virtually all of the agencies take a clear position that broad-based development must deal with the bulk of the food security problem. In most cases, this is made explicit. The ODA of the United Kingdom has expressed a particular caution that a concern for short-term food security should not divert attention away from long-term economic development to deal with food security problems. The ODA explicitly notes that this long-term strategy may result in greater food insecurity over the short term. This view is not contradicted by the other development agencies and research institutes, but PVOs have a different perspective.

Although by no means universal, a substantial proportion of PVOs take, in essence, a "food-first" approach that emphasizes increasing food production without examining the role of food production in broader development. In practice, these same PVOs tend to take a negative view towards commercialization of agriculture, particularly in the form of agricultural export commodities. This brings those PVOs into direct conflict with the position of FAO, favoring self-reliance over self-sufficiency.

Relation to Poverty

All of the institutions emphasize that poverty is the root cause of food insecurity. The EC statement, however, goes a step further to indicate problems of food security for those who are not in poverty. It does this through its emphasis on the micronutrients. In a well-articulated position, IFAD explicitly relates its poverty reduction program to food security.

Programs and Projects

While the various agencies have very similar views with respect to definitions and the relationship between development and poverty, they differ according to their various comparative advantages in their programs and projects. Several of the institutions emphasize that food security is a way of looking at a problem, and is not the basis for food security projects. That is quite explicit on the part of the WB and ODA, but it characterizes most of the other institutions as well.

WB gives a very central place to macro policy as a critical element of a food security program. It is notable in this context that the EC, IFAD and FAO all explicitly note problems with food security arising from the structural adjustment programs of WB and IMF. It is recognized that processes of improving macro policy may have negative food security implications that need to be treated. FAO also gives

considerable emphasis to macro policy with specific mention of the positive role of trade, but urges caution regarding difficulties which may arise in open-trading regimes. FAO gives particular attention to price policy, noting both positive and negative aspects.

Development of national food strategies as a means of diagnosing food security problems receives specific attention from ODA of the United Kingdom. In the context of sectoral policies, the WB is particularly clear on the importance of rural and agricultural development as specific sectoral emphases for dealing with problems of food security. FAO, of course, emphasizes the agricultural sector, and is in the process of formulating extraordinarily detailed and intricate programs for achieving food security through growth in the agricultural sector. Some FAO country projects explicitly focus on food security, fully budgeting and treating an entire range of rural development needs for food security. The program for families is particularly detailed.

While most institutions emphasize achieving food security through general programs of growth and poverty alleviation, IFAD emphasizes a number of project areas. It gives particular attention to the role of women in achieving food security, and to projects that may improve the capacity of women to increase food security. IFAD also gives special attention to the role of inadequate credit and credit institutions in creating an environment of food security. In part, this attention is motivated by a lack of emphasis by other donors on the role of institutional credit.

The WFP emphasizes food aid in dealing with both chronic and transitory food insecurity. Food security is explicit in the WFP food aid programs. FAO also draws specific attention to the role of food aid in dealing with both chronic and transitory food insecurity, and spells out programmatic approaches to increase the usefulness of food aid in this context. The EC is explicit about the importance of food aid, noting that it comprises 20-30 percent of all EC aid to developing countries, and delineates means for making it more useful for achieving food security.

In this context of a positive view of food aid (from the WFP, FAO, and the EC, as well as the intellectual support for it from the Sussex group), it is notable that many of the PVOs tend to have a very negative view of food aid except for famine relief. It is thought of as breeding dependency and interfering with the growth of food production which they view to be of primary importance to achieving food security. Thus, once again we find many PVOs in a somewhat contrary position to the central tendency of the other foreign assistance and development analysis groups. Of course, several large PVOs such as CARE effectively use large amounts of food aid to promote food security.

FAO gives explicit attention to stocks and stocking policy, but does so in a trade context. In other words, FAO is not pushing for food self-sufficiency, but rather a sufficient level of stocks to carry a country over until emergency supplies can be brought in from outside.

Two particular points from the analytical institutes are worth emphasizing. The IFPRI group has documented the "coping" strategies of poor, food insecure people. IFPRI research continually draws attention to non-farm income as the key ingredient of food security for poor rural people.

The MSU group documents substantial differences among relatively small geographic areas in the programmatic components of food security programs, arguing that food security must be tuned to local conditions. It notes that mandated high food prices designed to assist agriculture may increase hunger in rural areas because most rural people are net food buyers. It also notes that cash cropping can be consistent with food security in part because it supplies capital for technology to more efficiently produce food. The Sussex group has constructed position statements detailing effective use of food aid to achieve food security.

Conclusions Regarding Other Institutions

From this brief review, behind which lies a massive amount of documentation, clear support is apparent for the broad WB-based definition of food security, for seeing food insecurity as arising basically from poverty, and for developing a solution to food insecurity based on economic development particularly in the agricultural and rural sectors. There is also broad agreement that food security involves both transitory and chronic elements.

The emphasis on development is particularly supported by the EC and ODA emphasis on food strategies. The emphasis on macro policy comes through clearly from the WB, FAO, and ODA of the United Kingdom. A prominent role for food aid shows in several of the institutions, contradicted only by a substantial number of PVOs (though even they recognize the importance of emergency food aid to avert starvation). Indeed, they frequently distribute such food aid supplied by the United States, the EC, and other donors. There is, in general, little in the review to argue for projects targeted specifically to achieve food security, although IFAD and some other institutions give emphasis to targeting the poor, which of course is the equivalent to targeting food security. Beyond this broad support for the approach which we are taking, it is well to reemphasize the MSU point regarding the importance of tuning programs specifically to the needs of particular areas (they illustrate with the case of "white maize" in areas of Zimbabwe),[21] and to the implications of various coping strategies and non-farm income sources as emphasized by IFPRI (calling for relatively more short-term support in areas where coping strategies are poorly developed).

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[21] The overall success of expanding production and building stocks of white maize in Zimbabwe tended to veil the fact that semiarid area smallholders, the majority of all smallholders, experienced limited benefits. For broad-based benefits, technologies must be appropriate to the various types of households and resource bases, investments to expand public infrastructure and social services are needed, and alternative sources of income are useful to diversify and expand buying power.

ANNEX E
FOOD SECURITY AND KEY USAID INITIATIVES

USAID has specified four basic initiatives to orient its activities into the 1990s:

- The democracy initiative
- The business and development partnership initiative
- The family and development initiative
- The environment initiative

At issue here is how food security relates to these initiatives.

Food security complements the pursuit of democracy, enhancement of family values and family structures, and protection of the environment. Food security is synergistic with the operation of markets and the enhancement of a business and development partnership. Certainly, enhancement of the business development partnership (and its ancillaries of market orientation and growth of the private sector) is essential to economic growth needed for food security. Development of democratic institutions provides an institutional framework important to the long-term solution of food security problems.

Democracy, Food Security, and Agricultural Growth

In countries where 60-80 percent of the population lives in rural areas, democratic participation cannot be separated from the enfranchisement of rural people and the development of rural local governments. A population of hungry people hardly provides a foundation for democracy.

The resource requirements for public services and infrastructure are so great that they are unlikely to be achieved without the development of local government, bringing rural people into the process of raising and deploying the funds for rural investment. The efficient way to bring that about is for local people to band together in local governments which can raise taxes and administer the expenditure of those taxes for things that local people want. Rural people have always made it clear that they want roads, schools, and clinics. They will get them with democratization of the countryside. Property taxes have not often been used in developing countries but could be one means to support such infrastructure and services without creating severe market distortions.

Democracy finds its fullest flowering in local government where people vote for representatives who are close to them and carry out functions which are understood and monitored. Devolution of power (in the sense of democratic local government) can forward the process of achieving food security. In addition, democratically-based local government can provide the mechanisms for food distribution if famine or other crises strike. Democratization and providing rural people with needed services and infrastructure could accelerate rural development, diminish poverty, and stimulate national growth essential for food security. Thus, we find a two-way street between food security and democracy. On the one hand, food security is necessary to achieve democracy; on the other hand, democracy can do much to facilitate the types of rural growth which can ensure food security.

Few developing countries have even a nascent effective local government system. The United States has much to offer in helping to build the basis for those institutional structures through technical assistance of various types.

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The Business and Development Partnership — Privatization and Market Processes

As noted in Chapter 2, the private sector constitutes the major engine for economic development and food security. Chapter 2 detailed public policies likely to be most effective in guiding private sector growth to benefit the poor. Considerable scope also exists for the private sector to play a role in food distribution programs addressing transitory food insecurity arising from crop failure and the conditions of famine. Effort is needed to identify what distributional functions the private sector can fulfill and how the public aspects of distribution can best mesh with those potentials.

The agricultural and nonagricultural sectors in rural areas operate primarily at the family-level size of enterprise. A rapidly growing national rural market provides the favorable base for growth of small and rapidly developing medium-sized enterprises, not only in agriculture but, far more importantly, in the rural nonagricultural sector. The fast growth of Taiwan, for example, is explained partly by the swift growth of medium-scale enterprises in rural areas. Such medium-scale nonfarm enterprise growth is happening in virtually all developing countries which provide vigorous growth in national markets through rising agricultural productivity and incomes. The development of that business partnership in rural areas means growth of labor-intensive industries, which lend themselves least well to public management and most well to private enterprise. The rapid growth in employment through such firms is the second leg (after agriculture) of dealing with food security through growth.

Again, foreign assistance can play an important role in the development of this business and development partnership by helping to build the institutional structures to support such business. This includes the institutional framework for providing physical infrastructure of all-weather roads, electricity, and communications so essential to business enterprise, particularly that located in rural areas. As stated earlier, improvements in communication and information systems and market structures promote food security by enhancing the ability to move food quickly in response to the transitory food security problems connected with poor crop years. In this context, there is scope for imaginative efforts by foreign assistance to help growth of crucial private sector activities in rural development. The purpose is to stimulate rather than displace private activities, correct rather than create market distortions and raise rather than lower real national income.

The Family and Development

Chapter 2 noted that economic development and food security arise from material, technological, and human capital formation. The greatest capital potential in developing countries is human capital. Obviously, the family household directly creates human capital. It also indirectly creates such capital by supplying the motivation, health, and competence for children to succeed in school, skill training, and on-the-job experience. Food insecurity retards minds and diverts families from human capital formation.

Children represent a majority of those in absolute poverty and, hence, food insecurity. The initiative with respect to family and development within USAID can make a major contribution to achieving food security by noting particularly the plight of children. At issue is how intrahousehold allocations relate to them, and how to create an environment in which they can achieve a high nutritional status within a given level of income.

Assuring adequate food supplies to every family must be the centerpiece of a family-oriented initiative. This report emphasizes that the bulk of the improvement in food security must come through developmental and growth processes. But that process can be turned around: strong family structures operating through family farms and rural family businesses help food security. In many developing countries, extended families are held together by the need for mutual food and income security through

sharing. Food security programs must take care to preserve and strengthen that family structure rather than undermine it.

Women play a key role not only in preparing, but in producing food and feeding children. Food security is enhanced by programs helping women to become more efficient and effective producers and consumers. Agricultural production and income earned by women are allocated in higher proportion to meeting food security needs of children than are production and income of men. Women emphasize food production for home consumption. Education of women is also important for available income to be allocated most efficiently to providing nutritional security. Within any given income level, educated women can play a major role in seeing that the income is expended efficiently to achieve high nutritional status. Through education, women often are the nexus between food accessibility and proper nutrition.

Environment and Food Security

Americans are rightfully concerned about the environment, not only within their own country but globally. Destruction of the environment in distant lands affects all of us — in developed and underdeveloped countries alike.

Environmental concerns provide a particularly powerful argument for diminishing food insecurity through processes of growth. The bulk of destruction of the environment in developing countries is perpetrated by poor people under the pressure of poverty and population growth who expand cultivation into areas unsuited for annual crops. In the tropics, this includes destruction of forest for lumber and firewood and to make way for shifting (slash and burn) cultivation. This also includes destruction of perennial grasses on the dry margins. Environmental destruction creates food insecurity in the longer run; conversely, food security reduces pressures to destroy resources. Technology raising the productivity of agricultural land and labor allows a drawing back from shifting cultivation and destruction of the arid perennial grasslands. Production then can concentrate in less fragile ecological conditions. Sustainable agricultural technologies can help to supply food using less synthetic chemicals and petroleum fuels. Thus, a positive two-way interaction is apparent between food security and environmental objectives.

The commercialization processes incident to accelerated growth in agriculture will allow specialization in production of those commodities best suited to specific ecological conditions. Such specialization is not possible in a low-income subsistence agriculture as population and food demand pressures mount. With subsistence, each family must produce its minimum needs in a manner most productive of calorie production, irrespective of the nature of the ecological resources. Hence, subsistence agriculture is not compatible with environmental care or with food security.

ANNEX F
FOOD AID AS A RESOURCE TO REDUCE FOOD INSECURITY

Food aid can be a valuable resource in the portfolio of foreign assistance in spite of some characteristics that make it more difficult to program than cash aid. According to Public Law 480, food aid is not to displace commercial food imports nor discourage domestic production. Where the country is a net food importer, food aid may displace commercial imports but need not reduce incentives to local producers. If a nation is a food exporter, it is difficult for the recipient to import food aid without expanding commercial exports of the recipient. *Food aid targeted to expand consumption by the poor, however, can raise food demand as much as supply.* This can enhance food security without reducing indigenous production incentives or commercial imports.

Food aid that reduces local prices benefits consumers but diminishes incentives for producers. *But, properly used, food aid that reduces domestic production in the short run may increase production in the longer run.* The reason is that the counterpart funds from monetized food aid may be used to support public infrastructure and services that increase productivity of indigenous producers, thereby lowering production costs and increasing output. In this context, several suggestions are offered to USAID.

1. Interpret the commercial-import requirement of PL 480 flexibly, and emphasize food aid to countries which are or otherwise would be food importers. One reason is that food aid can promote food security over the long run through economic growth. Economic progress will bring greater commercial imports from the U.S. even if the aid displaces some commercial sales in the short run. A number of studies indicate that greater agricultural productivity in third-world countries expands American farm exports to them (see Paarlberg).

2. Recognize that food aid ordinarily costs the U.S. government less than cash assistance because the alternative often is to pay American farmers not to produce or to incur high costs for storage. High administrative cost may offset lower procurement cost of food aid, however. For countries where food aid clearly would reduce local incentives to produce food, but where PL 480 is the only aid available, providing cotton or surplus fiber commodities may be an aid option. Food security is enhanced by investing local currency counterpart funds to expand food production efficiency and consumer buying power.

3. Food aid counterpart funds and other foreign assistance need not, of course, be invested solely to expand local cash crop production for export. It can be used to advance productivity of local nontraded food crops that do not compete in international markets. Funds can also be used for industries other than agriculture — wherever income and employment generating payoffs are highest.

4. One desirable way to avoid diminishing incentives for local producers or displacing commercial exports is to promote food security by targeting food aid to expand consumption among the disadvantaged. Correcting under-consumption can add as much to domestic demand as food aid adds to supply, so trade and prices are unaffected.

Sometimes the above approaches can be combined. A well-planned, long-term food-for-work investment in roads or a school-lunch program to encourage school attendance may displace little indigenous production while contributing significantly to broad-based economic progress and food security.

Needs of the food insecure usually can be met most cost-effectively by supply assistance indirectly. Except in the case of sudden disasters, direct delivery of food aid is usually an inefficient instrument for meeting the specific food needs of people. Delivery costs may be less if left to the commercial trade, and the target population may prefer commodities other than those available from food aid.

Food aid should not be used to subvert appropriate food security policies, yet this is precisely what occurs when food aid, like other commodity aid, is monetized inappropriately or haphazardly. For instance, wheat aid that is sold to a mill for less than the price of wheat available from other sources (commercial imports or domestic procurement) in effect provides a food subsidy at the same time that USAID and other external assistance agencies have negotiated long and hard for the abolition of such subsidies.

If most of Title I, Title II, and Title III food aid is to be monetized and food aid from other countries is also to be monetized, some basic food marketing issues must be addressed: the timing of sales, the mode of selling (through auctions, etc.), and the utilization and control of funds from the proceeds of the sales. The PVOs handling most of Title II food aid have so far enjoyed much independence, with rights encoded in U.S. food aid legislation. There needs to be dialogue between USAID and the PVOs if there is to be greater coordination on monetization and the implementation of a consistent policy for improving food security.

ANNEX G
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[1] These documents may be ordered form the A.I.D. Development Information Services Clearinghouse, Suite 1010, 1500 Wilson Boulevard; Arlington, VA 22209-2404, Telephone (703) 351-4006, Telefax (703) 351-4039. Please specify the Document I.D. No. when ordering.

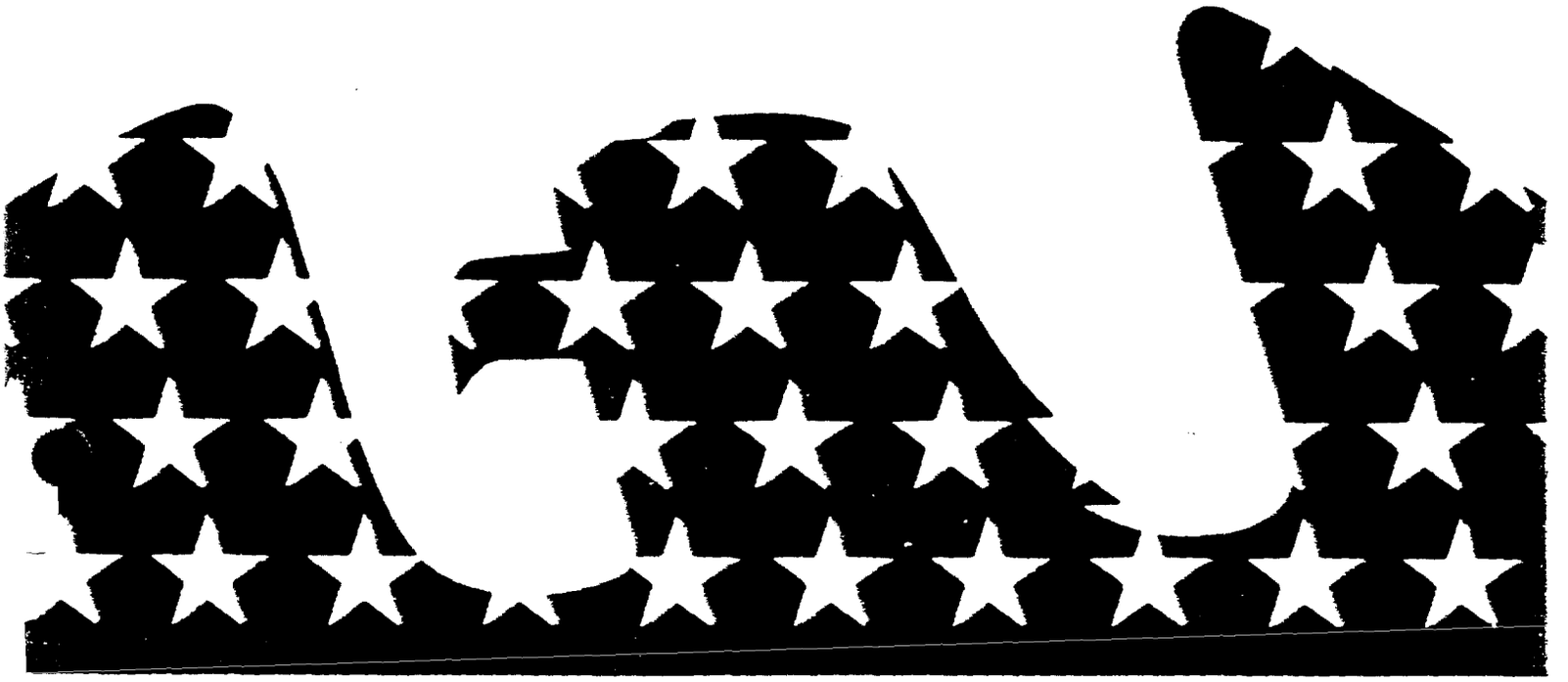
POLICY DETERMINATION

Agency for International Development

PD- 19

April 13, 1992

Definition of Food Security



PN-AAV-468

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DEFINITION OF FOOD SECURITY

USAID Policy Determination

The basic definition of food security for A.I.D. as defined in April 1992 through a Policy Determination, is:

> ***When all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life.***

The Policy Determination regards this definition as broad enough to include the statutory P.L. 480 definition of food security of 1990 which is:

> ***Access by all people at all times to sufficient food and nutrition for a healthy and productive life***

Following the food security definition in the Policy Determination is a discussion concerning how A.I.D. programs can relate the food security objective to Mission and regional bureau strategies. The discussion includes the following: "The pursuit of food security objectives in a specific country does not necessarily imply a need for food aid. In a given situation, food aid may or may not be the most appropriate intervention to achieve food security.

Within the context of the food security definition, three distinct variables are central to the attainment of food security; availability, access and utilization. The following summary descriptions of these variables indicate the type of problems which may need to be addressed to improve food security in any particular country or locality. In any specific situation, the problems may vary among and even within countries.

> **<u>Food Availability:</u> Sufficient quantities of appropriate, necessary types of food from domestic production, commercial imports or donors other than A.I.D. are consistently available to the individuals or are within reasonable proximity to them or are within their reach.**

Constraints to food availability include: inappropriate agricultural knowledge, technologies, and practices; inappropriate economic policies, including pricing, marketing, tax and tariff policies; lack of foreign exchange; inadequate agricultural inputs; non-existent or ineffective private sector; population growth rates that offset increased production or imports; marketing and transportation systems which inhibit the cost-effective movement of food from source to need; inability to predict, assess and cope with emergency situations which interrupt food supplies; natural, climatic, and (especially in Africa) disease constraints; donor disinterest or fatigue; and political choice on the part of the host government at any level.

> **<u>Food Access:</u> Individuals have adequate incomes or other resources to purchase or barter to obtain levels of appropriate foods needed to maintain consumption of an adequate diet/nutrition level.**

Constraints to individual food access include: economic growth that is inadequate in the aggregate, or insufficiently broad-based, in general, leading to a lack of job opportunities or lack of incentives to become a productive participant in the economy; negative impacts of national economic policies; inadequate training and/or job skills; lack of credit or other means to exchange assets or inefficient harvesting, storage, processing, and handling; political decisions favoring one group over another.

> **<u>Food Utilization/Consumption:</u> Food is properly used; proper food processing and storage techniques are employed; adequate knowledge of nutrition and child care techniques exist and is applied; and adequate health and sanitation services exist.**

Constraints to food utilization include: nutrient losses associated wit food preparation; inadequate knowledge and practice of health techniques, including those related to nutrition, child care, and

sanitation and cultural practices that limit consumption of nutritionally adequate diet by certain groups of family members."

The Policy Determination concludes:

"It is obvious that many potential factors may contribute to food insecurity. Analysis of the specific situation will determine the constraints. In general, in the poorest developing countries, food security for all is a long-term objective which will be attained mainly through sustained economic growth – more quickly if it is equitable and broad based. The contribution of A.I.D. programs to food security will be greater if the host country is committed to economic and social policies that promote a broad based pattern of growth".

MAKING FOOD AID WORK FOR LONG-TERM FOOD SECURITY*

FUTURE DIRECTIONS AND STRATEGIES IN THE GREATER HORN OF AFRICA

PROCEEDINGS OF A USAID/IFPRI WORKSHOP
ADDIS ABABA, ETHIOPIA
MARCH 27-30, 1995

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
1200 SEVENTEENTH STREET, N.W.
WASHINGTON, D.C. 20036

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THE NEW FOOD AID AND FOOD SECURITY POLICY PAPER - AN OVERVIEW

John Grant

Mr. John Grant is Deputy Director of the Bureau for Humanitarian Response/Office of Program, Planning and Evaluation, United States Agency for International Development.

Introduction

I have been asked to review the highlights of the new Food Aid and Food Security Policy Paper which was signed exactly a month ago today, and was formally issued just 10 days ago. This paper had a gestation period which stretches back almost a year. The PVOs and a number of actors in the Agency have been involved. Carol Lancaster gave the original push to develop the paper, and she and PPC have significantly contributed.

This document is designed to guide program development and resource allocation for all USAID administered food aid activities. It is an important document that Missions and PVOs alike should be utilizing--hopefully in conjunction with one another-- as they develop CPSPs and MYOPs. It is also a document that we will be using in Washington for review of MYOPs and Mission CPSP's. The guidance is timely because it should serve as a key reference point and anchor for this workshop as we think about how best to program our food aid and couple it with DA resources to maximize the impact on Food Security. This is the first test of how these guidelines should be interpreted on the ground in a specific part of the world.

The paper lays out general guidelines and principles to guide the programming of food aid but it is not meant to dot every i and cross every t. It is not intended to be a straightjacket, but to establish useful guidelines of achieving our ultimate objective of improving the food security of poor and hungry people. Underlying the paper is an understanding that we are dealing with highly complex problems and some flexibility of approach is needed.

Background and context

Some background and context may be helpful in understanding and interpreting the paper.

1. Developing strategic objectives for food aid

This paper is part of an Agency wide process to better determine our objectives and strategies. A year ago we issued broad strategies for the five sectors USAID is working in to achieve Sustainable Development, that is (i) Economic Growth, (ii) Population Health and Nutrition, (iii) Environment, (iv) Democracy, and (v) Humanitarian Assistance. We have now taken it a step further with Implementation Guidelines for all these sectors which were finally issued just a couple of weeks ago. But none dealt adequately with food aid, and there was a desire for a special paper which focused specifically on how food aid would be used to achieve food security and accomplish our strategies for sustainable development.

2. Managing for results

There is a strong emphasis in the Agency to "Manage for Results". The Government Performance and Results Act requires us to have clearly defined objectives and indicators for all aspects of our program. With the added budgetary pressures we need to document more effectively the results of our programs, and this need is acutely felt in the Food Aid area. There is a strong drive to shift our focus from food as an input to the results of these programs.

3. The changing global context of food aid

There was felt need for a policy that reflected the changing Global context related to Food Aid--in terms of agriculture and the changing capability of different parts of the world to meet their food needs, complex emergencies and increased demands on food, and changing food aid availabilities.

In terms of agriculture, East Asia and Latin America have made significant progress in their ability to feed themselves. It is places like the Greater Horn of Africa where food deficits are skyrocketing. The

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food gap in Africa is expected to quadruple to 50 million tons in the 90s. In the last six years per capita food production has declined in 26 countries in Africa.

4. Food aid as a scarce resource

It is increasingly realized that food aid is now a scarce resource. The GATT and farm subsidy reductions are reducing agricultural surpluses in the US. In the future, Government budgets for food aid will be subject to the same budget constraints as other forms of assistance. Increasingly, a dollar of food aid is equivalent to a dollar of DA. At the same time there are exploding demands from complex emergencies around the world. Between 1989 and 1993 Emergency Food Aid needs have more than doubled, from $1.1 billion in 1989 to 2.5 billion in 1993. USAID has to ensure that food aid is used as effectively and efficiently as possible.

5. The special nature of food aid

It has to be recognized that food aid is a specialized resource, that has both advantages and disadvantages as a tool to promote sustainable development. It has immediate value in addressing hunger, it is a valuable complement to other programs, and has been relatively abundant compared to other resources. But it can also disrupt local markets, distort local agricultural markets, and local consumption patterns.

6. Learning the lessons of the past

There was also a desire to capture some of our lessons learned from working with food aid over the years and to encapsulate them in policy. One of the most powerful ones was that food aid when used in isolation has limited impact--in order to be most effective it **must** be integrated with other resources.

7. Linking relief and development

Growing awareness of the "Relief to Development Continuum", and realization that relief and development are not at opposite poles, with relief over here and development over there. The two are linked and we have to integrate our humanitarian assistance and development resources more effectively. We have to use our DA resources and Food development programs more effectively to prevent crises and mitigate their effects, and we must use our emergency resources more effectively to promote a return to development.

Policy guidance on emergency food and the relief-recovery-development continuum

The policy paper highlights the fact that although we have traditionally thought of and managed "relief food aid" and "development food aid" separately, they are in fact part of a "continuum". On the one hand long-term food security efforts through our DA and food aid development programs constitute the best "preventive strategy" for dealing with acute food needs; on the other hand, emergency food aid, if properly programmed, can help to promote long-term food security.

The paper calls for a new approach to "emergency food aid" and other relief interventions. They should be designed and implemented on the same principles that guide sustainable development: (i) capacity building, (ii) participation and sustainability, and (iii) decentralization and human capacity development. We need to ensure that emergency programs look at long-term development needs while meeting short-term critical needs. At a minimum they should not undermine long-term development efforts.

The paper specifically calls for much greater attention to the relief-to-development continuum to reduce vulnerability and mitigate the impact of disasters. Food insecure countries must be prepared to cope with recurring drought and even with political conflict. Equally important, relief programs must ensure that families are able to return as quickly as possible to productive lives. The paper calls for a new framework to assess needs and program resources along the relief-to-development continuum. For example, how can we use relief and development activities together to maintain productive capacity or prevent migration? This is an area which is still to be developed and I hope we can make progress in outlining this framework at this workshop.

Key tenets of the policy paper

1. Definition of food security

It is important to realize that the policy paper does not try to redefine food security. The broad definition of food security contained in the 1990 amendments to PL 480 will continue to govern food aid program

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development. PD 19 will also remain in force. The legislation defines food security as

"Access by all people at all times to sufficient food and nutrition for a healthy and productive life."

AID's definition in PD 19, which draws on the legislation, is:

> "When all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life."

This definition includes the three key variables which are central to the attainment of food security: availability, access and utilization. **Food availability** may be ensured by appropriate farm household production, other domestic food production, commercial imports or food assistance. **Food access** is linked to income available to the household, distribution of income within the household, and the price of food. **Food utilization** may be improved by better nutritional knowledge, or health, water and sanitation facilities.

2. Causes of food insecurity

The paper also recognizes that the causes of food insecurity are extremely broad and complex. They include chronic poverty, population growth, poor agricultural output, poor infrastructure, inappropriate policies, disease, poor water and sanitation, inadequate nutritional knowledge, inappropriate cultural practices, civil war and ethnic conflicts. In some way the causes of food insecurity cut across all the sectors that USAID works in, and in the broadest sense all our strategic priorities contribute to food security.

3. Geographic and program priorities for food aid

Within this broader context, the policy paper takes a careful look at food aid, its special qualities as a resource, and our lessons learned with food aid over the years and develops some key tenets about how we should manage food aid to maximize its impact on hunger and food insecurity. Two central tenets are that in order to maximize the impact of food aid we must allocate it to a smaller number of priority countries, and we must focus it better on a few priority program areas. In sum, we need better geographic and program focus.

In future, priority in allocating food aid will be given to the most food insecure countries, and within those countries to the most food insecure groups. The rationale is very clear: if you have a scarce resource which is expensive to manage it should go where it is most needed and can have the greatest impact. This means a shift to South Asia and particularly to Sub-Saharan Africa.

Secondly, USAID will give priority in allocating food aid resources to programs which improve agricultural productivity and household nutrition. The decision to focus our food aid programs on enhancing agricultural productivity and improving household nutrition is based on our experience and belief that it is these programs that have the greatest potential for sustained improvements in food security. This is particularly true in the food insecure countries of Africa and South Asia, where substantial numbers of the poor depend on agriculture for food or income.

Implications for food aid programs

1. Title III Programs

First, greater priority in allocating food will be given to countries most in need of food. Under current world conditions these countries are primarily in Africa. Second, highest priority will be given to programs with direct linkages to increased agricultural production and household level food consumption.

2. Title II Programs

As for title III, priority will be given to programs in those countries that need food most and where food insecurity is greatest. Title II programs will focus on improving household nutrition, especially in children and mothers, and on alleviating the causes of hunger, especially by increasing agricultural productivity.

For Title II programs there will be somewhat greater flexibility in identifying countries and types of programs. Title II programs will be eligible for funding in countries which may have made progress on food production at the macro level, but where there are still large numbers of poor and hungry people. While priority will be placed on agricultural production and household level nutrition, other programs which may contribute to food security, such as programs that increase income through economic and community development and sound environmental practices, will also be supported.

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3. Range of programs

Some may wonder if focusing on agricultural productivity and household nutrition may give undue attention to two legs of food security, that is availability and utilization, and ignore the third one, access. Three key points. First, in developing these policies we looked carefully at the comparative advantages of different types of resources, and we felt it was important and appropriate for our dollar funded Mission programs to tackle the income and access problem directly. Improving the agricultural productivity of poor farmers does contribute to improved access in important ways--both increased income for the household, and decreased prices.

Second, both Agricultural Productivity and Household Nutrition are broadly conceived. The illustrative list of agricultural productivity activities ranges from agricultural policy development and establishment of private credit institutions to the introduction of cash crops to improve incomes, or off-farm microenterprises to improve the marketing of food or agricultural inputs. The list of household nutrition activities ranges from health and nutrition education to water and sanitation, and it includes pilot programs to improve local storage and household food preparation.

Third, the bottom line is effective and efficient use of food aid resources to reduce hunger and achieve food security. We are very serious about applying these priorities but if a PVO has other interventions to propose based on a careful analysis of what it takes to achieve food security, we will consider them, but there is an added burden of proof on the side of the PVO.

Implications for all agency programs

1. Integration of resources

Food aid should be integrated to a greater extent with other assistance resources, particularly USAID Development Assistance. Greater priority on this integration must be the responsibility of both the Missions and the PVOs. Proceeds from the monetization of food should be used to complement direct feeding programs and to support development programs, particularly those which enhance agricultural productivity and/or improve household nutrition. This flows both from the finding that food aid is most effective when it is used in conjunction with other resources and that food aid is a major resource that has to be programmed more effectively in conjunction with DA resources.

2. Managing for results

There will be a much greater emphasis on "Managing for Results" with Title II. In order to accomplish this, greater attention and resources will be allocated to strengthening the program development and management capacity of USAID's food aid partners: PVOs, NGOs and the World Food Programme. USAID field Missions will strengthen collaboration and dialogue with these partners in working to achieve mutually agreed upon objectives.

USAID is committed to bringing food aid programs into a managing for results framework with clearly articulated objectives and measurable indicators. In order to achieve this there needs to be:

- Much better communication and coordination between PVOs and field Missions in the development of strategic plans. USAID and PVOs need to have a "shared responsibility concept" in planning and managing food aid programs.

- USAID and PVOs should develop and implement a shared framework for measuring results in food aid programs. As part of this we need better indicators and systems to measure results.

- USAID and the PVOs need to develop better information systems and assessment tools to design food security programs.

- USAID must provide PVO capacity building to ensure that results are achieved.

3. Responding to emergencies

We need to develop greater budgetary flexibility to respond to emergencies. Emergency food needs are growing and we want to meet recurrent emergency needs without draining food aid from development. This may need to come from measures such as expanding the types of commodities in existing reserve systems and improved multilateral coordination. USAID/W is also exploring the possibility of new legislation.

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4. Agricultural research

Reshaping Agricultural Research: USAID wants to develop a broader and more inclusive vision in applying agricultural research to food security. USAID is going to encourage the development of new "food security crops" that can be grown in chronic food insecure areas--crops such as "super cassava" and drought resistant maize. USAID intends to work with national systems, U.S. centers of excellence, and the International Agricultural Research Centers.

5. Donor coordination

Improved Donor Coordination: The paper calls for USAID to play a much more active donor coordination role in order to develop an integrated food aid and development strategy to improve food security in the Greater Horn of Africa.

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FOOD AID AS A RESOURCE - THE CRS EXPERIENCE

David Piraino

Mr. David Piraino is Country Director of Catholic Relief Services/Ethiopia.

I would like to preface my remarks by saying that we have enjoyed very good relations with the USAID Ethiopia Mission and the Food for Peace Office. We have had very generous monetization, we have received food resources in significant amounts, and we have had a very good dialogue with the Mission, with both sides listening and providing input to each other.

The importance of food aid for CRS

Food aid, Title II food aid in particular, has been very important for Catholic Relief Services (CRS) during the 52 years of our existence. It has allowed us to carry out our mission much more effectively than if we had just had cash resources. It has allowed us to respond flexibly to emergencies. But there have also been problems with food aid, particularly with logistics and disincentives.

However, on balance, food aid as a resource has two dimensions that are very valuable to us. First there is the qualitative dimension. It is a resource that helps us in improving the quality of life and even saving lives. The second dimension is scope. By scope I mean the number of people and program size. If real impact is to be achieved, programs often require a certain critical size, which food aid has helped us meet.

Innovative food aid programming

Some of the confusion over food aid as a resource arises out of the different possible uses of food aid and the term "innovative uses" of food aid. There are basically three uses: nutritional, economic transfer, and monetization. I believe the search for innovative uses of food aid should not focus so much on the uses of the food (which I believe are limited), but on the programming that goes with the food resource. Maintaining this distinction is important. If this distinction is not maintained, then failures in programs that use food aid will be laid at the door of the resource (food) and not based on the programming where the success or failure more rightly belongs.

Here are some examples where food aid carried out its role based on its intrinsic value as a resource. In emergency programs, food aid has a major impact on nutrition and in many cases literally keeps people alive. In MCH programs it has acted as an incentive for people to participate. Similarly, when food aid is monetized, it generates cash, thereby carrying out its role. However, what is accomplished through programming the cash from monetization is the real test of effective use of monetization funds. Therefore, while food aid frequently is successful in its role as a resource, we run into difficulties on the programmatic side. I think the distinction between food aid as a resource and programming issues is particularly useful in helping us focus on where we should put emphasis and work together in making food aid function as a more effective resource.

The new food aid policy paper: a basis for innovative programming

The new USAID policy paper on Food Security can be a basis for innovative programming. The policy paper, coupled with the relief-to-development continuum principle, provides a new framework for the analysis and evaluation of food aid by serving a common goal. Now that we have that goal and a clear understanding of where we are going, it will help a lot in focusing our resources, in collaborating, and in integrating efforts by using a common denominator. The context within which we work can be defined through the Continuum. That part of the framework (i.e., the Continuum) will tell us where we are (relief, rehabilitation, development) and what kinds of activities are needed, while the Food Security goal provides a common link.

On the programming side, there are different kinds of suggested activities in the policy paper that lead to food security. In other words, the activities provide a starting point for the kinds of activities that are required to achieve food security. In the final version

of the policy paper, as it was presented by John Grant at this workshop, I heard a lot of discussion on how focused the policy is. At the same time, I was happy to learn that the paper is "not prescriptive". I hope that the paper does not attempt to list all the interventions that would lead to food security, but only serve as a starter list. This way the door will remain open for innovative programming based on local needs and circumstances.

Keep targeting the most vulnerable

We do have one major concern with the Food Security paper and that is targeting to the poorest and most vulnerable. I think it is very important to keep in mind that the most vulnerable groups are a very critical and important target area where food aid can make a difference. The difference may not be so evident in the areas of developmental impact or cost-effectiveness, but more in humanitarian concern for the destitute, infirm, and elderly. As food aid becomes scarcer, the emphasis on using food aid more cost-effectively and demonstrating developmental impact may be harmful to the poorest and most vulnerable people. This target group seems to be falling out of favor despite their great needs and the American public's great concern for them. For example, suggestions to focus on high-potential areas and activities may imply that focusing on the poorest is not an effective use of resources.

The last couple of days in this workshop I was reminded of arguments used to justify the trickle-down theory back in the 60s and 70s. I am not saying that we are going back to that. The theory was not effective then and I question it would be now.

Innovative institutional approaches

In an effort to improve CRS/Ethiopia's food aid programming, we recently established three task forces. The task forces address integration, sustainability, and capacity building. We are trying to make these three "buzz-words" operational and include these aspects in our programming of food-assisted projects. We anticipate having more impact on moving towards food security objectives by insuring our projects are integrated and sustainable and that our counterparts come out of a project stronger than when they began.

Collaboration between CRS and WFP

The Food Security Paper and the GHAI call for innovative and closer collaboration between different players. A recently signed Memorandum of Understanding between CRS and WFP may help demonstrate new ways to collaborate. Both agencies agreed that their comparative advantages would be used as the basis for collaboration. Since WFP has a comparative advantage in obtaining and transporting food resources, and CRS in delivery and distribution systems, it makes sense for each organization to specialize according to their strengths. WFP would secure resources and provide them in-country, while CRS would have responsibility for implementation, once agreed objectives are established and roles clarified. A joint management structure would be set up for joint assessments and evaluations, as well as audits.

Funding

Another area that calls for closer collaboration is funding. It is not always easy for organizations like CRS to obtain sufficient funding in reasonable time periods. Perhaps donors could concentrate on mobilizing funds and co-funding programs and projects as they work with NGOs and other organizations.

Research

A third area where more collaboration would be beneficial is research. CRS, as well as most NGOs, don't have the capacity nor mandate to carry out fully acceptable scientific research. There are, however, many organizations, such as IFPRI, that do specialize in research and could collaborate more with NGOs in research projects. NGOs shouldn't be pushed to become research agencies when there are agencies that do have the capacity and mandate for research.

Conclusion

I am in agreement with what Allen Jones of WFP Ethiopia was saying yesterday—that there is a lot of valuable information out there, which will allow us to better use our resources. We now have the Food Security Paper and Relief-to-Development Continuum as frameworks. We have resources, capacity, and support. Now we must put them all together and start moving ahead with urgency.

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TARGETING

David Morton

Mr. David Morton is Chief of the Emergency Support Service Division at World Food Programme.

I have spent the last two and a half years in our program in Bosnia trying to target food to the vulnerable areas, and although I am not really an authority on targeting, I am aware of how important it is. The issue of how to target food aid more precisely is now pressing. First, unlike in the '70s, food aid is no longer abundant. Second, merely throwing food aid at problems creates disincentives and other market distortions. But most important, targeting is essential to our program because food programs are about getting food to vulnerable people. If you don't know who those people are or where they are, then the program fails at the first step.

The Targeting - Assessment - Distribution - Monitoring Continuum

I would like to suggest that there is now a continuum of which targeting is a focal point and this may be called the targeting-assessment-distribution-monitoring continuum. First of all you have to define your target, i.e., define the criteria for your program. Then you assess the need based on that definition, which should be a common definition that all parties agree upon. Having agreed on that definition, you can assess the need for those groups of people. After the needs have been assessed you have to work out how to get the food to those people. Then you should monitor whether in fact the food reached those people. The targeting, I think, is central to the whole effort.

Targeting methodologies

There are different kinds of targeting that can be done. Of these, geographic targeting is relatively easy, for instance, with the aid of Famine Early Warning Systems (FEWS). It is much harder to identify particular vulnerable groups within target areas. WFP is presently benefiting from the USAID grant on vulnerability mapping. Once we have the vulnerability maps, everyone should buy in on it.

Requirements and obstacles for successful targeting

Common standards and discipline

There really is a need for common definitions and common standards, not only for targeting within but also for targeting between countries. Another requirement for the successful application of targeting is discipline. It is critical to set and enforce targeting priorities and standards which are common to all agencies. I can think of several occasions where most of the agencies involved in a program had agreed on targeting criteria, and then in came a particular NGO with an agenda of its own and did something that cut across all their plans by using different targeting criteria. This kind of thing can really set back your programs.

Resource driven targeting

It is also important to set the right parameters for your targeted interventions. For example, in Ethiopia in the mid-1980s we had about three droughts in five years. For every drought we would do a need assessment and come up with an estimate of, say, a million tons of food aid that year. We usually got about two-thirds of what we asked for. After the third time around, the donors responded that in the last drought we had asked for a million tons and were given 600,000 tons, so they argued that as deaths had been minimal, we had obviously overestimated the need.

Then in 1991, I came here for an assessment and we travelled around Wollo, Tigre, Gondar and other areas with checklists of questions to ask farmers on the way. And what these questions really demonstrated was that over the years, these farmers had run down their stocks. We would ask them how many livestock they had fifteen years ago, in 1976. And the answer would be, "Well, I had 10 cattle, 25 goats, and 2 chickens." And then gradually over the years, they sold them off, so that they were down to perhaps one ox and a goat. It was also clear that different agencies operating in those areas had

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different cutoff-points for including those people in relief programs. For most agencies the cutoff-point for receiving food aid was two large animals. But there were one or two that cut you off if you had any live animal at all. If a farmer was down to one male goat, he was in a difficult position to recover his herd. I tried to find out from these agencies why they had set these levels and the answer was resource constraints. The agency which set the level with no animals had to do it because it didn't have enough resources to cover all the people in this area who needed food, so they tightened the targeting criteria, and the answer to the donors was that people had survived previous droughts, which were under resourced, by de-stocking. This made them more vulnerable to future droughts and made recovery more difficult.

There can be other problems in targeting. For example, how do you target for a situation, perhaps in Rwanda, where you have refugees, internally displaced people and non-displaced people. What does one do in that kind of situation? Zimbabwe provides another kind of lesson, of a failure of targeting. During the drought of 1992, the government found it politically impossible to target. They preferred to identify an area and then give everyone in that area a small amount of food.

Successful self-targeting

It is one thing to establish targeting criteria, but it is quite another to actually get food to the target beneficiaries. Botswana is an example of a success story. They have had a unique program involving cash for food, i.e., monetized food aid with the wage rate set below the minimum wage, self-targeting in other words. Self-targeting was also used in Zambia where they used "unpopular" grains like sorghum or low quality yellow maize.

The importance of household and market surveys

In Bosnia, we have benefited greatly from regular household and market surveys that were undertaken with some difficulty. These gave us a lot of information about alternative means of support. How did these people survive? Were they getting money from their relatives? Were they selling off their possessions? It's really important to understand the coping mechanisms, as they impinge on targeting.

Conclusion

Thus the key points are: first, the targeting continuum as an organizing principle, including assessment, distribution, monitoring, and, second, a need for all to agree and to adopt uniform standards. Also, as mentioned earlier by David Piraino, we now have developed with CRS a new understanding for what we see as a commonly agreed upon methods for improved food distribution and distribution of responsibilities. And we are going to extend this now in our discussions with Save the Children, World Vision, CARE and other agencies.

USAID ETHIOPIA: EXPERIENCE ON INTEGRATED COUNTRY STRATEGIES

Walter North

Mr. Walter North is Deputy Mission Director at the United States Agency for International Development, Ethiopia Mission.

It is rather stimulating to follow this string of distinguished speakers. I will just say that anyone who is engaged in development in Ethiopia shares Micael Negusse's perception that there is indeed hope for Africa. Ethiopia is a beacon for a better future not only for Ethiopia itself but also for the Horn of Africa.

The comments that follow are my own. I was asked to talk about how USAID/Ethiopia successfully integrated food aid into its development program. To suggest that we have successfully integrated food aid resources presumes that somehow we have done so. In Ethiopia we have tried to do so but I am not sure we have succeeded. The basic point of this presentation is that unless the cash, food, and intellectual resources are all there, and we ask and answer the right questions, some of which are very difficult, this kind of integration will not happen.

The developmental challenges of food aid

Real integration of our developmental assets in a cost-effective manner to promote food production and improve household nutrition in Ethiopia has not been easy. Food aid is really not the preferred option for development. Food is a tangible good, is hard and expensive to move around, requires protection, is highly vulnerable to fraud, waste and abuse and can have unintended, deleterious development impacts. Equally frustrating, the way in which we in the U.S. government administer it is marked by some of its least attractive aspects. The approval process is cumbersome, authorities for it are diffuse, we don't treat or look at it as an economic good, we lack field flexibility, and we tend to ghettoize it organizationally. Moreover, we are required to program most of it through expensive quasi-independent intermediaries--the NGOs--in ways which can decapacitate host country institutions, and be at cross-purposes with country strategies, both ours and those of host country governments, and sound development principles. Finally, we aren't really required to look rigorously into what is being done with food aid and what it has accomplished. Many of these constraints play themselves out in spades in the Ethiopian context. Despite them, we are making progress in integrating development and food. Let me quickly recapitulate how we got to where we are and where that is.

U.S. humanitarian assistance in Ethiopia before 1991

USAID only got reengaged in development in Ethiopia in 1991, after the *Dergue*, the previous Marxist Government, fell. There was already a small office here, but it had been working exclusively on emergency humanitarian assistance since 1984. From 1984 - 91, we provided about 1.2 billion dollars worth of humanitarian assistance to Ethiopia. Almost all of that assistance was programmed through NGO partners, most of whom only became active in Ethiopia during and after the 1984 famine. After the worst of the '84-'85 famine period, there was a recognition that Ethiopia's food vulnerability was immense and likely to get much worse--bad economic policies, bad weather, more mouths to feed and war. The extent of this looming calamity was crystallized in a report commissioned by the then AID Representative in Addis, Fred Fischer, in 1985. That report estimated that within about five years Ethiopia would have a structural food deficit of a million tons. Unfortunately, that report was correct.

In light of the adverse relations between the U.S. and the *Dergue*, it wasn't possible for the U.S. government to do development here. Indeed, it was often nearly impossible to even get the *Dergue* to let the donors feed Ethiopia's people. Given that reality and the likelihood of the recurrence, on a large scale, of a food emergency, the U.S. enabled a group of NGOs to establish regular Title II programs in vulnerable areas of Ethiopia. This kept a network of sentinels in place to sound the alarm if famine loomed again since we didn't trust the government to do so. Very quickly those regular programs grew and over time they took on a more developmental character. Intermittently, and in 1988-1991 in particular, there was a surge of emergency requirements. This network of NGOs proved itself to be efficient, creative and timely in beating a very challenging humanitarian crisis. At the same time, there was a parallel shadow

exercise which was ongoing with the relief wings of the insurgent movements. In any case, by the end of the *Dergue*, the USAID office was managing this humanitarian program in a close, and I think, collegial partnership with the NGOs--partly emergency assistance, and partly regular food aid assistance. Average annual expenditures under this approach were about 100 to 150 million dollars a year.

"Back to the Future" - a new USAID development strategy for Ethiopia

In May of 1991, the *Dergue* was replaced by a Transitional Government, and in September a high-level U.S. team recommended getting back into development in Ethiopia. By 1992, the Mission was starting to get in place here, with several bridging activities in AIDS prevention and control, democracy and governance and economic growth. These activities were put in place to buy time for the iteration of the new strategy. That strategy, "Back to the Future," premiered in Washington in the spring of 1993. It called for a program with four strategic objectives, with a focus on the target of opportunity. The objectives were to increase food production, improve health and population activities, provide better and more basic education and promote democracy and governance. What was called a target of opportunity was a timely response to humanitarian crisis. We recognized that Ethiopia, even with the best of policies and the best of intentions, is still tremendously vulnerable and will be for some time to come.

Food security emphasis

Given where we are coming from and where Ethiopia is, it is natural and imperative that the heart of our program is food security. It was also natural that we drew heavily on NGOs for the development of the new strategy. At the same time we challenged the NGOs to rethink how the regular and emergency food components of their programs could make a difference in a new Ethiopia. Rightly, they reminded us that they had been doing development in Ethiopia for almost a decade with our food, but the shift gave all of us a chance to rethink what we have been doing and could do. We tried to send similar messages to Washington. For example, making it easier to use emergency food for development-like uses; get emergency and other food aid approval processes more concurrent with each other rather than going through separate channels. At the same time, we were getting help from the new government itself which expressed concern about what they saw as a dependency created by food aid, and they wanted to end free food distribution in emergency programs. In the wake of economic reform programs, and Ethiopia's agrarian background, they were also committed to putting in place safety nets in rural and urban areas.

Integrating food aid into the new development strategy

In the process of preparing the new strategy, we recognized that we needed to take a closer look at the food component of the portfolio. In the Fall of 1993 we asked a team, led by John Flynn of REDSO, to look at these issues. They came up with a number of good recommendations about how we could fine tune our regular emergency programs. They set some aspirational targets for decreasing the share of overall resources which went to emergency efforts and free distributions and partly as a result of this, we increased the size of the regular programs and began to look at them more developmentally, but probably not as much in economic terms as we should have. This whole process got plugged back into the development of the "Back to the Future" strategy and we had vigorous discussions about how we would actualize all this intellectual discussion. The articulation of this effort is found in our new food security action plan, which was presented in Washington in December of 1994.

The role of DFA, Title II, and Title III resources

Essentially, the strategy calls for using DFA assets to make investments in crop systems with a high potential for increased production so that you get more food into markets, more money into farmers' pockets and create more jobs. At the same time, we recognize that massive food shortages are going to recur and there were and are many areas of Ethiopia which are acutely vulnerable and the people who live there need to survive. To buy time for a growth strategy to work, the needs of those groups could not be ignored, a familiar case of making tradeoffs between equity and efficiency.

Title II and III food aid programs would therefore be integral parts of the new country strategy. Regular Title II programs would be used for asset and capacity building in selected vulnerable areas. Emergency programs would be used for the same purposes, if possible. We recommended using a new Title III program for two purposes. At the policy level, to look at ways to better understand grain markets and

perhaps help government find ways to buffer price shocks and secondly, to accelerate progress on more effective targeted safety net programs. We contemplated using the actual commodities under the new program to support those safety nets, to alleviate emergency requirements in some years and to create emergency and possibly market buffer stocks.

Open questions

In developing this approach, some serious questions emerged, most of which we are still working on:

- **Food aid composition.** Is the commodity composition of our food aid, primarily wheat, still appropriate, or would a commodity like sorghum be better? Is it a disincentive in concert with the wheat that other donors import? Is it really helping or reaching poor people? (Indeed, we have already adjusted our commodity mix because of these kinds of considerations and started to use more sorghum and maize.)

- **Cost-effectiveness of safety-nets.** How effective are the currently planned safety nets and at what cost? We've looked a lot at where they are targeted. We haven't looked at whether this is the most cost-effective way to put safety nets in place. We need to do more analysis.

- **Targeting.** Are our emergency programs well targeted? As David Morton pointed out, while we are good at geographical targeting, we are not as good at targeting the households that should get food aid within those areas.

- **Cost-effectiveness of food-for-work.** Is the attempt to end dependency by emergency food-for-work approaches really cost-effective? Since human and financial capital in Ethiopia is limited would money spent creating good food-for-work projects in poor areas be better spent in high potential areas, this is a crucial question.

- **Title II program performance.** How effective are our Title II programs technically and economically? For example, we have done some analysis of the natural resources components of our Title II programs and come up with mixed results. But we cannot always only look at the cost-effectiveness of those approaches. We have to look at other critical questions. For example, are the programs de-capacitating the needs of the Government of Ethiopia's ability by poaching staff? NGOs in Ethiopia are the largest source of non-governmental employment. It is an issue that we have, in fairness to our Ethiopian colleagues, started to wrestle with. Are these programs, e.g., the NGO programs, in sync with our strategy? We recently found that several NGOs are doing micro-credit schemes. But several of those schemes, while well intentioned, were not in concert with AID policy or the best practices in successful credit programs.

- **Nutritional capacity at regional and national level.** In Ethiopia today, for example, we found the nutritional levels of children declining even in the highest surplus areas. Why is that happening? What, if anything, should we be doing to increase the government's capacity in food programming and management, especially for emergencies. And if we do something with the government, how can it take account of the needs of the different regions. Regionalization is a pervasive theme in Ethiopian political life.

Conclusion

When we went to Washington in December of 1994 to present our new food security action plan and to request Washington support for this plan, we discovered we were a bit naive. The plan outlined a melded use of DFA, Title II and Title III resources. But people didn't really want to talk about the substance of the proposed program. Mostly they wanted to talk about money and the lack thereof, and food and the lack thereof. When we got to Washington we were told, basically, that Title III was history, and that side of our planned intervention would have to be taken care of by unidentified donors. Likewise, we were told, that there really was not going to be much money for agriculture. Nonetheless, Marty Hanratty and others in the Mission are working with our NGO colleagues and people in the government to come up with a more modest approach. We went in with a package worth more than $250 million and left with a package worth about $50 million. We have had some inquiries from the European Union about collaboration on food security but they think we still have assets. It remains true though, that we still probably get treated better than most Missions: at

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least we still do have a Title III program. Internally, food aid has not been reengineered enough to be truly called user friendly and I hope that this workshop will come up with some ways to overcome these problems.

Despite its awkward qualities, there is potential to integrate food and financial resources, especially in a situation like Ethiopia. We finally have peace in Ethiopia, after more than a generation of lost opportunities, we have a committed and honest government, and we have the chance to start the long process of turning things around. But it can't be done with virtual resources. In short, with real food and dollar resources, it should be done and it could be done. There is still hope.

COST-EFFECTIVENESS OF TARGETED FOOD PROGRAMS IN BANGLADESH

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Prepared for Making Food Aid Work for Long-Term Food Security: Future Directions and Strategies in the Greater Horn of Africa, *a workshop organized by USAID/BHR/FFP, USAID/AFR and the International Food Policy Research Institute (IFPRI), March 27-30, 1995, Addis Ababa, Ethiopia*

INTRODUCTION

While Bangladesh is on the verge of attaining "self-sufficiency" in rice production, about half its population lacks access to enough food due to inadequate purchasing power and thus remains undernourished. In the long run, these poor families require increased employment and incomes to ensure adequate food intake. Consequently, any long-run solution to undernutrition will require widespread, labor-using economic growth.

In the interim, targeted intervention programs may provide needed income, and thereby, improve food consumption and nutrition of the poor. Since the need overwhelms available resources, government and donors should carefully target short-run relief to the people, locations, and seasons where it will achieve maximum impact. This brief summarizes the results of recent IFPRI studies on targeted food interventions in Bangladesh.

WHO IS AT RISK?

- The households most vulnerable to inadequate food intake belong to occupational groups of landless day laborers, fishermen, and boat pullers.
- Although located all over the country, they are geographically concentrated in urban slums, and in flood-prone rural areas--particularly zones affected by land erosion along the major river banks.
- For these people, hunger is particularly acute during the September-October lean season, when food prices are high. The absence of employment before the Aman rice harvest makes hunger during this season especially acute, particularly for the rural landless who depend on wage labor for their income.
- Within these vulnerable households, pre-school children, and pregnant and lactating women face the greatest nutritional risks.

WHAT DO THE FOOD-INSECURE NEED?

Access to food. Poor households cannot afford to buy enough food to meet their nutritional requirements. They will continue to suffer from malnutrition unless their purchasing power increases. In the short-run, a targeted transfer of either food or income can enhance their ability to meet their nutritional requirements.

Sanitation, and disease prevention. Undernutrition weakens body resistance and predisposes vulnerable groups to disease. In turn, disease and poor sanitation contribute to undernutrition by lowering the body's capacity to absorb nutrients from food. Thus, disease prevention, and improved sanitation will increase the cost-effectiveness of targeted income transfer programs in improving the nutritional status of vulnerable groups.

Improved caring behavior. Household access to food, although necessary, is not sufficient to eradicate nutritional risks confronted by vulnerable individuals within the household. Studies in Bangladesh indicate that malnutrition remains a problem for vulnerable individuals even within relatively well-off households. To improve balance in intra-household nutritional status, some modification of current caring behavior will be required. The gains from improved household food security, and developed health and sanitation facilities at the community level can be effectively brought to children and other vulnerable household members by proper caring practices.

COST-EFFECTIVENESS OF INCOME TRANSFER PROGRAMS

- This brief focuses on the targeted income transfer programs in Bangladesh. These programs include: the former Rural Rationing (RR) program, the Vulnerable Group Development (VGD) program, the Food For Work (FFW) program, the Rural Maintenance Program (RMP), and the innovative Food For Education (FFE) pilot program. Cost-effectiveness for each program is measured by the cost of supplying 1 Taka (Bangladesh currency) of income to a target household. Any pilferage or leakage represents a system loss which is deducted from the income benefit.
- Among the existing programs, RMP, FFE, and VGD transfer income to poor households at least cost. RMP, a "cash for work" scheme, delivers Taka 1 income to target households at a cost of Taka 1.3--the lowest cost of all. FFE and VGD transfer Taka 1 of income at a cost of Taka 1.6. RMP lowers cost by operating at close to zero leakage, and by avoiding the cost of commodity handling. FFE and VGD operate with low leakages by empowering their recipients.

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- In contrast, the former Rural Rationing (RR) program proved to be the least effective at directing income to vulnerable households. It operated with enormous rates of systems leakage (70%), and bore the high costs associated with handling commodities. As a result, the system required Taka 6.6 to transfer Taka 1 to a target household. For these reasons, the system was abolished in 1992.

- The intermediate performer is the Food For Work (FFW) program. Because of moderate system leakages, and because it bears the cost of commodity handling, FFW transfers Taka 1 to a poor household at a cost of Taka 2.6. It is important to recognize that these calculations evaluate RMP, VGD, FFW, and FFE purely as vehicles for targeting income relief. Development impact and costs are not accounted for in these calculations.

- A principal conclusion of this review is that food is a cumbersome resource, while cash is more flexible and less costly to manage. Food transfers immediately raise program costs by 25% because of the internal transport and handling costs of these bulky commodities.

POLICY IMPLICATIONS

- To relieve nutritional stress among vulnerable households, targeted income transfers are far more effective than either general or targeted food price subsidies.

- Where cash is available, cash-based programs offer the most cost-effective income transfer mechanisms.

- Where food is transferred, wheat should be distributed rather than rice. Since wheat is an "inferior" grain in Bangladesh, it is "self-targeting" in the sense that only the poor will be willing to accept it. This makes wheat a preferred commodity for targeted food interventions in Bangladesh (other "inferior" grains can play this role in other societies).

- Within households, individuals confronting the greatest nutritional risks require improved caring. The findings of IFPRI studies suggest that VGD, RMP, and FFW programs have been successful in significantly improving the household-level food security, but ha[illegible] little or no impact on the nutritional status of chil[illegible] within households. Currently, programs aimed at targeting vulnerable individuals are less prominent and enjoy far less funding—about one-tenth the amount spent for income transfer programs. An optimal programming mix should involve some combination of income targeting and attention to caring behavior.

- Targeted income transfers are an interim solution to the problem of ensuring household food security. A long-run view of food security improvement needs to be established and institutionalized. Renewed focus on acceleration of agricultural growth with sustainable technology remains a precondition for improved household food security in the long-run. Otherwise, vulnerable households will continue to face employment, income, price and food availability risks.

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ALTERNATIVE APPROACHES TO THE TARGETING OF FOOD SECURITY INTERVENTIONS: Lessons from Ethiopia and India

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INTRODUCTION

One of the greatest challenges faced by policymakers and donors in the coming years will be to design and implement policies to protect gains in economic growth resulting from recent policy reforms, against periodic crises such as droughts and famines.

Food-related crises can impede the success of long-term development initiatives. The US government spent an estimated $730 million successfully preventing the drought in southern Africa from developing into a catastrophic famine. But this sum almost matched USAID's Development Fund for Africa budget of 1992, intended for the continent as a whole.

In the longer-run, it will be successful development as opposed to successful relief that eradicates hunger and the threat of famine. For investments in sustained development to succeed, the immediate threat of acute food crises must be removed. As a step towards investing in crisis prevention, many national governments and donors are seeking to improve their ability to diagnose potential food insecurity problems and to respond effectively; that is, to be prepared for a potential emergency while simultaneously working to prevent it.

Both short-term (relief) and long-term (development) goals, therefore, rely heavily on an improved ability of public sector agencies to diagnose the causes and characteristics of food insecurity for regions and population groups most at risk.

This brief describes the findings of two recent IFPRI research projects, each of which uses new research methods to identify indicators of food insecurity. The first research project uses nonparametric methods to identify indicators of vulnerability to food insecurity in Ethiopia. Vulnerability is then mapped using a geographic information system (GIS). The second research project, from India, also uses maps to identify indicators, but in this case, maps drawn by the villagers themselves. Participatory methods are combined with survey methods to identify indicators of chronic and acute food insecurity. The usefulness of these indicators in targeting food aid is then simulated. Both research projects fall under IFPRI's multicountry program of research on Indicators of Food Security and Nutrition.

1. VULNERABILITY MAPPING IN ETHIOPIA

As an outgrowth of IFPRI's famine research, IFPRI has conducted research that combines a decision-tree model and geographic information systems (GIS) to pinpoint areas in Ethiopia that are vulnerable to food insecurity problems, and to suggest appropriate interventions.

In collaboration with the Ethiopian early warning and statistical services, the U.S. Geological Survey and USAID's Famine Early Warning System, IFPRI has developed a way to structure district-level data to develop indicators that classify rural populations in terms of their potential need for food assistance. The system could help to target both food relief and development assistance such as employment-based public works programs that yield long-term benefits while alleviating short-term food crises.

Famine vulnerability is not solely due to supply collapse; rather it is the outcome of interacting processes of food supply, market performance, and the purchasing power of the poor. Since vulnerability has no single defining characteristic, indicators of vulnerability are typically constructed from a mix of proxy variables.

Identification of indicators - CART analysis

But how to choose the core group of indicators that best explain the vulnerability? As a complement to the process whereby indicators are identified for a single location by local experts, the identification of indicators by the classification and regression tree model (CART) is a useful refinement of national-level indicator selection methods. The CART analysis chooses the set of indicators that best explain the variation in our measure of vulnerability - the number of "people in need" as defined by the Ethiopian Relief and Rehabilitation Commission (RRC).

In the first step, the CART rule chooses the indicator that best reduces the variation in the number of people in need across the 77 (pre-1987) awrajas (third-order administrative units). Thus, the two new groups of awrajas are less heterogeneous than the initial group. Each of these two groups is then split into two further groups by indicators 2 and 3. The tree keeps on bifurcating until it is impossible to create a more similar group of awrajas than the last group created.

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The classification and regression tree model has previously been used only at the household-level. In Ethiopia, data for 77 *awrajas* over 7 years (539 observations) has been compiled on 98 potential indicators including satellite vegetation indices, crop yields, oxen ownership, cereal/livestock terms of trade and average household size to help predict the rural population's need for food assistance.

Indicators identified by CART

The regression tree analysis shows that 9 variables out of 92 considered accounted for 61 percent of the sample variance. The 6 indicators found to be most useful in explaining the percentage of 'people in need' across space and time were:

- sharp declines in satellite vegetation indexes (NDVI)
- low terms of trade between maize and sheep (high relative price of maize)
- high variation of dry season vegetation index,
- high road density per kilometer,
- hectares per capita under annual crops,
- small average household size

These variables provide powerful insights into the distribution of need. However, the findings should not be read as an argument that the remote monitoring of single indicators such as the NDVI, crop production or infrastructure development is sufficient for early warning purposes. On the contrary, this analysis shows that vulnerability is best explained in terms of composite groupings of indicators that vary considerably both in geographic and temporal terms. The characteristics of small geographic units need to be better understood in relation to context-specific combinations of vulnerability indicators.

Implications for food security interventions

Early warning is only as good as early (and effective) action. Methodological improvements in early warning have limited value if they are not tied to improvements in country and donor capabilities for timely response. That is why this report has tied a preliminary analysis of the underlying causes of vulnerability at household and regional levels to a brief description of the current and potential role of employment programs in addressing the causes as well as the symptoms of vulnerability.

A wide range of project interventions are possible for addressing the characteristics of vulnerability identified above. These range from short-term feeding programs and food aid distribution to longer-term activities based on investment in education and farm technology transfers. None of these is mutually exclusive; like the components of a household coping strategy, the many parts of a public strategy are integral to overall security objectives. As a result, improved food security in Ethiopia, as elsewhere in Africa, is likely to be secured through a location-specific mix of several policy and program instruments. This report focuses on just one such intervention; namely, labor intensive employment programs.

The location of labor-intensive public works

Ethiopia has committed itself to a disaster management strategy that bolsters development investments by mobilizing the country's labor resources. Already able to claim Africa's most extensive experience with employment programs, the government plans to implement a national employment-based safety net to operate in conjunction with World Food Programme's largest food-for-work activity in Africa and further smaller projects supported by over 15 nongovernmental organizations.

When the location of labor-intensive employment projects is mapped, particularly in relation to major classifiers of people in need, several important points emerge. First, the country-coverage of employment programs is broad, and at first site appears to match "need" fairly well. For example, there are significant project concentrations in Wollo, northern Shewa and Wolayta where high numbers of people in need are to be found. This is interesting since few such projects describe targeting the needy as a primary concern.

However, coverage is not strong for all areas of potential vulnerability as defined in a preliminary way through this analysis. There is a marked lack of public works activity in some highly vulnerable awrajas of eastern Gonder, eastern (lowland) Wollo, parts of southern Omo Gofa and Sidamo and central Hararghe. This argues for closer scrutiny of the geographical positioning of employment programs if improved food security through interventions in the labor market is to be a serious public goal. It also requires closer analysis, by year and season, of the quantity of employment offered by project in relation to the distribution of need within vulnerable awrajas.

Second, the characteristics of vulnerability for many awrajas in which employment programs are implemented vary considerably. Some are more deficient in road infrastructure than others, some would benefit more than others from improved market access and/or price stabilization, some are more prone to drought than others. Thus, further analysis of the constraints facing different groups of vulnerable awrajas, and of most vulnerable households within those areas, holds potential for planning alternative interventions to improve their responsiveness to local need. The final choice of activity on the ground must, however, be made in association with prospective participant communities.

Reference: Webb, P., E. Richardson, S. Seyoum, and Y. Yohannes. 1994. *Vulnerability mapping and geographical targeting: An exploratory methodology applied to Ethiopia.* Health and Human Resources Analysis for Africa Project. Report to USAID. International Food Policy Research Institute, Washington, D.C.

2. IDENTIFICATION OF INDICATORS OF CHRONIC AND ACUTE FOOD INSECURITY IN INDIA

This study was designed to identify effective alternative indicators of chronic and acute food insecurity. A need for alternative indicators exists since many conventional indicators (such as household income or dietary intake) are often too cumbersome to be of practical use in food aid targeting, nutrition monitoring, and intervention evaluation systems. The alternative indicators should be statistically reliable, yet straightforward to collect and analyze.

The search for indicators: qualitative and quantitative approaches

To identify alternative indicators and to field-test their validity and reliability, qualitative and quantitative data were collected over three rounds in 1992-93 from 324 households in south-central India. To establish a food security benchmark against which to test the alternative indicators dietary recall data were collected. The dietary data were used to identify households as chronically or acutely food insecure.

Alternative indicators of food insecurity were tested against this benchmark. Alternative indicators tested include household size, number of unique foods consumed and frequency of food purchase. The alternative indicators are drawn from a set of biological and socioeconomic data that is typically collected by international or national research stations. Additional alternative indicators were collected, based on a review of the food security literature and on extensive qualitative work in the study sites.

Indicators identified

Indicators that were successful in identifying chronically food insecure households include:

- high household dependency ratio
- village the household is located in
- household contains at least one child with diarrhea
- household purchases many foods on a daily or weekly basis
- household purchases grain daily or weekly
- poor quality of drinking water in summer
- households frequently substituting oilseeds for oil
- households containing working women who have young children
- households with a high dependency ratio & a low number of owned plots
- households with a high dependency ratio & a low number of good quality plots
- households with a high dependency ratio & a low number of agricultural wage workers in household
- households with a high dependency ratio & a low number of income sources in household
- households with a high dependency ratio & and have taken a food loan within last 4 months

Indicators that were successful in predicting a decline in household food security from one season to the next (acute food insecurity) include:

- village the household is located in
- households frequently substituting oilseeds for oil
- households that consumed a high number of foods from gifts
- households that consumed a high number of foods from stocks
- households that made many weekly food purchases
- households that had a high total value of foods eaten from in kind sources

Performance of indicators in targeting

Could the household-level indicators above be used to rank villages or regions in terms of levels of food insecurity? If so, household-level food indicators can be used to target food aid at more aggregate levels. Sixteen indicators were examined for village-ranking ability. Of these, nine indicators proved to be successful at identifying the villages most in need of a food security intervention.

Furthermore, the potential savings associated with using an indicator to target food aid were simulated by simulating an indicator-targeted food distribution as compared to untargeted food distribution. Sixteen indicators were tested. The potential calorie savings from targeting using the indicators was up to 40 percent of the initial calorie transfer.

The importance of participatory methods

For the purposes of developing indicators of food insecurity, our experience indicates that participatory methods are more flexible than survey methods, more respectful to local knowledge, and quicker for establishing rapport between investigators and villagers. They are more likely to result in location-specific indicators and are therefore more appropriate for use by community based NGO's rather than national data collection agencies. Participatory methods we used did not save much time in the field, but did save time in data entry and analysis. Finally, we must add that despite our best efforts, the research-based participatory methods were no more empowering for the villagers than our survey methods. This is more a testament to the objective of pursuing a predetermined research agenda rather than a failure of participatory methods per se. Our experience leads us to believe that qualitative techniques are most participatory when employed in action-orientation interventions.

Operational significance of study

The results from this study indicate that targeting with alternative indicators may be viable at the community, household and individual levels. Targeting at the household and individual level is likely to be a component of an NGO's programming activities. For international and national development agencies, however, a more aggregate level of targeting is more likely to be feasible. Our results indicated that village level indicators were often the best indicator for

identifying the food insecure. The question remains as to how to identify the most deserving villages. This study illustrates the potential for using household and individual level indicators to rank villages according to their food insecurity status. The next step, therefore, is to try the same ranking exercise with a much larger set of villages, ideally one that is more nationally representative. Fortunately, many of the alternative indicators used for the village ranking exercise can be derived from existing data sources in India.

Generality of results

How useful are these indicators outside of the study area? First, most of the alternative indicators we identified can be collected in many settings. Few indicators were unique to the study area. This implies that our indicators may be tested in other locations and perhaps used for targeting and monitoring, although their success in identifying the food insecure is not assured. Second, some of the indicators we identified are comparable to indicators identified in a similar, but less extensive, analysis of secondary sources of household data earlier on in the project. Indicators that both studies identified includes: high dependency ratio, high percent of preschoolers in family, region, and poor quality water.

Reference: Chung, K., L. Haddad, and J. Ramakrishna. 1994. *Alternative approaches to locating the food insecure: Evidence from South India.* Report to USAID Office of Nutrition for IMPACT Project. International Food Policy Research Institute, Washington, D.C.

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EMPLOYMENT PROGRAMS FOR FOOD SECURITY IN SUB-SAHARAN AFRICA

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Prepared for Making Food Aid Work for Long-Term Food Security: Future Directions and Strategies in the Greater Horn of Africa, *a workshop organized by USAID/BHR/FFP, USAID/AFR and the International Food Policy Research Institute (IFPRI), March 27-30, 1995, Addis Ababa, Ethiopia*

INTRODUCTION

Employment programs, particularly labor-intensive public works (LIPW), have a long history in Sub-Saharan Africa. These programs date back to the 1960s in East and Southern Africa, for example, in Ethiopia, Kenya, Botswana and Zimbabwe. Senegal, Mauritania, and Mali in West Africa have also experimented with them since the 1960s. The programs expanded rapidly in the 1980s in several African countries, especially in countries that experienced sharp declines in employment and real wages. LIPW programs also expanded in Southern African countries during the drought of the early 1990s.

Such rapid expansion of public works programs has been mainly driven by concern with the increased problem of labor absorption, particularly growing unemployment and underemployment, and associated widespread poverty and food insecurity. Policymakers and donors promoted these programs with the aim to protect poor and vulnerable people from policy and weather-induced employment and income shortfalls. For example, public works programs were expanded to serve as drought relief intervention in Ethiopia, Botswana, and Zimbabwe in the 1980s and early 1990s. These programs were also integrated into structural adjustment to act as a social safety net (for example, AGETP in Senegal, PAMSCAD in Ghana, NIGETIP in Niger).

The demand for LIPW is bound to remain high in Sub-Saharan Africa because of the increasing trend in poverty and food insecurity. Also, the favorable cost advantage in terms of the declining cost of labor relative to capital is making labor-intensive technology viable on both financial and economic grounds. In addition, the need for investment in infrastructure and direct productive assets is substantial to meet the demand for rapid economic growth and development.

THE FOOD SECURITY LINK

The link between employment programs and household food security is manifested in three types of benefits. First, labor-intensive public works programs contribute to an increase in the level of income stream (growth effect). In the short term, this accrues mainly to workers in the form of increased net employment and wage. In the long term, this is generated through benefits associated with created assets and labor market effect on wages.

Second, these programs contribute to income and consumption stabilization (for example, access to seasonal employment contributes to the stabilization of seasonal employment, income and consumption fluctuations). Such a stabilization effect is particularly critical for the poor since it prevents households from engaging in undesirable or destructive resource utilization (such as liquidation of productive assets, distress migration, and severe reduction in food consumption).

Finally, when access to public works is guaranteed, through employment on demand, public works schemes provide a crucial element of risk insurance. The key lesson from the experience of the Employment Guaranteed Scheme (EGS) of India is its flexibility to provide guaranteed employment on demand.

When these benefits are targeted to the poor, the work schemes contribute direct to poverty reduction and improved food security. How much these programs improve income and food security of the poor depends on: (1) the size of the program and its ability to supply work on demand; (2) the extent of participation of the poor; (3) the magnitude of the substitution in employment and income sources, which determines the net effect of income; and (4) the food acquisition and consumption behavior of the participants. The food security impact will be much greater on households that are income-constrained, and the margin for consumption adjustment through increasing share of income allocated to food, shifting from high-cost to low-cost diet, and re-allocating distribution of food within households is limited.

AFRICAN EXPERIENCE IN THE 1980s

These programs tend to share a common set of objectives: (1) employment creation for unskilled labor, particularly in rural areas; (2) generation of income; and (3) creation of assets. However, the programs vary in terms of their emphasis on asset creation and income transfer across and within countries. In a crisis situation, the emphasis is on income transfer with little consideration for sustainability concerns. While the types of assets created

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are varied, most of the programs fall into a few categories—rural road projects (Nigeria, Kenya, Tanzania, and Botswana), irrigation (Zimbabwe), and resource conservation and afforestation (the Sahel countries and Ethiopia). With some exceptions (such as urban projects in Senegal, Niger, and Mali), these projects are rural based.

Typically, policies designed to promote labor-intensive public works set a high labor-capital ratio to ensure that such programs promote employment creation and income transfer. In practice, however, the share of labor cost is much lower. The cost of non-labor inputs is often undervalued in project preparation. Also, the costs of technical assistance and project overheads are quite high in some of the work schemes. The share of unskilled labor costs in Kenya and Tanzania, for example, accounts for no more than one-third of the total cost.

The price of labor is critical in determining factor mix. Wages are often set administratively, or linked to public wage policies. As the evidence from East and South African countries shows, wages are set uniformly across space, time, and workers. Such wage setting implicitly assumes that demand for labor, not supply of labor, is the key constraint to the employment problem in rural Africa. This assumption also contributes to a lack of policy design to synchronize project timing with the seasonality of agricultural works. Such assumption simply fails to recognize that labor markets are linked to agricultural seasons, and participation in project works in peak farm season has a significant opportunity cost, especially for the poor.

Employment in most cases is open to all those able to work. Initially, workers are often selected through some administrative screening. When there is an excess supply of labor, different methods of quantitative rationing are applied (such as random selection through a lottery technique, quota setting by sex, limit on number of participants per household). Recruitment and selection continue at work sites, particularly where there are high labor turnovers.

The role of the public sector in implementing public works has expanded. A number of public works institutions emerged in the 1980s with the active support of international and bilateral agencies and nongovernmental organizations. An increasing emphasis on private-sector participation in public works programs—especially in the Francophone countries of Senegal, Niger, Burkina Faso, and Mali—is evident.

Whereas project choice is often driven by demand, the choice is usually made at the national level through consultation between national planners and donors. Where community-level input is sought, as in the Botswana drought relief program, the provision of technical support to develop viable projects is often weak. This can result in poor project execution and asset maintenance.

REACHING THE POOR AND FOOD INSECURE

Although targeting the poor and food insecure is not often an explicit policy in design of public works, IFPRI studies in Sub-Saharan Africa indicate important insights in short term effects of public works:

- While employment is often open to working adults, the programs self-screen workers largely from households who have a low and variable income and asset base. Households with low asset holdings (for example, livestock in the context of Botswana, and access to land in the case of Kenya) and little access to income transfers (in the form of gifts and cash transfers) are more likely to participate in these works schemes. Within these households, adults with low educational attainment are likely to participate.

- The extent of female participation varies across programs and countries. Female participation, especially single adults, tends to be higher in areas where men have better alternative wage employment. In poor areas, older women with children have a higher propensity to participate.

- Although no explicit targeting devices are built in the design of these programs, factors such as location of projects and wage rate contribute implicitly to targeting the poor.

- The poor, who are dependent on erratic farm income sources, earned considerably more income from public works than did nonpoor households, and relied more on public works to stabilize their short-term food security.

- The evidence is weak on how much such access to employment translates into an increase in income and consumption of the poor. However, studies in IFPRI case countries show some improvement in the income and consumption levels of the poor.

- The effect of these programs on nutritional outcomes is the least established. However, preliminary results from the Botswana study show no significant variation between participants and non-participants.

- Access to public works has the potential to complement private coping mechanisms like access to informal credit markets. Studies from Ethiopia and Botswana show that access to public works serves as collateral substitute for the poor.

- These works schemes do reach only the poor with working adults. The destitute who typically do not have working adults, especially the female-headed households, are not captured in these schemes. Public works programs have to be complemented with other interventions in order to ensure these destitute are assisted.

POLICY ISSUES FOR FUTURE

Programs must reflect objectives. Are they instruments to generate employment to all who seek to work, assuming [illegible] translates into poverty reduction working? Are they a [illegible]-cost method of producing assets? Or, as in the case in some schemes, are they devices for screening and targeting the poor in some areas. It is necessary to clearly define what these programs stand for. It is feasible to enhance the income of the poor in the short term with minimum adverse effects on long-term growth, but the conditions and the type of assets with minimum growth-equity trade off need to established.

This lack of clarity on objectives contributes to ambiguity in the design of programs and policies. For example, the design of wage structures depends on what these programs stand for. If the schemes are considered as means of income transfers to the poor, the relevant issue is where to set wage rates to ensure the poor are screened into the programs. But, at present, the programs share similar design features (for example, they implement a statutory wage, and maintain uniform wage rates regardless of local labor supply conditions, season, and individual characteristics.

The concept of targeting needs to be emphasized. The initial effort could focus on geographic targeting – implement projects identified for low-income areas where the poor are concentrated. Within these targeted areas, targeting could be seasonal. Within a targeted season, [illegible]e rates that screen the poor may be attempted. What [illegible]ge rate to experiment with depends on who among the poor, since the poor are not homogeneous group, are the intended beneficiaries – those close to the poverty line or the ultra poor.

There is a growing realization that a labor-intensive method is technically viable for some class of assets. Additional information is crucial to identify which particular assets satisfy both technical and economic criteria to qualify for such a program. For example, which works are more cost-effective for emergency types of intervention?

The long-term employment and income-creation effects of public works programs are largely contingent on the sustenance of assets. Long-term food security is enhanced where the assets have large employment multiplier effects. Public works programs in some African countries emphasize asset creation, but they fail to include a maintenance component in program design, which results in low survival rates of assets.

Successful expansion and maintenance of these programs require such corrective measures as proper integration of public works programs into national planning frameworks, greater commitment of public funding, sufficient provision of nonlabor inputs, and increased community-level involvement. In addition, it is crucial to build effective monitoring and evaluation components early on to internalize the learning process. The various programs need to identify and establish criteria for success of programs, develop a systematic monitoring and evaluation system, and devise a structured evaluation response procedure.

A high level of public commitment is necessary for the sustenance of public works programs. The key for such political support is to ensure that the choice and size of program are in the context of a sound macroeconomic and development framework. Its importance as an instrument for relief response needs to be set within the broad famine prevention and relief policies of these countries. Otherwise, the current dependence on donor financing and technical support is not sustainable.

In conclusion, labor-intensive public works have the potential to serve as both short-term sources of employment and long-term generators of growth and productivity increases. They can function cost-effectively when they are designed to alleviate poverty and improve food security. This is particularly true if they are combined with other food-security-enhancing policies and projects. The search for the right portfolio of intervention instruments needs to be given much attention among policymakers, donors and researchers.

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COMMITTEE ON WORLD FOOD SECURITY
Nineteenth Session
Rome, 22 - 25 March 1994

ASSESSMENT OF THE CURRENT WORLD FOOD SECURITY SITUATION AND RECENT POLICY DEVELOPMENTS

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countries in Asia, including in Bangladesh where, due to successive bumper harvests and the abolition of a subsidized rural rationing system, traditional levels of stocks are now considered to be excessive. Similarly, in the Philippines the stock target of 1.5 million tons is under examination as food prices have become more stable and infrastructures have improved considerably. In China, where consumer and producer price controls are being relaxed, the Government has announced the setting up of a State Grain Reserve scheme to regulate market prices within a reasonably wide price band through open market stocking operations. In Indonesia, the growing prominence of private sector operations has led BULOG to adjust its stocks downwards.

3.2.4 Household Food Security Index

72. At the 18th Session of the Committee on Food Security, the issue of the ability of the households to acquire sufficient supplies of staple foods to ensure their food security was treated within the context of a technical assessment of progress made in the development of a household food security index[17/]. Based on the recommendations of the Committee, that index has now been extended to incorporate, as far as possible, all of the three elements of FAO's broadened concept of food security, namely, availability and stability of food supplies and access to food.

73. The previous index included only the head-count measure of undernutrition, i.e., the proportion of total population undernourished, which expresses the *extent* or *width* of food insecurity existing in any country. Since it is not possible to obtain current estimates of prevalence of undernutrition for purposes of annual monitoring, the methodology underlying the previous index was designed to relate this aspect of food security to other indicators that were assumed to be proxies for it, yet were readily available on an annual basis. The dietary energy supply and per caput GDP indicators were the two indicators that fell in this category. The third indicator used in the regression model was the Gini coefficient of income distribution, although, of course, this variable, like the head-count index of undernutrition itself, cannot be updated annually for lack of data.

74. The extended index presented in this document includes the prevalence of undernutrition in population, as in the previous index, plus the extent of the food-gap of the undernourished from national average requirements for dietary energy and the extent of the instability in the annual availability of dietary energy. The additional components express, respectively, the *depth* of undernourishment, and, the *degree of risk* associated with temporary annual shortfalls in dietary energy supplies. All the components of the extended index taken together provide proxies for the three elements of FAO's broadened concept of food security, namely, availability and stability of food supplies and access to food.

75. The Aggregate Household Food Security Index (AHFSI) uses the revised methodology for estimating the prevalence of undernutrition in developing regions as its primary building block[18/]. The methodology combines an indicator of per caput food availabilities for human consumption, i.e., dietary energy supplies (DES) measured in terms of kilocalories, with information on the distribution of available food to yield an estimate of the "proportion of the population who, on average during the course of the year, do not have enough food to maintain body-weight and support light activity." In addition, *depth* of undernutrition is measured by an estimate of the food-gap of the representative undernourished from national average requirements for dietary energy, while the *extent of relative* undernutrition is measured by an estimate of the inequality in the distribution of food-gaps.The extended index presented in this document incorporates two additional considerations; the first expressing the extent of risk associated with facing temporary annual shortfalls in dietary energy supplies, capturing the *stability* dimension of food

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[17/]FAO (1993) *Progress Report on the Development of a Household Food Security Index*, Document CFS: 93/2 Sup. 2, Rome.

[18/]FAO (1993) Agriculture: Towards 2010, Document C:93/24, Rome.

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[illegible] in the per capita DES estimates the effects of cereal food aid shipments so that the impact of food aid on the resulting index becomes measurable. In the discussion which follows, and the accompanying tables, food aid is excluded in order to focus on the susceptibility of countries to events which cause changes in the index. However, mention is also made of significant cases in which food aid shipments have augmented the level of the index[20/].

76. The values of AHFSI for 93 developing countries over the 1988-1993 period are presented in Annex Table 4. They range from 0 to 100, with the value of 100 representing a state of complete (risk-free) food security and the value of 0 representing, presumably, total famine. The countries in the table have been grouped together based on the average values of AHFSI for the period 1988-90. The countries have been classified into the various categories based on the natural clusterings of the countries along the number line representing the ordinal scale of AHFSI. The inclusion or exclusion of food aid in practice does not affect this classification. The boundary cut-off value between the categories "low" and "medium" is arbitrary, while there were some distinct breaks between the other categories. Within each category, the countries have been put in alphabetical order. It should be noted, however, that the values of the index for the period 1991-1993 are only preliminary and do not reflect the results of fully balancing the supply utilization accounts (SUA) and, thus, must be interpreted with extreme care. 1991 and 1992 DES estimates incorporate the changes in the production, imports, exports, feed and seed of cereals, pulses, roots and vegetables as compared to 1990, while 1993 estimates incorporate only the changes in production [21/].

77. The grouping of the countries has been validated with information reported in the December issues of FAO's *Foodcrops and Shortages: Special Report* for 1988, 1989, and 1990. The list of countries facing "shortfalls in food supplies requiring exceptional and/or emergency assistance" as contained in *Foodcrops and Shortages* and those included in the "low" and "critically low" food security situation categories of the table are virtually the same (correspondence ratios of about 85%). Although the correspondence between the annual incremental changes in the value of the index and the prospects assessed in *Foodcrops and Shortages* for the 1985-1990 tend to be weaker, this is as expected because the evaluations in the latter are forward looking while the index values reflect *ex post* adjustments that also include estimated changes in national stocks. Moreover, the staple crop coverage in the index is more complete than the early warning assessments made.

78. With the caveats regarding the quality of the underlying data in mind, the values of the 1993 AHFSI calculated for 93 developing countries indicate that the food security status in nearly three-fourths of them deteriorated somewhat when compared to 1992. However, when the 1991-93 average AHFSI as compared to the 1988-90 average base, the areas of particular concern stand out more clearly. Eight countries (Iraq, Jordan, Korea DPR, Mauritius, Morocco, Panama, Paraguay and Trinidad and Tobago) dropped from high to modest levels of food security, while five others (Guatemala, Honduras, Madagascar,

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[19/]The final form of the aggregate household food security index is an extension of the aggregate poverty measure proposed by A. K. Sen, (1976) "Poverty: An ordinal approach to measurement," *Econometrica*, 44:219-31 as presented in D. Bigman, (1993) "The measurement of food security," in P. Berck and D. Bigman (eds.) *Food Security and Food Inventories in Developing Countries*, Wallingford: CAB International, pp. 238-51. It is given by:

$$AHFSI = 100 - [H\{G + (1-G)I^P\} + 0.5\Omega\{1 - H[G + (1-G)I^P]\}]100,$$

where H is the head-count ratio that measures the proportion of the undernourished people in the total population, expressing the extent of undernourishment; G is the food-gap that measures the proportion shortfall of the average DES of the undernourished from the "average" nutritional requirements, expressing the depth of undernourishment; I^P is a measure of inequality in the distribution of food-gaps; and Ω is the coefficient of variation in DES, measuring the probability associated with facing temporary food insecurity.

[20/] Full sets of tables incorporating the cereal food aid element in the index are available upon request. In many countries, the index rises marginally in these tables, although in those countries which have faced sharp declines in its value, food aid has made an important positive contribution.

[21/]The next update of the SUA Domain of AGROSTAT will be undertaken over the next 4 months and will include the years 1991 and 1992.

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Sri Lanka and Suriname), dropped from modest to low levels. What is even more disturbing, seven countries (Haiti, Lesotho, Liberia, Nicaragua, Peru, Rwanda and Zambia) dropped from low to critical levels of food security, although in the case of Zambia, 1992/93 shows significant improvement. It is stressed again, however, that these particular tabulations of the index deliberately exclude the impact of food aid.

79. For all of the above-mentioned 20 countries which have suffered declines in household food security status, the inclusion of food aid in the index did help to ameliorate the situation. However, of those countries which dropped from high to modest status, only in Jordan did food aid ensure continuing high status in 1991-93 (AFHSI of 85.8 against 76.7 excluding food aid). Similarly, food aid ensured that Honduras and Sri Lanka maintained their modest level of household food security and that Nicaragua, Peru and Zambia remained with low, rather than dropping to critical, food security status. For instance, for Zambia the AFHSI, including food aid, was 72.2 in 1991-93 against 62.1 excluding the contribution of food aid.

80. Table 3 confirms that by far the largest number of countries with low or critical levels of food security is in Africa. Of the 34 African countries listed as food insecure, 33 are low-income food-deficit countries. Further, these food insecure African low-income food-deficit countries represent three-quarters of the total number of LIFDCs in the region. In Latin America and the Caribbean 7 out of 10 low-income food-deficit countries are also food insecure. The correspondence between income status and food insecurity in other regions is less striking, as a number of low-income food-deficit countries have nevertheless been able to achieve a medium level of food security through a combination of successful production strategies and commercial imports.

81. The ability of countries with medium or high levels of food security to maintain their relatively satisfactory position through their own efforts has been brought into question during the past three years however. As Table 4 shows, 24 countries in these two categories experienced a deterioration of more than 2 percentage points between 1988-90 and 1991-93 excluding the food aid contribution; in 12 of these countries the 1985-93 AFHSI trend also declined. Furthermore, 14 countries already at low or critical levels in 1988-90 have continued to experience a trend decline; the recent drought in southern Africa and continued civil strife were important contributing factors (see Figures 1 and 2).

82. Of the seven countries classified as having critically low values of the index in 1988-90, none would have been classified differently had food aid been included in the computations shown in Annex Table 4. Only in Ethiopia did food aid substantially raise the AHFSI, from 37.7 to 46.2 in 1988-90 and from 35.2 to 43.7 in 1991-93.

83. Again excluding the cereal food aid dimension, only 10 countries in all categories experienced an improvement in the food security situation from 1988-90 to 1991-93, and of these the trend increased in only 5. Trend improvements for four African low-income food-deficit countries pushed them up from low to medium levels of food security. Nevertheless the overall outlook from this first analysis of the AFHSI is not promising, especially for sub-Saharan Africa, where FAO projections show that chronic under-nutrition is likely to increase. Box 3 summarises FAO's conclusions on the probable food and nutrition situation in developing countries in 2010.

TABLE 3: Countries with Low or Critical Levels of Food Security in 1988-90 or 1991-93

	1988-90	1991-93		1988-90	1991-93
AFRICA			ASIA AND NEAR EAST		
ANGOLA	71.1	73.8	AFGHANISTAN	37.6*	31.2*
BOTSWANA	73.5	64.6*	BANGLADESH	71.6	71.5
BURKINA FASO	68.0	NLFS	CAMBODIA	72.6	69.3
BURUNDI	59.7*	57.8*	NEPAL	72.8	68.0
CAMEROON	73.2	73.5	SRI LANKA	NLFS	73.5
CEN. AFRICAN REP	50.8*	24.8*	VIETNAM	74.5	NLFS
CHAD	44.9*	60.8*	LATIN AMERICA AND THE CARIBBEAN		
CONGO	NLFS	72.6	BOLIVIA	70.6	71.2
FORMER ETHIOPIA	37.7*	35.2*	DOMINICAN REP	73.0	72.9
GAMBIA	72.6	73.7	GUATEMALA	NLFS	70.9
GHANA	69.4	74.4	HAITI	67.3	26.5*
GUINEA	74.1	70.1	HONDURAS	NLFS	74.4
KENYA	68.7	68.2	NICARAGUA	72.1	64.0*
LESOTHO	69.8	61.4*	PERU	69.5	63.8*
LIBERIA	71.9	61.1*	SURINAME	NLFS	74.1
MADAGASCAR	NLFS	73.6			
MALAWI	69.0	67.6			
MALI	70.4	NLFS			
MAURITANIA	73.6	71.5			
MOZAMBIQUE	41.3*	34.5*			
NAMIBIA	69.4	68.6			
NIGER	71.3	NLFS			
NIGERIA	71.5	71.1			
RWANDA	66.3	62.4*			
SENEGAL	74.4	68.0			
SIERRA LEONE	69.5	67.6			
SOMALIA	43.4*	35.8*			
SUDAN	69.7	77.9			
TANZANIA	72.0	67.9			
TOGO	73.2	69.3			
UGANDA	71.2	70.2			
ZAIRE	71.4	69.8			
ZAMBIA	71.4	62.1*			
ZIMBABWE	73.6	67.4			

* Denotes Critical. See Annex Table 4 for the full data set.

NLFS: Food security level not low or critical during the period concerned.

TABLE 5 : Countries where the Food Security Situation Improved by more then 2 percentage points from 1988-90 to 1991-93, by level of AHFSI

	1988-90	1991-93	Annual Growth (%)	1993
HIGH FOOD SECURITY				
BRAZIL	90.8	93.3	nst	90.9
MEDIUM FOOD SECURITY (IMPROVED TO HIGH)				
GUYANA	80.7	91.0	nst	90.4
JAMAICA	76.5	89.1	2.1	82.5
LOW FOOD SECURITY (IMPROVED TO MEDIUM)				
BURKINA FASO	68.0	79.1	2.1	73.9
GHANA	69.4	74.4	1.3	72.5
MALI	70.4	75.8	1.2	73.2
NIGER	71.3	83.4	2.2	75.7
SUDAN	69.7	77.9	nst	73.2
LOW FOOD SECURITY (REMAINED LOW)				
ANGOLA	71.1	73.8	nst	52.1
CRITICAL FOOD SECURITY (REMAINED CRITICAL)				
CHAD	44.9	60.8	nst	49.6

Note: The annual growth rates are estimated by fitting a regression line to the natural logarithms of the AHFSI (1985-1993).

nst: The estimated annual growth rates are not statistically signicant

TABLE 4 : **Countries where the Food Security Situation Deteriorated by more then 2 percentage points from 1988-90 to 1991-93, by level of AHFSI**

	1988-90	1991-93	Annual Growth (%)	1993
HIGH FOOD SECURITY (REMAINED HIGH)				
CUBA	93.0	89.8	-0.5	86.6
LEBANON	93.2	88.5	nst	79.5
LIBYA	94.9	92.6	nst	94.5
MEXICO	88.6	86.0	-0.5	85.0
TURKEY	93.5	87.7	nst	91.8
HIGH FOOD SECURITY (DROPPED TO MEDIUM OR LOW)				
IRAQ	95.7	70.7	-4.0	83.9
JORDAN	91.7	76.7	-4.3	55.7
KOREA PDR	88.9	82.2	nst	73.6
MAURITIUS	84.6	82.3	nst	79.9
MOROCCO	90.3	79.3	nst	64.0
PARAGUAY	89.2	80.9	-1.6	74.4
TRINIDAD & TOBAG	91.7	81.5	-2.0	86.1
MEDIUM FOOD SECURITY (REMAINED MEDIUM)				
COTE D'IVIORE	82.6	77.0	-1.8	71.8
CHINA	82.6	80.3	nst	79.9
COLOMBIA	80.0	77.6	nst	76.4
COSTA RICA	81.7	79.5	nst	74.3
LAOS	84.0	76.4	-1.2	77.6
SWAZILAND	83.9	77.9	nst	71.8
MEDIUM FOOD SECURITY (DROPPED TO LOW)				
CONGO	75.9	72.6	-0.7	70.2
GUATEMALA	76.0	70.9	-1.1	72.0
HONDURAS	76.9	74.4	nst	71.2
MADAGASCAR	76.2	73.6	-1.1	73.3
SURINAME	78.4	74.1	-0.9	73.1
YEMEN	79.3	75.6	nst	73.2
LOW FOOD SECURITY (REMAINED LOW)				
CAMBODIA	72.6	69.3	nst	71.1
GUINEA	74.1	70.1	-1.1	70.3
MAURITANIA	73.6	71.5	nst	58.9
NEPAL	72.8	68.0	nst	67.2
SENEGAL	74.4	68.0	-1.6	69.7
TANZANIA	72.0	67.9	-1.1	67.0
TOGO	73.2	69.3	nst	72.5
ZIMBABWE	73.6	67.4	-1.0	68.5
LOW FOOD SECURITY (DROPPED TO CRITICAL)				
BOTSWANA	73.5	64.6	nst	61.0
HAITI	67.3	26.5	-17.9	28.6
LESOTHO	69.8	61.4	-2.1	58.7
LIBERIA	71.9	61.1	-3.5	55.6
NICARAGUA	72.1	64.0	-2.2	68.4
PERU	69.5	63.8	-1.7	62.5
RWANDA	66.3	62.4	-1.5	57.0
ZAMBIA	71.4	62.1	nst	76.7
CRITICAL FOOD SECURITY				
AFGHANISTAN	37.6	31.2	-6.9	31.4
BURUNDI	59.7	57.8	-2.0	56.4
CEN AFRICAN REP	50.8	24.8	nst	20.6
FORMER ETHIOPIA	37.7	35.2	nst	20.6
MOZAMBIQUE	41.3	34.5	-3.0	34.5
SOMALIA	43.4	35.8	-6.1	37.5

Note: The annual growth rates are estimated by fitting a regression line to the natural logarithms of the AHFSI (1985-1993).

nst: The estimated annual growth rates are not statistically signicant at the 5% level.

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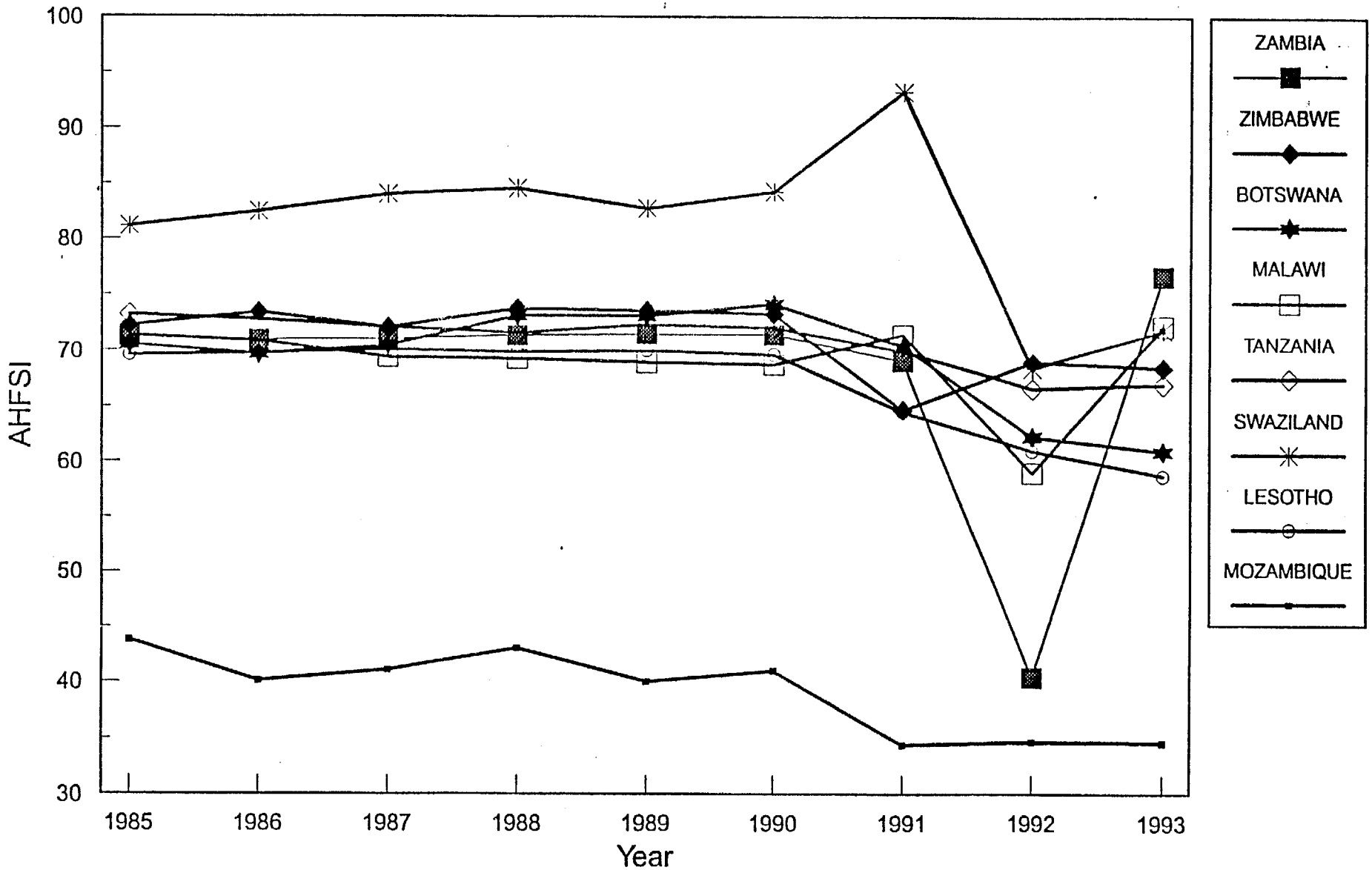
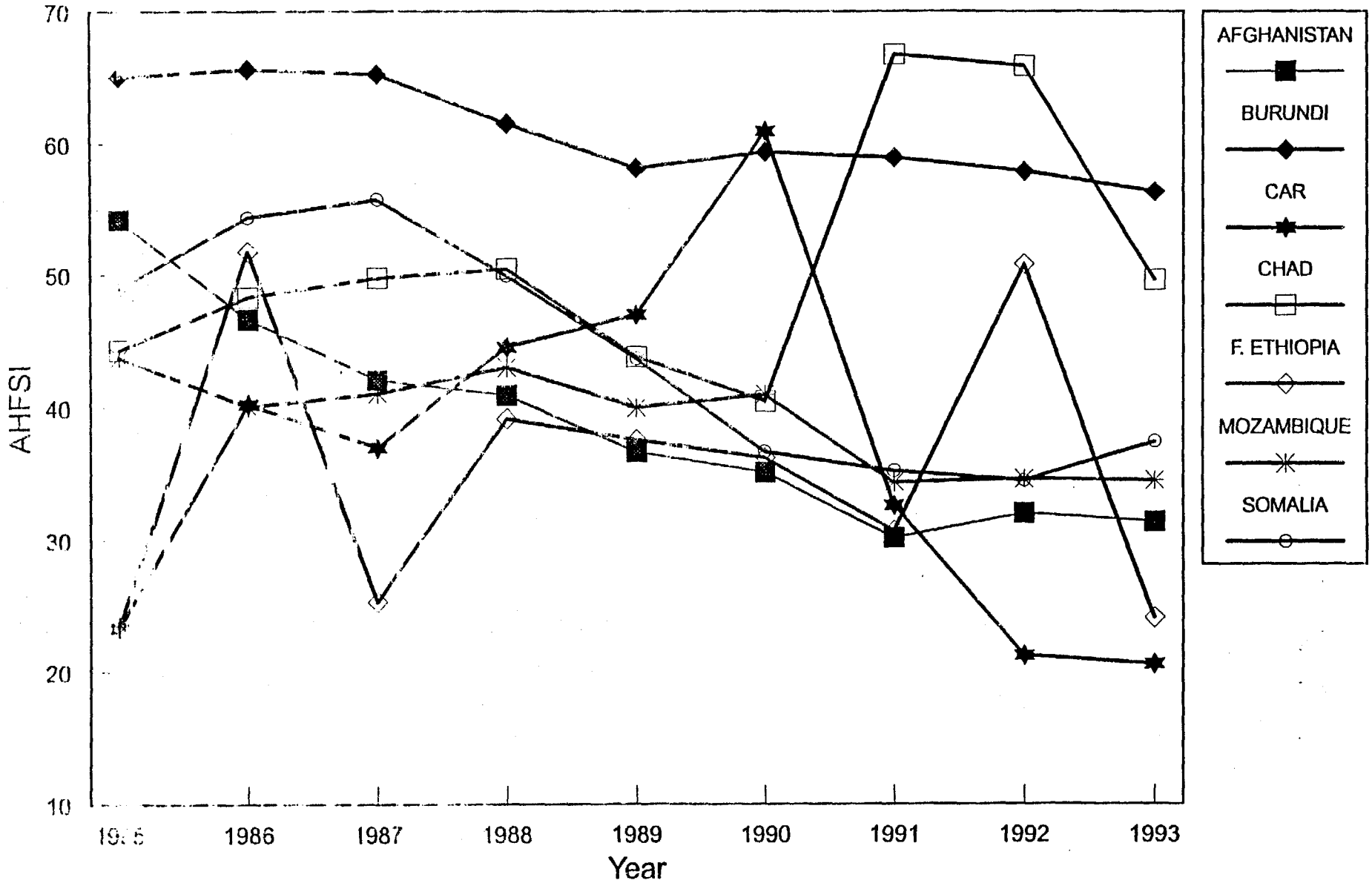
Figure 1: AHFSI and Drought Stricken Southern African Countries



See Annex Table 4 for values of AHFSI

Figure 2: AHFSI - Countries with Critically Low Food Security Status (1988-90)



See Annex Table 4 for values of AHFSI

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84. The evaluation of the household food security situation using the extended aggregate household food security index indicates that:

- A very large proportion of developing countries have experienced some deterioration in their food security status in 1993 compared to 1992, and in 1991-93 compared to 1988-90. Even some which have traditionally enjoyed relatively high food security status, have experienced declines in the production of some staple food crops which are placing greater pressure on vulnerable households.

- Many of the countries having low or critically low food security status are those experiencing continued civil strife or the aftermath of strife.

- Many of the southern African countries which experienced food security problems arising from drought during 1991-1992 seem to be on the way to recovering from the effects of the drought. However, the situation remains precarious for a number of them.

- Food aid has made a notable contribution in some, but not all developing countries which would otherwise have experienced sharp declines in their household food security status.

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Choice of Indicators for Food Security and Nutrition Monitoring

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Choice of indicators for food security and nutrition monitoring

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Traditional indicators of food and nutrition security such as calorie adequacy and anthropometric indicators have been found difficult to incorporate into ongoing monitoring and evaluation systems. This paper develops a conceptual framework to identify and evaluate alternative indicators of food and nutrition security. The results of the empirical analysis of four different data sets show that relatively simple indicators perform well in locating the food and nutrition insecure. The paper makes several suggestions for the choice of indicators for food security and nutrition monitoring in Africa.

Keywords: indicators, food security, nutrition monitoring

The cornerstone of a viable food and nutrition monitoring system is the identification and use of indicators that are valid and reliable and yet are straightforward to collect and analyse. This is one of the lessons derived from the last 10 years of experience with nutrition surveillance (Tucker *et al.*, 1989). More recently results of an inventory of food security and nutrition monitoring systems indicated that policy makers and implementors in developing countries have found many of the recommended 'traditional' indicators difficult to incorporate into ongoing information systems (Kennedy and Payongayong, 1991).

The purpose of this paper is to identify 'alternative' indicators that can be used in food and nutrition monitoring and evaluation systems. The indicators are 'alternative' in the sense that they are potentially less costly to collect and analyse than the traditional indicators.

Food security, as defined here, means the availability of sufficient food at all times for all people in order to ensure an active and healthy life. Sufficient food refers to both quantity and quality needed for good health. The term 'food security' has been used at the national, regional, community, household, and individual levels (Maxwell, 1990). For the purposes of this paper, food security indicators are developed at the household level.

Nutrition security, a less common term than food security, is defined as the appropriate quantity and combination of inputs such as food, nutrition and health services, and caretaker's time needed to ensure an active and healthy life at all

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times for all people. Food security therefore, is a necessary, but not a sufficient condition, for nutrition security. In this paper, nutrition security indicators are developed at the preschooler level.

The remainder of the paper is divided into five sections. The next section discusses the concepts of indicator evaluation, in terms of the costs and benefits of indicator use. The third section describes some potential alternative indicators from the literature; the fourth section discusses the empirical issues for analyses and this is followed by the results of analysis of seven data sets from four countries, comparing traditionally used indicators and alternative indicators. The final section summarizes the results of the analyses and discusses the type of protocol that can be used to test the alternative indicators.

Conceptual considerations

As we are asking the question 'which indicators serve as "good alternatives" to the traditional but less sustainable indicators of food and nutrition security?' we need to specify what we mean by a "good alternative".

The choice of indicators

An indicator may be usefully evaluated in terms of the *costs of non-collection* and the *costs of collection*. The costs of non-collection are essentially the benefits derived from the collection of the indicator. One example of benefits derived would be the fewer number of calories required to achieve a given nutritional objective using an indicator as opposed to not using an indicator. Costs of collection include fixed and variable costs associated with the design, collection, analysis, and sustainability of the data collection effort as well as the costs of acting on the data.

Chambers, whose work in this area revolves around the principles of 'optimal ignorance' (not trying to find out more than is needed) and 'appropriate imprecision' (not measuring more accurately than is necessary for practical purposes), holds the position that the identification and collection of alternative indicators should embody these principles (Chambers, 1990). The 'cost of non-collection' concept embraces both of these concepts because it is related to the collection of information with a purpose in mind, rather than to the collection of data for data's sake.

Figure 1 characterizes some indicators in terms of these two costs. Indicators represented by point A are collected outside the sphere of food and nutrition monitoring efforts; hence they appear on, or close to, the horizontal axis (low cost). This set of indicators could include dependency ratios and household size (demographic), or land owned, wage rates, value of assets and livestock (factor market), and is likely to be collected under a non-nutrition umbrella. Indicators represented by point C represent the dietary (or more generally, proximate) indicators of food and nutrition security. Indicators such as number of foods consumed, number of meals, frequency of foods consumed, and meal consumption orderings within the family may well tell us all we need to know about the state of food and nutrition security, and so the costs of non-collection may be high. In addition, the costs of collection may not be less than the traditional indicators due to less of an emphasis on exact measurement. For indicators at point 0, their non-collection is likely to neither impede nor enhance attainment of nutritional objectives; they are non-functional. Finally, indicators represented by point B are so misleading that they are worse than not having any at all.

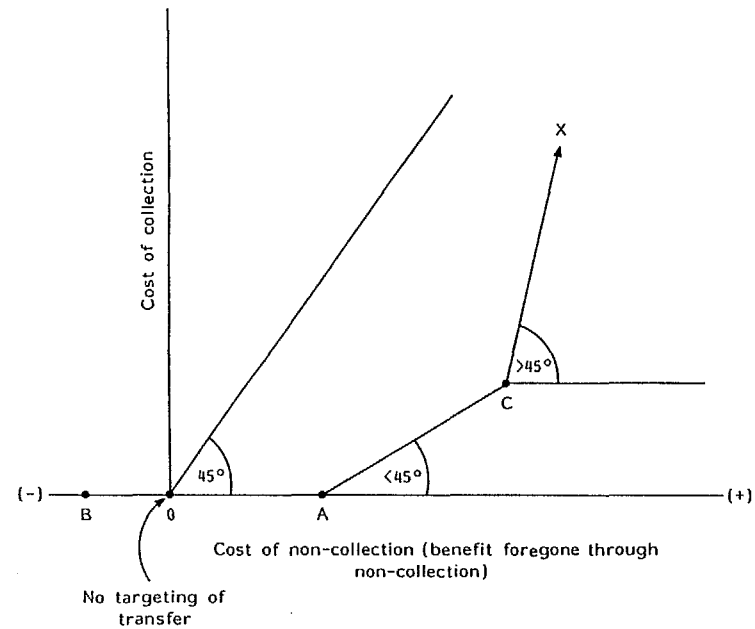

Figure 1 A decision rule for the collection of different food and nutrition security indicators (A, B, C, X)

The choice of which indicators to collect falls under two main scenarios:

Scenario 1 If a country has a functioning surveillance system already in place (at point X, for example) are there indicators on the path between the points 0 and X that have lower collection to non-collection cost ratios and yet have at least the minimum level of validity and reliability?

Scenario 2 If a country does not have a nutrition information system in place, how sophisticated should its data collection effort be? Above or at the minimum level of validity and reliability, the indicator with the lowest collection to non-collection cost ratio should be the *initial* choice. However, note the trade-offs involved in terms of *sequence* of data collection efforts. If some nutrition data collection resources had previously been devoted to collection of demographic/factor market indicators, we would now be drawing our 45-degree line from point A, not from the origin. The decision has to be reformulated based on marginal costs incurred and marginal benefits derived from the collection of data ever closer to representing the 'true' food and nutrition picture.

Measuring costs of collection and non-collection

Using this conceptual framework, how do we actually go about measuring the costs of collection and non-collection? The measurement problems related to costs of collection are considerable (von Braun *et al.*, 1991; Horton, 1990) and are being addressed in ongoing projects at IFPRI. Despite considerable experience in

many countries with nutrition monitoring systems few are able to systematically document the costs of implementing and sustaining these systems (Kennedy and Payongayong, 1991). The costs of non-collection depend fundamentally on society's nutrition objectives and goals, and its sensitivity to undernutrition. Recent work in this area (Ravallion, 1989; Glewwe and Kanaan, 1989; Haddad and Kanbur, 1991) has focused on gains from targeting when the objective is to minimize undernutrition in the entire population. One could adopt this approach in the above conceptualization. For a given objective of undernutrition reduction, the costs of not collecting an indicator could be viewed, for example, as any calorie savings achieved using this indicator to target transfers, compared to an untargeted transfer.

Potential indicators suggested by the literature

A broad literature on indicators exists, spanning a wide range of disciplines (anthropology, nutrition, sociology, geography, public health, and economics). This literature is described in detail in Haddad *et al.* (1991).

At the household level indicators of food security and nutrition include demographic variables such as household size/composition, migration, ethnicity/region, and/or age and gender of the individual. Factor market variables such as household income sources, changes and flows of income, access to credit, land ownership, and sale of assets including livestock have to varying degrees been used as proxy measures for household food security.

The proximate determinants of household food security and preschool nutritional status differ somewhat. At the household level, food stores and qualitative/quantitative changes in diet are major factors influencing food security. For preschoolers, birth order and birth spacing, mother's age at birth, prenatal education, and breastfeeding patterns are some of the factors known to directly influence nutritional status. The present paper uses these three categories: demographic, factor market and proximate to classify alternative indicators. From the data sets available the analysis attempts to identify risk characteristics of the food and nutrition insecure.

Data and empirical considerations

The selection of potential alternative food and nutrition indicators used in this paper reflects a distillation of the literature and data availability. The advantages and disadvantages of various indicators have been well documented, but relatively little empirical work on indicator performance has been undertaken. The paper seeks to fill a part of this gap.

In this analysis we are silent on the costs of collection and therefore we have to use potential alternative indicators that we are fairly confident will be less costly to collect and analyse than traditional indicators. Potential alternative indicators fall into two groups: (1) indicators that already exist; (2) indicators not currently used but that are easy to collect and analyse. An example of the former type of indicator is land cultivated per capita, and an example of the latter type of indicator is whether or not a preschooler has been ill in the past one or two weeks.

The seven data sets

The extant data sets analysed are from the Philippines (two), Brazil, Ghana, and

Mexico. The data sets cover a wide range of situations. The *Ghana* (urban and rural) data set is nationally representative and permits an assessment of the importance of region of residence as an indicator of food and nutrition insecurity. The *Mexico City* data set is drawn from an entirely urban sample. The *Luzon*, Philippines (urban and rural), data set contains some qualitative information on meal patterns and subjective questions that have recently been determined to be potentially important in defining hunger (Radimer *et al.*, 1990). The *Brazil* data set is drawn from an unusually older sample of rural households (only 84 of 384 household contain preschool children). The rural *Bukidnon*, Philippines, data set is particularly strong on information on mother and preschooler morbidity. The data sets are summarized in fuller detail in Haddad *et al.* (1991).

There are several limitations in the present analyses. First, the analyses are dependent on a cross-sectional definition of food security. Second, since the data sets have no external method of validating food security, traditional indicators are used as a benchmark against which to compare the alternatives. Third, the variables differ across data sets and thus cross-country comparisons are possible for some but not all indicators.

Preferred method of association between traditional and alternative indicators

The method chosen for assessment of indicators is an overlap technique, i.e. what percent of households or preschoolers who have a certain indicator value are food or nutrition insecure? Other methods of association – two-way tables, correlation coefficients, classification analyses, factor analyses, and cluster analyses – could have been used in a supporting role, but each technique suffers from crucial flaws for the present purposes.

Two-way tables which investigate the characteristics of households classified as food insecure are suggestive, but they begin with the premise that these households have been located. Correlation coefficients between traditional and alternative indicators could be used, but they are subject to measurement errors and outliers. This can be corrected to some extent by looking at correlation of ranks. Nevertheless, high correlation coefficients could arise due to association at the upper end of the calorie adequacy distribution, and for monitoring purposes policy makers are normally interested in households and individuals at the lower end of the distribution. Factor and cluster analysis techniques do not work well with categorical values or continuous variables that are not normally distributed.

The overlap analysis is not without problems; an indicator group can have a high percentage of households who are food insecure yet cover only a small percentage of those at risk. Similarly, some indicators will be so general that they will contain all the food insecure households but the food insecure households will only represent a small percentage of the households with that indicator value. Nevertheless, for the present assessment, the overlap technique was considered the most appropriate of the techniques available.

Results of data analysis

Single indicators

We are searching for indicators of food and nutrition security that correctly classify a high percentage of households or preschoolers as food or nutrition insecure across a range of cultures. We adopt a straightforward approach of estimating the

percentage of households or preschoolers in a group, who are food or nutrition insecure. Instead of calculating the percentage of the food and nutrition insecure that have improved drinking water supplies, we ask, of all those who have improved drinking water, what percent are also food insecure?

For the purposes of this analysis, household food insecurity is operationally defined as a failure to meet at least 80% of recommended calorie adequacy. Nutrition insecurity, at the preschooler level, is defined as a height for age or weight for height standardized score of less than 1–2 (z-score).

Household Food Security[1]

Table 1 presents results for variables common to most of the data sets. The table indicates the percent of households in the upper and lower terciles of a particular variable, say, household size, that is also in the lowest household calorie adequacy tercile.[2] For example, for Brazil, 55 per cent of households in the upper tercile for household size are also in the lowest tercile for household calorie adequacy. The results are surprising, in that variables that are relatively easy to collect – household dependency ratio, household size, and number of unique food groups – do nearly as well in locating the food insecure as do income or total expenditure which are more difficult and costly to collect. The results can be summarized:

- Household size is as good a predictor of household calorie adequacy as is total expenditure per capita or household income per capita. This result is strong in all countries tested here and in both rural and urban settings, and, perhaps surprisingly, in a labour-scarce region such as rural Ghana. This result also holds for Kenya, but not for Malawi (Kennedy *et al.*, 1991).
- Higher household dependency ratios also show a positive association with membership of the lowest calorie adequacy tercile (although the association is negative for urban Luzon), but not as strong an association as household incomes or total expenditure.
- Land used and land owned per capita also do fairly well in locating the food insecure, especially in rural areas, even in labour constrained areas such as rural Ghana.
- The number of unique foods at various levels of aggregation seems a promising indicator in both urban and rural areas in all countries. Later tables show that, in addition, the type of food consumed, for example the use of oil in preparing children's food in Luzon, and the number of different cereal items, for example in Bukidnon, are also indicators of food security.
- The number of income sources does not seem to be useful in identifying households that are at nutritional risk, at least in terms of the household calorie adequacy definition. For example, households in Brazil, Ghana, and rural Luzon, with a high number of income sources (upper tercile of their data set), have a marginally higher representation of household food insecure households

[1]This section ignores the potentially important differences in food security *within* households that appear food secure at that level of aggregation. The reverse is also true, in that indicators of food and nutrition security at the preschool level are not necessarily the best indicators with which to identify households at risk of nutrition insecurity.

[2]It was decided not to use absolute cutoffs for the traditional indicators of food and nutrition security, and instead focus on relative insecurity within each of the populations represented by the data sets. Any indicators performing well across this broad range of inter-data set food security levels would likely to be more flexible in responding to various programme and project needs, and in addition we avoid the question of what is the appropriate absolute cutoffs; however, the two methods do not necessarily lead to similar conclusions.

Table 1. Household calorie adequacy overlaps with selected indicators for the seven data sets

Variable	Brazil Rural Percent	(t)	Bukidnon Rural Percent	(t)	Ghana Urban Percent	(t)	Ghana Rural Percent	(t)	Luzon Urban Percent	(t)	Luzon Rural Percent	(t)	Mexico Urban Percent	(t)
Household size														
Upper tercile	55	4.68	41	1.87	49	5.78	46	5.58	44	1.83	53	4.70	43	2.05
Lower tercile	11	7.84	22	3.17	21	6.62	24	5.74	16	3.08	17	4.89	26	1.85
Dependency ratio														
Upper tercile	41	1.74	47	3.15	41	3.01	37	2.11	39	1.02	37	0.87	34	0.14
Lower tercile	23	2.99	24	2.59	22	4.96	31	1.50	42	1.20	29	1.31	32	0.34
Number of unique foods														
Upper tercile	24	3.25	23	3.02	20	6.33	30	1.98	25	1.09	27	1.53		
Lower tercile	47	3.38	43	2.43	43	4.00	35	1.08	35	0.53	36	0.86		
Land used per capita														
Upper tercile	26	1.94	27	1.65							28	1.19		
Lower tercile	46	2.91	38	1.26							35	0.64		
Land owned per capita														
Upper tercile					34	0.42	27	3.80						
Lower tercile					33	0.30	40	3.36						
Number of income sources														
Upper tercile	38	0.82	34	0.25	37	1.14	36	1.27	31	0.22	38	1.18		
Lower tercile	33	0.05	38	1.28	31	1.36	33	0.30	34	0.24	28	1.40		
Total expenditure per capita														
Upper tercile	20	3.94	21	3.59	11	14.08	13	15.50	21	2.10	15	5.95		
Lower tercile	57	5.42	45	2.87	61	11.01	64	16.17	51	2.67	64	7.04		
Food expenditure per capita														
Upper tercile			20	4.07					11	5.37	4	16.65		
Lower tercile			49	3.83					55	3.22	66	7.72		
Household income per capita														
Upper tercile	23	2.65	29	1.08	21	5.92	14	13.85	24	1.57	24	2.37	32	0.32
Lower tercile	46	2.91	38	1.08	47	4.82	60	13.46	52	2.79	43	2.12	35	0.33

Note: Numbers in the table represent the percentage of all households in that tercile group *which are also* in the *lowest* calorie adequacy tercile. The further the number is from 33.3 per cent, the stronger the indicator-calorie adequacy association. An absolute t-value > 1.96 indicates a per cent overlap which is significantly different from 33.3 per cent.

than households with a low number of income sources; but, the reverse holds true for Bukidnon and urban Luzon.

- Of the more complex indicators, food expenditure per capita does better than total expenditure per capita, which in turn does better than household income in identifying food insecure households.

With respect to qualitative variables, the Luzon data set indicated that questions such as the qualities sought in the consumption of food and whether the diet was considered adequate, did not rank in the upper group of indicators for household food insecurity although they did perform well in identifying the nutrition secure.

Rural-urban differences are also examined. In urban Ghana, quality of housing (rooms per capita, quality of drinking water) is a useful indicator of the food insecure, but this relationship is not found in the rural areas, where land ownership and value of non-vehicle assets seems to be more important. A different pattern shows up in the Luzon rural-urban comparison; rooms per capita is a useful indicator in rural Luzon, and for obvious reasons, land is also a more useful indicator in rural Luzon. The motives for choice of food consumed differ for the food insecure in rural and urban Luzon: in urban areas, one of the reasons mentioned is that food is readily available in the markets, whereas in the rural areas, one of the reasons associated with choice of food of the food insecure is that the food is homegrown. Finally, the results for Ghana, both urban and rural, demonstrate the importance of regional location as a *first-stage* stratifier in locating the food insecure. Households in the forest regions of Ghana seem particularly at risk of food insecurity.

Nutrition security

In general, and similar to food security, many of the non-monetary variables perform better than per capita household income and total expenditure in identifying the nutrition insecure. Apart from age (older preschoolers tend to be highly represented in the lower ZHA tercile), household – as opposed to individual – variables tend to be better indicators of low ZHA; this is consistent with the interpretation of ZHA as a long-run indicator of nutrition security (Table 2). Dietary indicators, such as number of food groups consumed and the reasons for food purchase, also perform well in identifying the nutrition insecure. Source-of-income indicators perform well too: for example, high percent of income from off-farm non-agriculture, low percent income from livestock in Brazil; non-labour income in urban Luzon. Demographic indicators perform reasonably well for two Z-score types, height-for-age and weight-for-height, but not as well as they did for the household food security analysis.

For weight-for-height, preschooler, as opposed to household, characteristics (with the exception of sanitation and number of rooms indicators) prove to be the more useful indicators of short-run nutrition insecurity (Table 3). Recalled morbidity was a useful indicator wherever it was available (Bukidnon, Luzon, and Ghana), with 'child not vaccinated' proving the top-rated indicator of low Z-score weight for age in urban Ghana. Low number of rooms per capita was important in Mexico and rural Ghana, but in urban Luzon, a high number of rooms per capita was associated with low ZWH. High age at weaning performed quite well whenever available (in Luzon and Bukidnon) across both Z-score types. Birth order did not perform well wherever available, neither did mothers' days sick (available only in Ghana and Bukidnon). In general, the young preschooler group was highly

Table 2. Preschooler ZHA overlaps for the seven data sets

Variable	Brazil Rural	Bukidnon Rural	Ghana Urban	Ghana Rural	Luzon Urban	Luzon Rural	Mexico Urban
Sex							
Male	33	32	36	36	36	37	33
Female	33	35	30	31	34	37	32
Age							
Upper tercile	39	43	43	46	40	45	29
Lower tercile	30	19	17	14	27	26	36
Age at weaning							
Upper tercile		44			37	47	
Middle tercile		39			33	35	
Lower tercile		29			37	26	
Diarrhoea							
Yes		29			46	38	
No		34			34	32	
Fever							
Yes		31			43	43	
No		35			33	36	
Days sick							
Upper tercile		34	37	33			
Lower tercile		34	29	34			
Birth order							
Upper tercile			32	33	34	37	
Lower tercile			33	33	33	35	
Child vaccinated							
Yes			33	33			
No			31	34			
Mothers' days sick							
Upper tercile		31	33	34			
Lower tercile		35	31	33			

Note: Numbers in the table represent the percentage of all preschoolers in that indicator group which are also in the lowest ZHA tercile group. The further the number is from 33 per cent, the stronger the indicator-ZHA association.

represented by lowest tercile ZWH preschoolers and, relative to females, male preschoolers showed a high association with poor anthropometric outcomes across all Z-scores. Gender of household head (available only for Ghana) did not come out strongly as a first-stage indicator of nutrition insecurity, but it may well be useful as a second-stage interaction stratifier when used with household income, as, for instance, in Kennedy and Haddad (1991).

Interacting indicators

Can we improve the ability of indicators to locate the insecure by interacting them? Four limitations of this analysis should be noted:

(1) Because the number of indicator combinations is endless, the specific combinations used will almost certainly be determined locally; our analysis is purely suggestive.
(2) The best combination of indicators may not necessarily include indicators that performed well in the first-round overlaps.
(3) As we combine indicators, we run into sample size problems.
(4) In attempting to make the indicators more specific (to reduce type II error), we

Table 3. Preschooler ZWH overlaps for the seven data sets

Variable	Brazil Rural	Bukidnon Rural	Ghana Urban	Ghana Rural	Luzon Urban	Luzon Rural	Mexico Urban
Sex							
Male	34	37	33	32	17	16	36
Female	32	30	34	34	14	13	31
Age							
Upper tercile	34	28	24	18	11	10	34
Lower tercile	37	35	44	40	21	23	30
Age at weaning							
Upper tercile		37			19	21	
Middle tercile		35			14	13	
Lower tercile		34			14	15	
Diarrhoea							
Yes		39			29	18	
No		33			14	14	
Fever							
Yes		39			22	22	
No		29			14	13	
Days sick							
Upper tercile		38	41	40			
Lower tercile		28	32	30			
Birth order							
Upper tercile			36	34	17	15	
Lower tercile			35	31	13	17	
Child vaccinated							
Yes			32	33			
No			40	34			
Mothers' days sick							
Upper tercile		27	32	32			
Lower tercile		37	34	34			

Notes: Numbers in the table represent the per cent of all preschoolers in that indicator group which are also in the lowest ZWH tercile. The further the number is from 33 per cent, the stronger the indicator-ZWH association.

run the risk of making them too specific to be of help in classifying large segments of the population (we may well increase type I error).

Table 4 contains five indicator interactions for each of the seven data sets. The interactions were chosen from a much larger group of such experiments based on the strength of percentage overlap with low household calorie adequacy. In general, the best interactions involve indicators that performed well on their own. For example, household size, dependency ratio, number of unique foods, number of rooms per capita repeatedly show up as components of the composite indicators.

For nutrition insecurity five indicator interactions were chosen for each data set, as presented in Table 5. Here, some composite indicators that looked promising actually turned out to be insignificantly different from a non-indicator, due to small sample sizes (e.g., the fourth composite indicator for Brazil has a t-statistic of 1.77 but a percent overlap of 50).

Conclusions

The central message of the empirical analysis is that relatively simple indicators perform well in locating the food and nutrition insecure. Indicators such as number

Table 4. Indicator interactions and food security (percentage of household calorie adequacy): seven data sets

Country	Indicator interaction	Per cent overlap with lowest household calorie adequacy tercile	Number of households	t-stat
Brazil	High household size and low land used per capita	66.0	53	5.03
	High household size and high area sharecropped	61.9	42	3.82
	High household size and high dependency ratio	59.7	62	4.24
	High area sharecropped and preschooler present	57.9	38	3.07
	High household size and preschooler present	55.8	43	2.97
	(All)	33.3	384	
Bukidnon	High dependency ratio and low number of recipes used	65.7	35	4.04
	High dependency ratio and low number unique broad food groups	60.4	48	3.84
	High household size and low number unique broad food groups	58.5	41	3.27
	Medium father's age and low number unique broad food groups	57.9	57	3.76
	Medium father's age and low number unique food groups	56.1	41	2.94
	(All)	33.3	448	
Mexico	Low rooms per capita and high dependency ratio	54.7	53	3.13
	High household size and low years of schooling for fathers	50.9	57	2.66
	Low years of schooling for father unimproved water	65.5	29	3.65
	Low years of schooling for mother unimproved water	53.6	28	2.15
	Low rooms per capita and unimproved water	51.7	29	1.98
	(All)	33.3	338	
Ghana: Urban	High household size and low number unique foods purchased	69.3	75	6.76
	High household size and high number of rooms per capita	64.5	31	3.63
	Low number unique foods purchased and low # of rooms pc	62.6	99	6.03
	Low number unique foods purchased and high dep. ratio	62.0	92	5.67
	High household size and unimproved water	60.0	45	3.66
	(All)	33.3	1 177	
Ghana: Rural	Low land owned per capita high number of wives	55.6	54	3.30
	High household size and low number of wives	54.4	90	4.02
	High household size and no land owned	53.8	93	3.97
	High household size and low value of livestock per capita	51.9	214	5.45
	High value of livestock per capita and no land owned	51.8	110	3.88
	(All)	33.3	1 959	

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Table 4. Continued

Country	Indicator interaction	Per cent overlap with lowest household calorie adequacy tercile	Number of households	t-stat
Luzon: Urban	High dependency ratio and yes, household misses meals	57.6	33	2.82
	High household size and yes, household misses meal	54.5	44	2.82
	Low number income sources and yes, household misses meals	51.6	31	2.04
	Gender balance is males > females and spouse at least some high schools on	51.6	31	2.04
	Low rooms per capita and yes, household misses meals on average	51.5	33	2.09
	(All)	33.3	167	
Luzon: Rural	Low rooms per capita and medium percent calories avail.	69.2	39	4.86
	Low rooms per capita and high number different crops	64.5	31	3.63
	Low rooms per capita and medium number income sources	61.3	31	3.20
	Low rooms per capita and gender balance is males > females	58.5	53	3.72
	Low rooms per capita and spouse not have at least some high school education	51.8	110	3.88
	(All)	33.3	372	

Note: If absolute t value < 1.96, then the per cent overlap is significantly different from the percent overlap were the indicator not associated with food insecurity.

Table 5. Indicator interactions and nutrition security (preschooler ZWA): seven data sets

Country	Indicator interaction	Per cent overlap with lowest household calorie adequacy tercile	Number of households	t-stat
Brazil	High dependency ratio and not sharecropping	73.1	26	4.58
	High dependency ratio and gender balance is males > females	68.2	22	3.52
	High percentage land sharecropped	58.8	17	2.14
	High household size and at least 3 years education of mhoh	5.0	28	1.77
	High land per capita and 1–3 years education of mhoh	50.0	20	1.49
	(All)	33.3	139	
Bukidnon	Low number meat groups and yes, diarrhoea of child	60.6	33	3.21
	Low number unique food groups medium number days sick	51.4	70	3.03
	Low number meat groups and sex = male	51.0	149	4.32
	Medium age at weaning and sex = male	50.7	142	4.15
	Low number unique food groups sex = male	50.0	136	3.90
	(All)	33.3	778	
Mexico	Low years father's schooling, low number rooms per capita	63.2	57	4.68
	Low years mother's schooling, low number rooms per capita	60.4	53	4.03
	Low years father's schooling, high family size	58.8	51	3.70
	Low years father's schooling, low years mother's schooling	57.4	61	3.81
	Low years father's schooling, high dependency ratio	56.0	50	3.23
	(All)	33.3	308	
Ghana: Urban	Low number durable goods and child not vaccinated	52.9	34	2.29
	Medium number durable goods and high birth order	52.4	42	2.48
	Medium number durable goods and high land owning group	50.0	34	1.95
	Medium land owned per capita and child not vaccinated	50.0	32	1.89
	Medium land owned per capita and unimproved water	49.1	55	2.34
	(All)	33.33	534	
Ghana: Rural	High preschooler age and male	50.3	163	4.34
	Low rooms per capita and male	48.3	151	3.69
	Low rooms per capita and high dependency ratio	46.7	105	2.75
	High dependency ratio and male	44.5	110	2.36
	Low value non-vehicle capital per capita and sex = male	43.0	200	2.77
	(All)	33.3	1 152	

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Table 5. Continued

Country	Indicator interaction	Per cent overlap with lowest household calorie adequacy tercile	Number of households	t-stat
Luzon: Urban	High age in months and not buy food because it is tasty	90.6	36	5.76
	Medium age in months and not think hh nutrition adequate	84.8	33	3.55
	High age in months and high dependency ratio	81.8	44	3.30
	Medium number income sources and not think hh nutr. adeq.	80.6	36	2.73
	Medium household size and not buy food because it is tasty	79.5	44	2.78
	(All)	62.6	342	
Luzon: Rural	Low birth order and wife not decides food purchases	78.3	46	2.96
	High age in months and wife not decide food purchases	76.9	52	2.84
	Low dependency ratio and wife not decide food purchases	76.8	69	3.25
	Low birth order and high age in months	76.0	96	3.60
	High age in months and number of adult males > females	66.4	110	1.35
	(All)	60.3	751	

Note: If absolute t-value > 1.96, then the percent overlap is significantly different from the percent overlap were the indicator not associated with nutrition insecurity.

of unique foods consumed, region, dependency ratio, household size, rooms per capita, incidence of illness, vaccination status, age at weaning, drinking water and sanitation facilities – all coded with only two or three different values – are able, either singly or in combination, to identify households and preschoolers at risk.

While we list some indicators that located the food and nutrition insecure in several of the data sets, we emphasize that the most appropriate set of indicators – in terms of costs of collection and non-collection – can only be determined in a location-specific setting – often in a participatory manner. The potentially 'more user friendly' indicators need to be tested in as broad a set of conditions as possible.

Finally, this indicator evaluation process has underscored the fact that a true ranking of indicators can only be achieved within the context of a clearly stated specific objective, such as the minimization of household calorie adequacy shortfalls for all households in the population, and this is the subject of further research at IFPRI.

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Conceptual Issues Related to Food Security

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by

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In the past several years, much conceptual progress has been made in our understanding of the processes that lead to food insecure situations for households (Frankenberger 1992). We have moved away from simplistic notions of food supply being the only cause of household food insecurity to assessing vulnerability of particular groups in terms of their access to food. Thus, food availability at the national and regional level and stable and sustainable access at the local level are both keys to household food security.

Concepts related to food security are constantly evolving. Some of these concepts serve as both orienting principles and as desirable outcomes for various program interventions. Some key concepts that will enable governments, donors and cooperating sponsors to better operationalize Title II food security interventions and measure their impact include: nutritional security, household food security, livelihood security, and food systems analysis. Each of these concepts is discussed below[1].

A. Nutritional Security

Both hunger and undernutrition are due to adverse conditions resulting from **immediate**, **underlying**, and **basic** causes.[2] (See Figure 1 in Annex 1). The immediate causes are inadequate dietary intake and a high prevalence of disease, or frequently an interaction between the two. Underlying these immediate causes are food insecurity, poor health services, and inadequate care for the vulnerable. Simultaneous action is needed in all three areas for optimal nutritional outcome. These underlying causes are, in turn, the result of yet other more basic causes relating to the availability, control and management of resources at different levels - be they financial, organizational, or human resources. Thus, while the symptoms, manifestations, and immediate causes of malnutrition may be in the medical or biological sphere, the underlying and basic causes lie deep in the economic and social conditions. Nutritional status is the biological manifestation of nutritional security; it is the sum total of socio-economic, cultural, physical, and behavioral conditions that mutually reinforce each other in affecting the situation which will favor or disfavor the physiological nutrition outcome (See Figure 2 in Annex 1) (IFAD 1993).

There are two main processes that have a bearing on nutritional security. The first determines access to resources for food for different households. This is the path from production or income to food. The second process involves the extent to which the food obtained is subsequently translated into satisfactory nutritional levels. A host of health,

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[1] Much of this conceptual discussion is taken from a paper written by T. R. Frankenberger, titled "A Strategic Framework for Promoting Household Food and Nutrition Security." 1993. Mimeo.

[2] This terminology originated with the United Nations Children's Fund (UNICEF) in their "Conceptual Framework for Understanding the Causes of Malnutrition" (UNICEF 1990).

environmental, and cultural/behavioral factors determine the nutritional benefits of the food consumed. This is the path from food to nutrition (IFAD 1993). Thus, household food security is a necessary but not sufficient condition for nutritional security.

B. Household Food Security

Household food security (HFS) is defined as the "capacity of a household to procure a stable and sustainable basket of adequate food" (IFAD 1992). In this definition, three factors are important: the stability, sustainability and adequacy of food supply. The food should be adequate in terms of quantity and quality to compose a diet to meet the nutritional needs of the household members, and be culturally acceptable. Stable access is assured through various mechanisms that enable the household to procure food supplies across seasons and transitory shortages. Sustainable access requires that the means of food procurement in the long run, are consistent with: 1) sustainable resource use and management; 2) maintenance of productive assets; 3) self-reliance and human dignity; and, 4) overall livelihood needs (IFAD 1992) (See Figure 3 in Annex 1).

The nature of food access will be determined by local circumstances. Food may be procured from home production, through purchase, through gathering, or through gifts or some other means of transfer. The goal is to ensure that the access will be continuous through the best mix of procurement options (food entitlements). In choosing which options should be supported, attention should be given to the maintenance of a diversified food base that can be transformed into adequate diets. This is how HFS can become an intrinsic part of nutritional security (IFAD 1993).

A number of conditions influence the adequacy, stability, and sustainability of household food supply. First is the potential resource base, including the agro-ecological setting and existing marketing systems which mould the potential food system. Second is the socio-economic structure of the given society, which determines the nature of the production system and the household's resource allocation decisions within the food system. Third is the strategy that a household follows in food procurement, which is affected by access to resources (environmental, human, material, institutional), management of resources (disposal), and the nature and extent of social support. Fourth, what foods are available from different sources in a given area, and the problems households confront in procuring food from each of these, constitute the household food base. Fifth, food storage, conservation, and processing practices will influence the composition of the food supply and a household's prolonged access to this supply (IFAD 1992). In any analysis of the household food security situation in a given area, each of these interrelated factors must be taken into account (See Figure 4 in Annex 1).

C. Livelihood Security

Livelihood security may be seen as a precondition of household food and nutrition security. Households are food and nutritionally secure when their livelihoods are sustainable. A livelihood comprises the adequate stocks and flows of food and cash to meet basic needs (Chambers 1988). Livelihoods can be made up of a range of on-farm and off-farm activities which together provide a variety of procurement strategies for food and cash. Thus, each household can have several possible sources of entitlement which constitute its livelihood. These entitlements are based on the endowments that a household has, and its position in the legal, political, and social fabric of society (Drinkwater and McEwan

1992). The risk of livelihood failure determines the level of vulnerability of a household to food insecurity. The greater the share of resources devoted to food acquisition, the higher the vulnerability of the household to food insecurity. Therefore, livelihoods are secure when households have secure ownership of, or access to, resources and income earning activities, including reserves and assets, to off-set risks, ease shocks, and meet contingencies (Chambers 1988).

A livelihood is sustainable, according to Chambers and Conway (1992), when it "can cope with and recover from the stress and shocks, maintain its capability and assets, and provide sustainable livelihood opportunities for the next generation..." (Frankenberger 1992b). Unfortunately, not all households are equitable in their ability to cope with stress and shocks. Poor people balance competing needs for asset preservation, income generation, and present and future food supplies in complex ways (Maxwell et al. 1992). People may go hungry up to a point to meet another objective. For example, deWaal (1989) found during the 1984-85 famine in Darfur, Sudan that people chose to go hungry to preserve their assets and future livelihoods. People will tolerate a considerable degree of hunger to preserve seed for planting, cultivate their own fields, or avoid selling animals. Similarly, Corbett (1988) found that in the sequential ordering of behavioral responses employed in periods of stress in a number of African and Asian countries, preservation of assets takes priority over meeting immediate food needs until the point of destitution.

Thus, food security is a subset of livelihood security; food needs are not necessarily more important than other basic needs or aspects of subsistence and survival within households. Food insecure households juggle among a range of requirements, including immediate consumption and future capacity to produce.

To weather transitory disturbances to their livelihoods, people in risk-prone areas have developed self-insurance coping strategies to minimize risks to their household food and livelihood security. Examples of such strategies are dispersed grazing, changes in cropping and planting practices, migration to towns in search of urban employment, increased petty commodity trading, collection of wild foods, use of inter-household transfers and loans, use of credit from merchants and money lenders, migration to other rural areas for employment, rationing of current food consumption, sale of possessions (e.g., jewelry), sale of firewood and charcoal, consumption of food distributed through relief programs, sale of productive assets, breakup of the household, and distress migration (Corbett 1988). In general, coping strategies are pursued by households to insure future income-generating capacity (i.e., livelihood) rather than simply to maintain current levels of food consumption (Frankenberger 1992). These strategies will vary by region, community, social class, ethnic group, household, gender, age and season. The types of strategies employed by households also will vary with the severity and duration of the potentially disruptive conditions. Coping strategies can serve as good location-specific indicators that reflect food access, and should be monitored to detect localized food security changes (See Figure 5 in Annex 1).

Livelihood systems in many areas of the world are likely to become more structurally vulnerable due to recurrent droughts or during transitional periods of market liberalization (e.g., structural adjustment measures), resulting in higher levels of food and nutritional insecurity. A number of communities are experiencing a progressive erosion of their basis of subsistence, leading to the further degradation of their natural resource base to compensate for these shortfalls. Community level buffers against periodic food stress are

beginning to disappear. At the same time, the allocation of government resources to social services, food transfers and agricultural development have been significantly affected both by structural adjustment measures and by resource allocation to emergency or drought relief operations.

To enhance the livelihood security of vulnerable populations in order to improve household food and nutritional security, a three pronged approach can be used in Title II programs. This livelihood systems approach is based on the notion that relief, mitigation and development interventions are a continuum of related activities, not separate and discrete initiatives. Household food security can be enhanced through Title II programs by one or a combination of the following three intervention strategies:

Livelihood Promotion-involves improving the resilience of household livelihoods to meet food and other basic needs on a sustainable basis. Interventions of this type often aim to reduce the structural vulnerability of livelihood systems by focusing on: 1) improving production to stabilize yields through diversification into agro-ecologically appropriate crops, and through soil and water conservation measures; 2) reinforcing coping strategies that are economically and environmentally sustainable (e.g., seasonally appropriate off-farm employment); 3) improving on-farm storage capacity to increase the availability of buffer stocks; and 4) improving common property management through community participation. Promotion-type interventions could also deal with meso-level development, where the linkages between food surplus areas and food deficit areas could be strengthened through investment in regional infrastructure and market organization. Such interventions could help improve the terms-of-trade for the poor by improving local food availability and lowering food prices.

Livelihood Protection-involves protecting household livelihood systems to prevent an erosion of productive assets or to assist in their recovery. These types of interventions entail timely food and income transfers that can reduce long-term vulnerabilities resulting from the forced selling of productive assets to meet immediate food needs. The negative impacts of food and nutritional insecurity can be reduced by: 1) timely detection of where food insecurity is likely to occur; and 2) establishing contingency plans that can be implemented in a timely fashion before a significant erosion of household assets occurs and other erosive coping strategies are activated. The capacity to detect changes in food security at an early stage and to respond in a timely fashion could considerably reduce the costs of dealing with a full blown emergency. Protection-type interventions would include infrastructural improvements or soil and water conservation measures carried out through food-for-work or other means, to enhance the longer-term viability and resilience of the communities. The types of interventions pursued would be selected and implemented by the communities themselves.

Livelihood Provisioning-involves providing food access to households to maintain nutritional levels and save lives. These types of interventions usually entail food relief for people in an emergency or people who are chronically vulnerable. Chronic vulnerability is usually long-term in nature. Targeted relief is critical and should be combined with promotion interventions, where possible, to phase out the food transfers. Community focused interventions may be necessary for chronically vulnerable populations (e.g., MCH programs) to allow for the provisioning activities to be taken over by the community on a sustainable basis.

This three-pronged approach should be seen as a whole rather than as separate parts, since the ultimate goal of any Title II intervention is to promote sustainable livelihood systems in intervention areas. This has often not been the case with most cooperating sponsors which view relief activities as distinct from development. Especially in emergency situations, provisioning of relief food has tended to be seen as an end in itself, rather than as part of a continuum oriented towards securing beneficiaries' livelihoods.

To establish Title II programs that utilize a livelihood systems approach, one of the first activities is to obtain an understanding of the specific livelihood, food and nutrition security conditions in an area in order to identify appropriate types of programs for that area. Needs assessments using multidisciplinary teams in the initial phases of project design could help obtain the required information. Rapid food security assessments are one type of an assessment approach that should be considered given their short duration, cost-effectiveness and simple methods.

Rapid assessments can contribute key information to Title II program design through providing contextual, socio-economic information on livelihood, food and nutritional conditions that can be used for selecting appropriate interventions for the program area. Rapid appraisals can also aid in the design of both baseline and impact evaluation surveys through the identification of both the specific information needs of a project and location-specific indicators. This assessment approach also allows for collaboration between sectors and agencies, and can lead to improved articulation of roles between the various actors involved. In addition, when carried out during project implementation, rapid appraisals can help staff to better understand the effectiveness of project targeting, and allow beneficiaries to express their perspectives regarding the program's impact on their lives. Finally, rapid appraisals can provided training and capacity building for field staff in monitoring and evaluation methods, allowing them to better conceptualize the linkages between project impacts and inputs (CARE 1994).

D. Food Systems Analysis

The complementarity of Title II micro-focused food security interventions and Title III macro-focused interventions can be strengthened through food systems analyses. Food systems consist of all of the key factors and processes involved in determining the availability, flow and consumption of food in a particular society, and thus have an impact on household food security conditions and dietary patterns. A food system is affected by both macro-level and micro-level factors. At the macro-level, the food systems are dramatically affected by government policies and climatic risks. Government price policies, for example, will especially influence smallholder production. Macro analyses should focus on broad policy and structural issues. Interventions aimed at this level are usually carried out with Title III resources.

At the micro-level, changes in the livelihood systems could have a significant impact on consumption patterns. Micro analyses should focus on the livelihood systems, coping strategies, and consumption patterns in a targeted area. Interventions aimed at this level are usually carried out with Title II resources.

By carrying out a food systems analysis jointly with cooperating sponsors, USAID missions can develop a food security inventory for their respective countries and develop comprehensive food security plans that utilize Title II and Title III resources in

complementary and synergistic ways. A balanced approach could enhance food security on a sustainable basis.

E. Food Security Indicators for Targeting, Monitoring, and Evaluation

Three types of indicators are needed for Title II food security programming. Indicators are needed for targeting food insecure populations which are likely to suffer from food shortages on a chronic basis (i.e., chronic food insecurity). Indicators are also needed to identify transitory food insecurity among populations that normally can provision themselves to prevent further asset erosion and increasing vulnerability. Performance indicators are also needed to determine whether project interventions are successful, whether they be interventions aimed at provisioning, protection or promotion. Indicators appropriate for all three purposes can be grouped into process indicators (those that reflect food supply or food access) or outcome indicators (those that serve as proxies for food consumption).

In terms of targeting, information should be gathered on structural variables that could have some influence on household food availability, food access and utilization/consumption. Such information might include access to resources (e.g., land, traction animals and equipment, livestock, labor, common property resources etc.) or socio-economic characteristics (e.g., ethnic group, class, caste, gender) that could have a bearing on food entitlements. This information can be gathered from secondary sources or from initial rapid assessments. It is these groups that are more vulnerable and are likely to be the focus of provisioning interventions. Ways should be sought to combine provisioning activities with interventions that will promote livelihoods for these population groups.

Transitory food insecurity can be brought about by climatic changes (e.g., droughts), market failures, political unrest or some combination of these. To intervene in a timely fashion before people sell off their productive assets or pursue strategies that have a negative impact on the environment (both of which will threaten their future livelihoods), location-specific indicators are needed that measure the severity of the situation in relation to local livelihood strategies.

Given that peoples' strategies for dealing with food deficits are often sequential, behavioral changes can be used as indicators for detecting food security changes. Leading indicators are changes in conditions and responses that reflect the likelihood that transitory food insecurity will worsen, although actual food shortages have yet to be experienced. These types of indicators can serve as early warning indicators in a decentralized food security monitoring system. Examples of such indicators are crop failures, sudden deterioration of rangeland conditions or conditions of livestock, or significant changes in the terms-of-trade.

Concurrent indicators occur simultaneously with decreased access to food, and are primarily the coping strategies people use to deal with food deficits. Examples of such indicators may be: large numbers of people in search of food or work; appearance in the market of unusual amounts of personal and capital goods such as jewelry, farm implements, or livestock (draft animals); increased dependence on wild foods; and reduction in the number of meals. Livelihood protection interventions should be targeted

to these areas when such changes are detected to prevent asset erosion and to allow the households to maintain their ability to recover.

Trailing indicators are essentially outcome indicators that reflect the extent to which food security has been impacted. They show the extent to which the well-being of particular households and communities has been affected. The types of indicators that would be assessed would include nutritional assessments, levels of morbidity and mortality as well as increases in land degradation, land sales, consumption of seed stocks and permanent out-migration.

Performance indicators are used to determine the food security impact of Title II interventions. These indicators should be location- and project-specific; that is, the context will determine what food security improvements are possible in a given length of time and the interventions will determine what changes are likely to occur as a result of project activities. For example, if program interventions do not address all of the factors that influence nutritional outcomes (access to food, child/mother care and health/sanitation), using nutritional status as a performance indicator may be inappropriate. A proxy for improvements in food access may be a better performance indicator if this is the only aspect focused on in the project. Although nutritional status should still be monitored, Title II projects should not be held accountable for limited nutritional improvements if all aspects are not being addressed.

Food security improvements can be long-term or short-term, depending upon the types of interventions being implemented. For example, the variables that are related to chronic food insecurity can be addressed through policy reform. USAID missions and PVOs can play an important advocacy role in this regard. Title III resources might be used for these purposes. Targeted household food security improvements could be measured through positive changes in concurrent and trailing indicators. To do this effectively, it is important to have a good baseline as a reference point. It also is important to differentiate temporary food access changes that come about from provisioning activities, and sustainable improvements in food access that result from interventions that increase the resilience of local livelihoods. This is why livelihood promotion activities should always be combined with provisioning and protection interventions.

Food and nutrition information systems used for monitoring food security changes can operate at both the national level and at the local level. National early warning systems usually rely on line agency information that reflects a food supply orientation focusing on production data and nutritional assessments. Few governments or donors commit the time and resources necessary to obtain information on socio-economic indicators that are sensitive to the food access vulnerabilities of different groups. Decentralized food security monitoring systems are usually the best means of obtaining this information. Such systems can be established to provide rapid concrete assessments of conditions in areas with possible impending droughts or other crises, and/or to track changes in basic food and nutrition conditions over a project's life. One example of such a system is the CARE Ethiopia Food Information System (CEFIS).

The conceptual issues previously discussed can be easily incorporated in Title II project design. To do this effectively, it is first important to review the current status of a number of Title II projects to see what adjustments and program modifications could be recommended to improve the food security impact of these projects.

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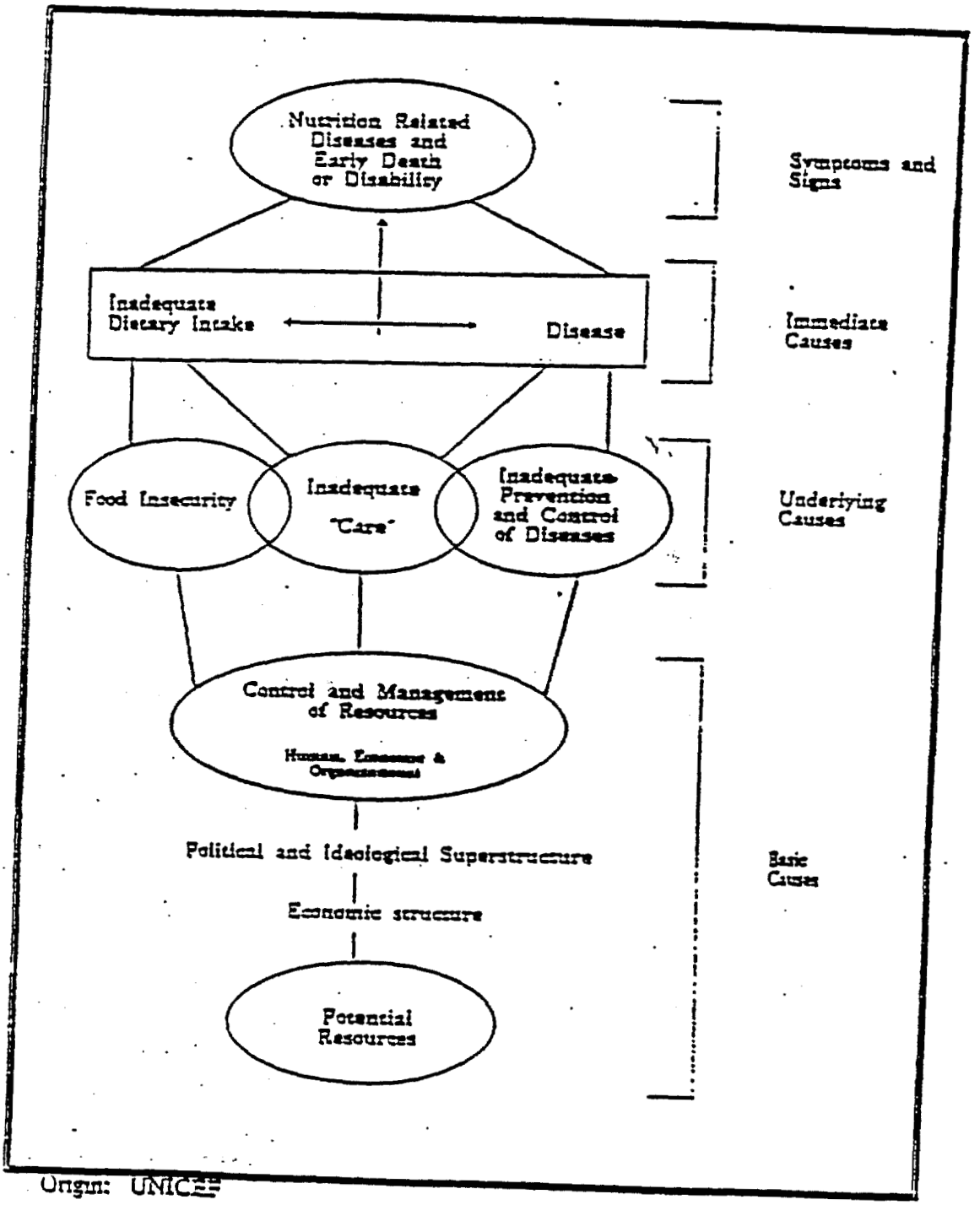
Annex 1
Food and Nutrition Security Conceptual Models

Figure 1

The Causes of Malnutrition



Origin: UNICEF

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Figure 2

Box 4: Nutrition Security

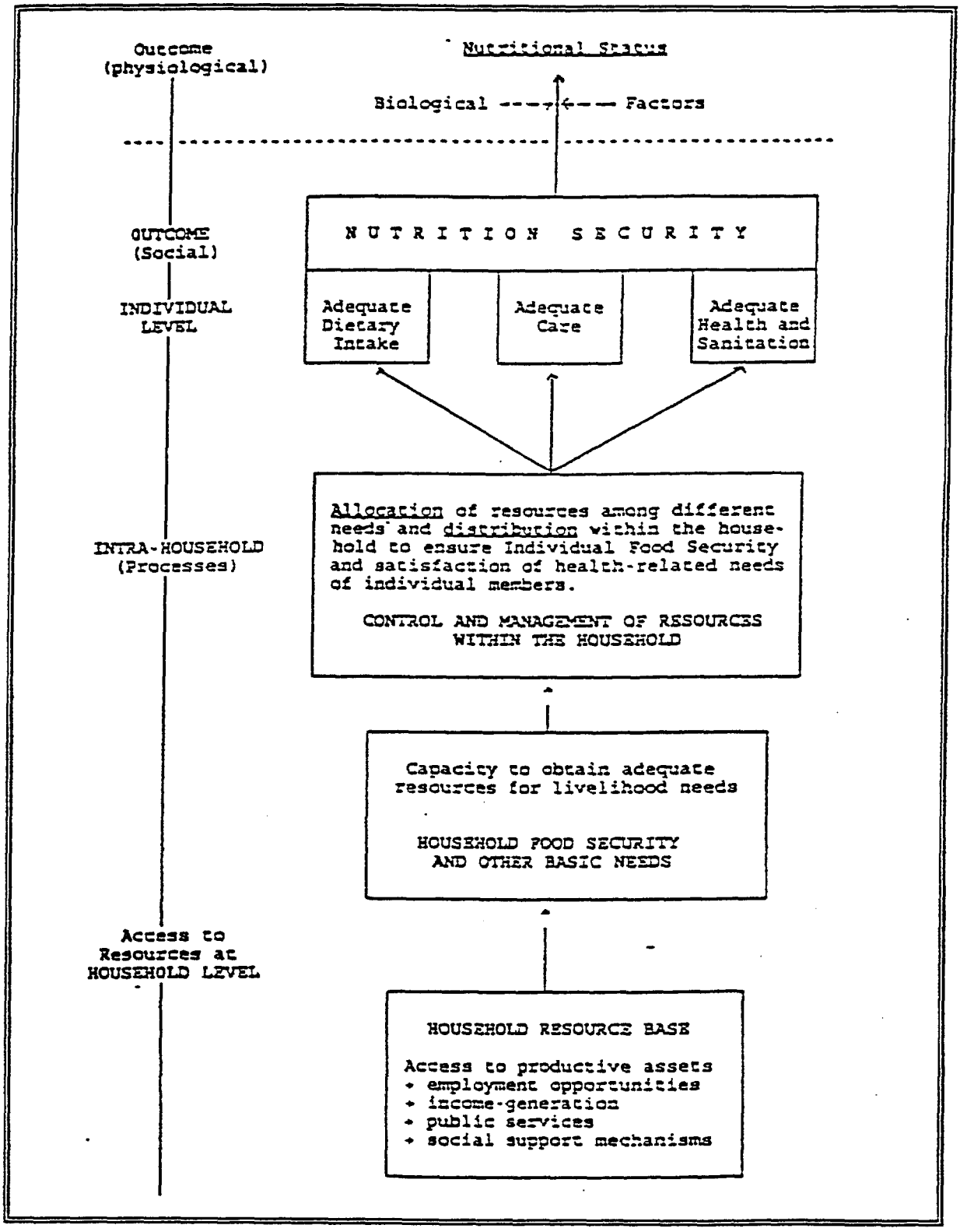

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Figure 3

The Normative Dimensions of Household Food Security

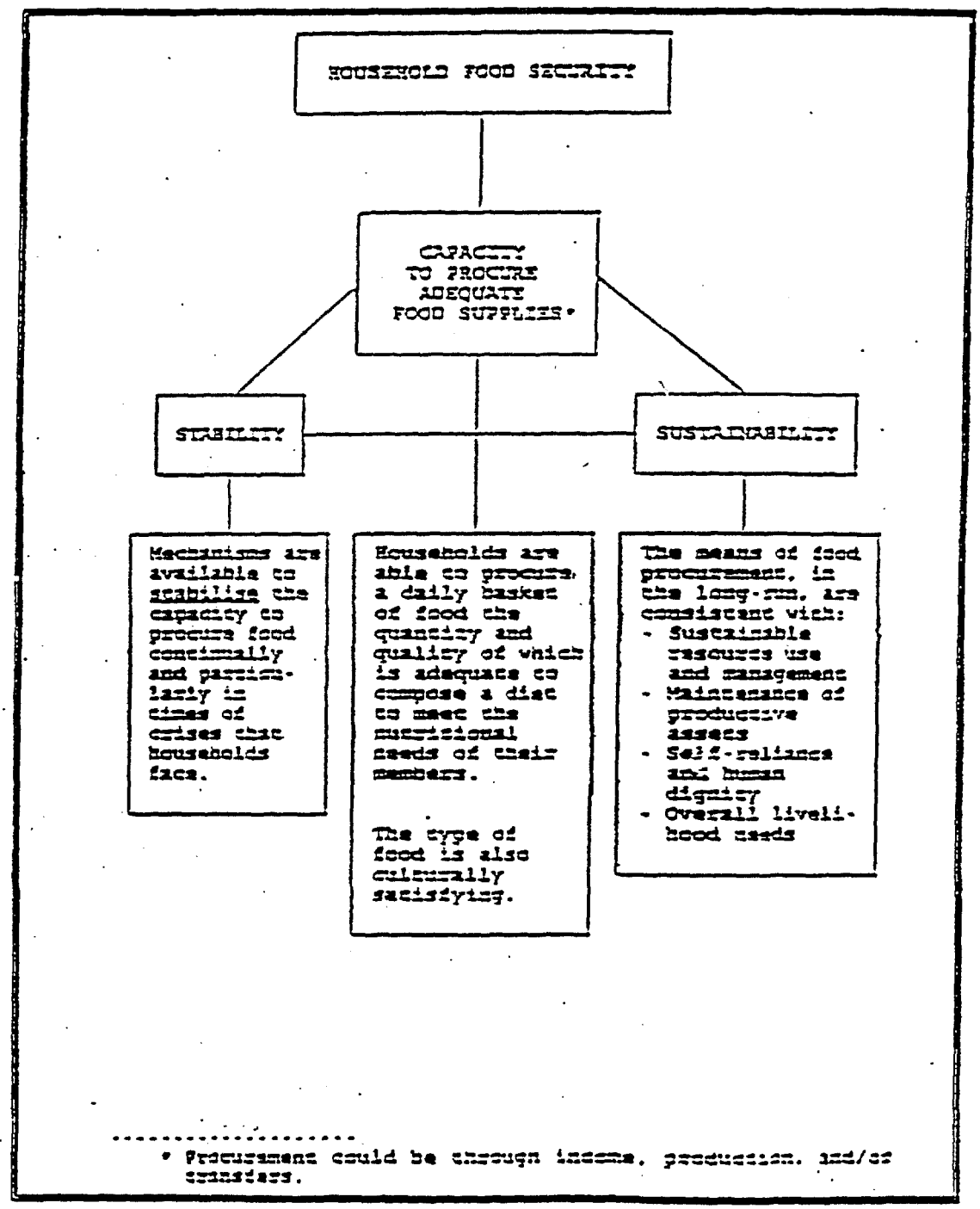

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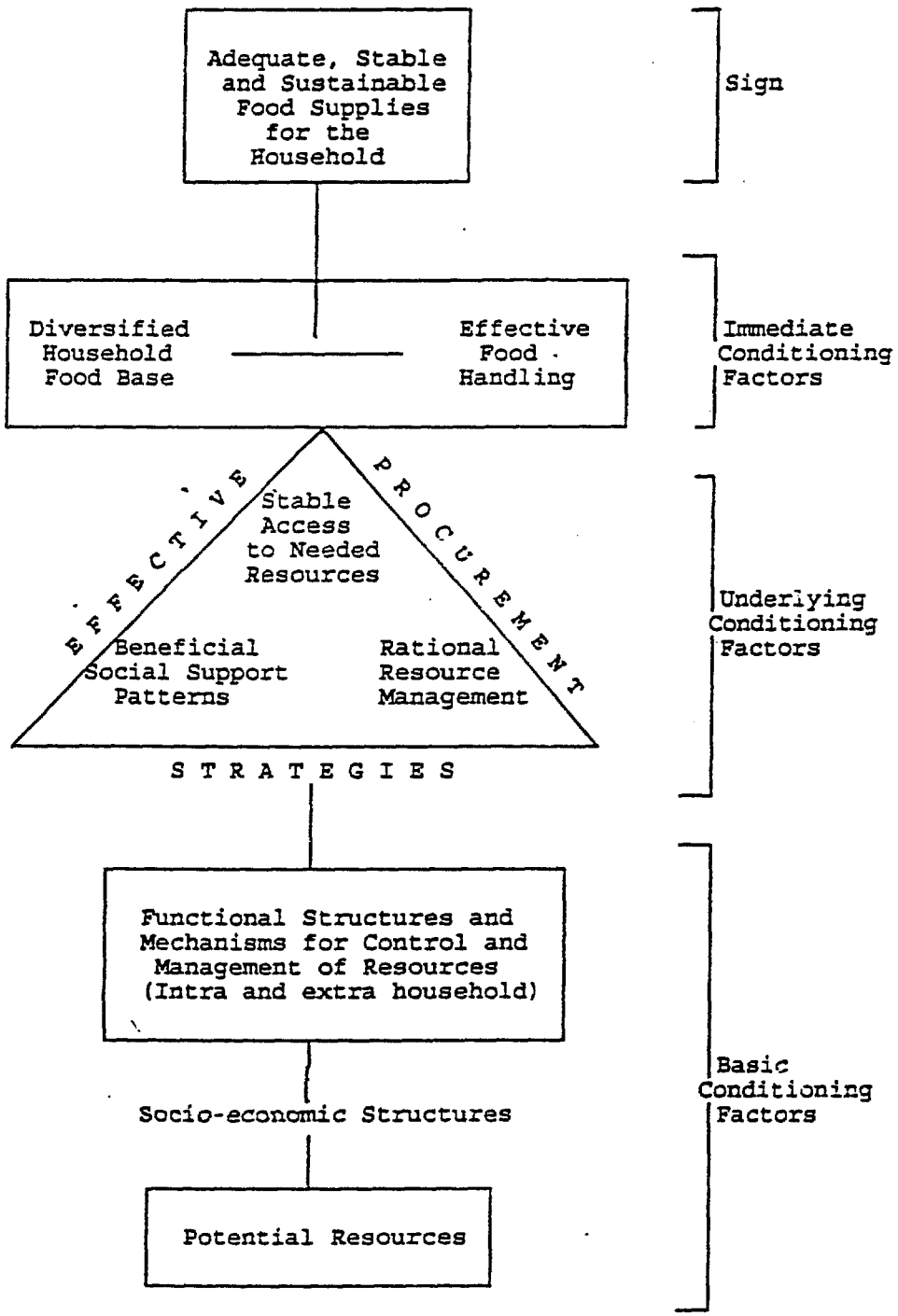
Figure 4

FACTORS CONDITIONING HOUSEHOLD FOOD SECURITY



IFAD,1992

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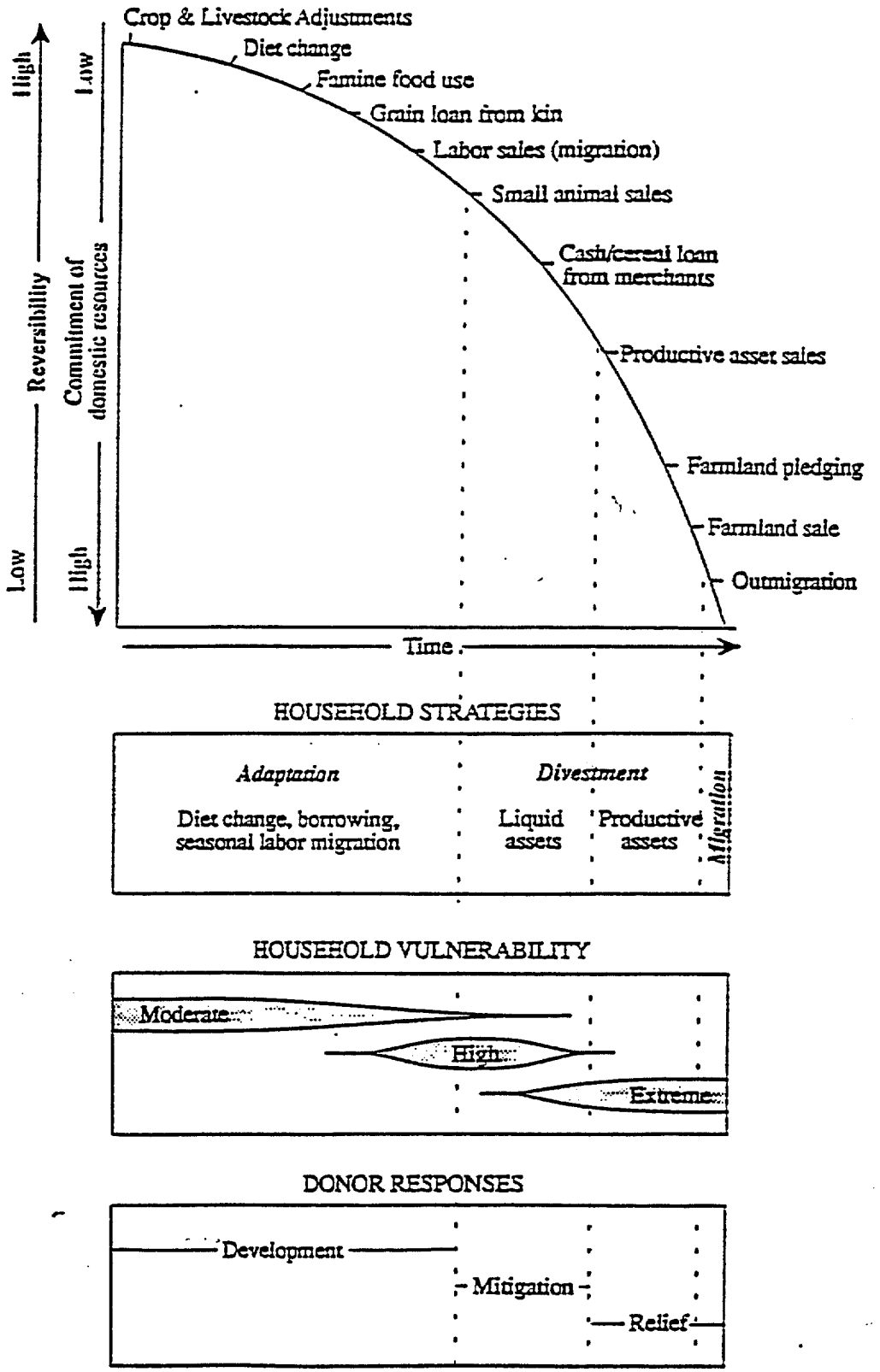
Figure 5



Responses to household food shortages (after Watts, 1983)
The types of coping strategies employed by households indicate household vulnerability to food shortage, and correspond to different types of government and donor responses
Office of Arid Lands Studies, The University of Arizona.1991.

FIGURE 6

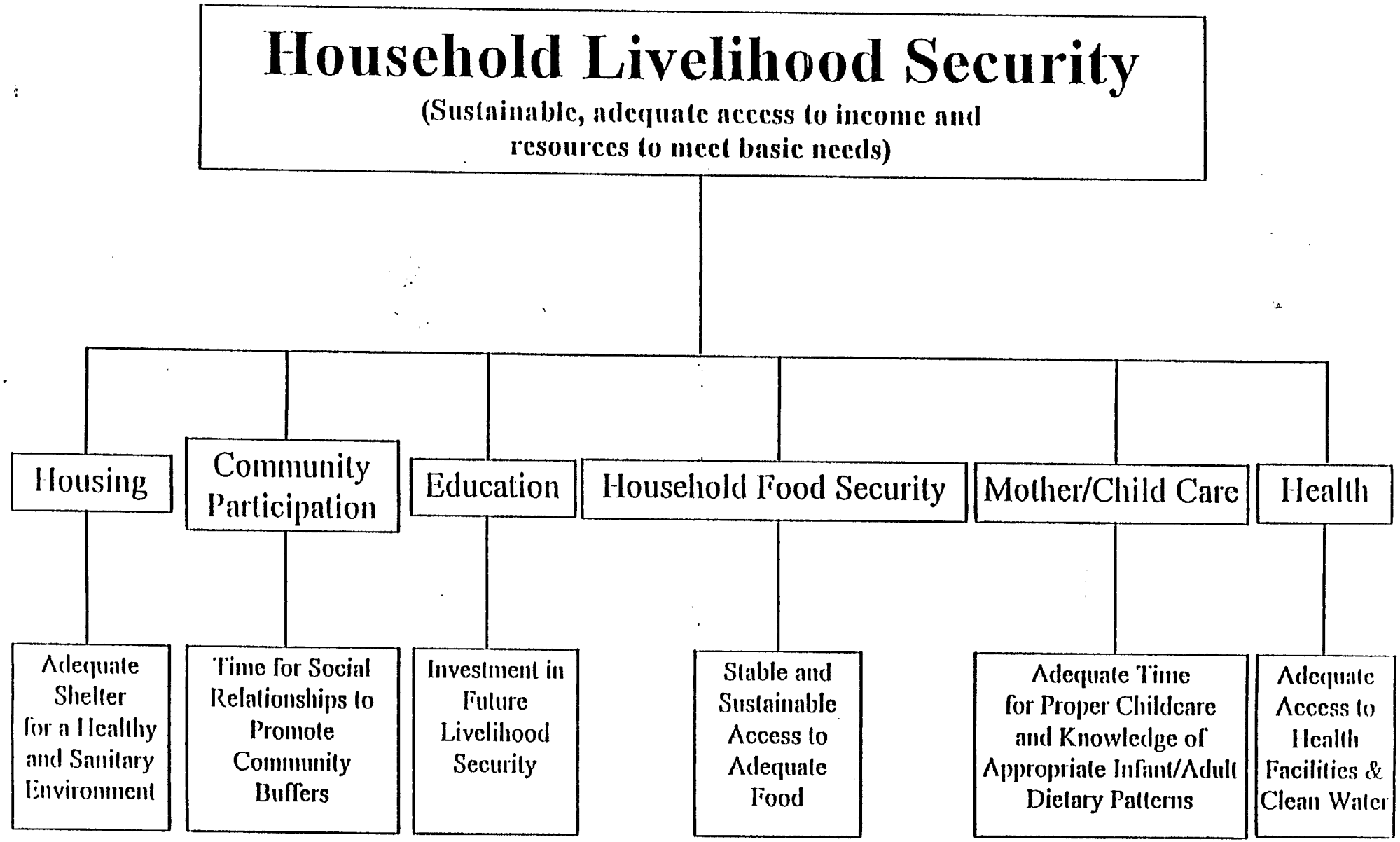

Household Livelihood Security
(Sustainable, adequate access to income and resources to meet basic needs)
Housing
Community Participation
Education
Household Food Security
Mother/Child Care
Health
Adequate Shelter for a Healthy and Sanitary Environment
Time for Social Relationships to Promote Community Buffers
Investment in Future Livelihood Security
Stable and Sustainable Access to Adequate Food
Adequate Time for Proper Childcare and Knowledge of Appropriate Infant/Adult Dietary Patterns
Adequate Access to Health Facilities & Clean Water

FIGURE 7

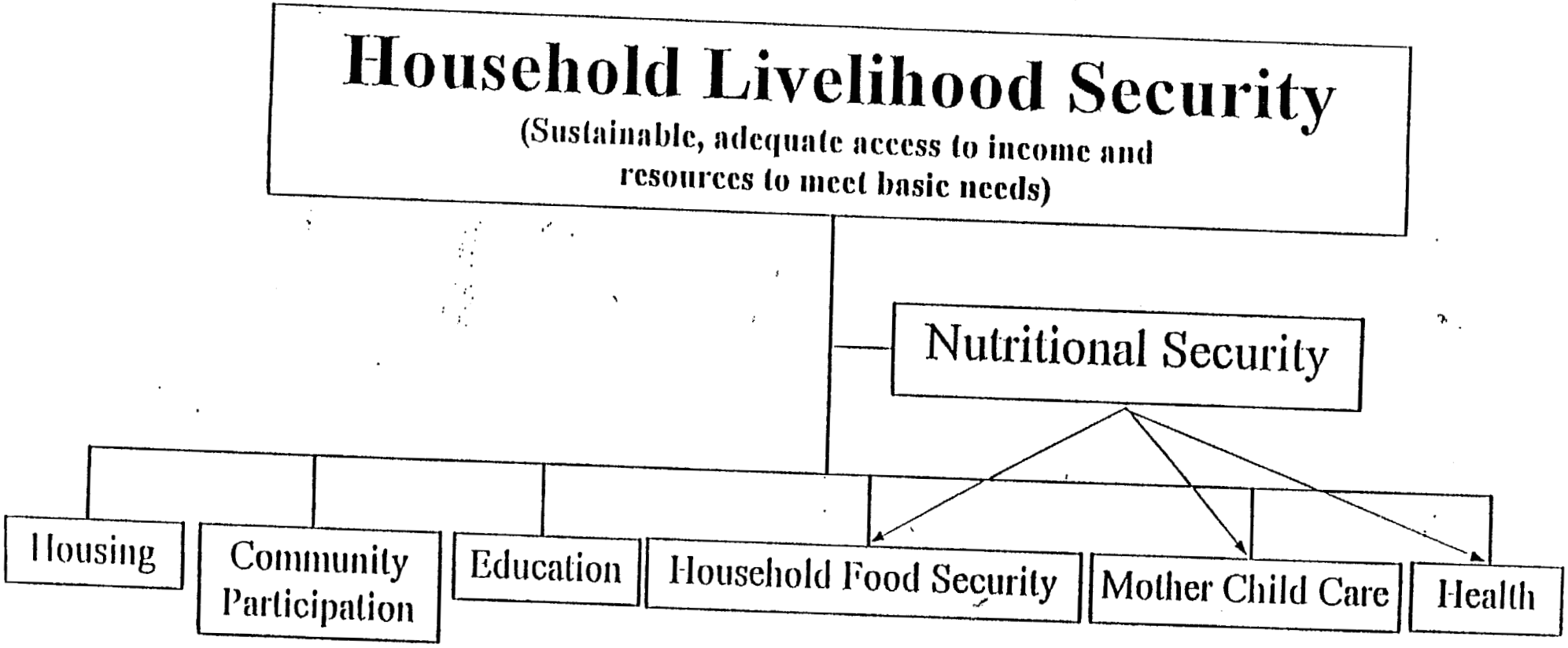

Household Livelihood Security
(Sustainable, adequate access to income and resources to meet basic needs)
Nutritional Security
Housing
Community Participation
Education
Household Food Security
Mother Child Care
Health

FIGURE 8

LIVELIHOOD FRAMEWORK

Short Term — Long Term

Relief | Rehab/Mitigation | Development

LIVELIHOOD INTERVENTIONS

Livelihood Provisioning (Food & Health Aid) | Livelihood Protection/ Recovery | Livelihood Promotion (Sustainable Development)

PROGRAM FOCUS

Agriculture and Natural Resources

Small Economic Activity Development

Population

Emergency

Food — MONETIZATION

Primary Health Care

Food Security Indicators

Three Types

1. **Indicators for Targeting Food Insecure Populations**
   (Identification of Vulnerable Populations)

   - Indicators may be static or structural in nature (access to resources, socioeconomic characteristics)

   - Should reflect the priorities for selection criteria for the program.

   Procedure

   Development of Food Security Profiles
   --Secondary Information
   --Baselines

From: Tim Frankenburger, CARE, July, 1995

2. Indicators for Monitoring Transitory Food Insecurity Changes (Decentralized FS Monitoring Systems)

- **Leading Indicators** (rainfall, crop production, deterioration of range, changes in terms of trade)
- **Concurrent Indicators** (sale of productive assets, increased dependency on wild foods, reduction in number of meals, increased dependency on charcoal production.)
- **Trailing Indicators** (nutritional assessments, changes in morbidity and mortality, land degradation, permanent out-migration)

Indicators must be dynamic and sensitive enough to identify changes in conditions over relatively short periods.

Procedure

- Establishment of Decentralized Food Security Monitoring System in vulnerable regions identified in Food Security Profile
- Contingency Plans (response and agency responsibility derived in non-crisis year to promote timely response during crisis)

From: Tim Frankenburger, CARE, July, 1995

3. Program/Project Performance Indicators to Determine Food Security Changes Brought About by the Intervention

Output Indicators -- Results of project activities. they are project implementation measures or goods and services produced by the project activities. Outputs must be quantified and timeframed.

<u>Examples</u>

Availability -- # of km of market access roads built in x # of years.

Access -- # of people provided skills training for employment in x # of years.

Utilization -- # of classes provided in nutritional education in x # of years.

Effect or Intermediate Goal Indicators -- These are changes in knowledge, attitudes or practices that result from use of the goods and services provided by the project. These indicators may also reflect changes in the socio-economic context of the beneficiary groups that results from the project.

<u>Examples</u>

Availability --	Vehicle traffic and the movement of goods have increased substantially along the newly constructed road.
Access --	Agricultural productivity has increased by x% per household in the community.
Utilization --	x # of mothers are using appropriate weaning foods for their babies.

From: Tim Frankenburger, CARE, July, 1995

Impact or Final Goal Indicators -- These are fundamental changes in the conditions or improvements in some aspect of the lives of a defined group of participants which are expected to result from achievement of the intermediate goals. Given the complicated nature of factors that influence the socio-economic status of beneficiaries, it is often difficult to segregate out the changes in household conditions brought about by the project. This makes household level impacts attributed to the project difficult to measure.

Example

Availability --	Stable price of commodities purchased by households.
Access --	Improvement in household income (or proxies) diet diversity improvement.
Utilization --	Nutritional status improvements in children and adults.

From: Tim Frankenburger, CARE, July, 1995

Timing, Frequency, and Costs of Various Food Security Performance Indicators

	Sites	Timing	Costs
Outputs	ALL	monitored every year	low
Effects (Intermediate Goals)	sub-sample	evaluated after several years	medium
Impacts (Final Goal)	smaller sub-sample	evaluated after several years	high

From: Tim Frankenburger, CARE, July, 1995

VF > 1993

ETHIOPIA
The Edge of Disaster: Poor Rains Could Mean Major Famine

Based on a report released by USAID/Ethiopia on June 10, 1994

SUMMARY

Half of Ethiopia's 55 million people are thought to be food-insecure. During the past decade, grain production has fallen below consumption requirements every year, with an average national production deficit of nearly 958,000 MT. Agricultural yields have been stagnant in some areas and continue to decline in others. Meanwhile the population continues to grow at about 2.3 percent. Chronic malnutrition and poverty make millions of people more vulnerable to famine with few, if any, resources to use in a crisis.

In 1993/94, a poor main harvest, a prolonged and severe dry season, and late 1994 belg (secondary season) rains have highlighted Ethiopia's dependence on unreliable rainfall conditions and the dwindling capacity of its people to cope with continued shocks to their food supply. As a result of these events, 6.7 million people are considered highly or extremely vulnerable (see Map 7 and Table 6). These groups are already in need of food aid. Poor farmers account for 71 percent, and pastoralists 12 percent of the population in need of food aid having suffered through drought, inadequate rainfall, pest attacks. In addition displaced citizens and demobilized troops (17 percent of the needy population) suffer from man-made food problems.

During the 1994/95 season, the progress of the kiremt (main season) rains will be monitored closely (although pest attacks, crop diseases, and fertilizer use in the surplus areas will also influence potential harvest production), as the rains are critical for alleviating the growing food insecurity and potential for famine. In the longer term, the need to address chronic underlying determinants of poverty, and the burgeoning national shortfall in food production, cannot be overemphasized.

Ethiopia will need food aid in 1994/95, though final needs cannot yet be estimated. Scenarios for total food aid needs range from a best-possible case of a 500,000 MT deficit to a worst case of close to 3,000,000 MT if the kiremt rains fail during the meher (main harvest) season of 1994.

COUNTRY BACKGROUND

Ethiopia's chronic child malnutrition rates are among the worst in the world. The national rural nutrition survey of 1992 found that the overall rate of stunting[1] among children under five years old had risen from a shocking 59.8 percent in 1983 to 64 percent in 1992.

The underlying dynamics of the national food deficit are graphically shown in Figure 6. The direction of change is stark. In 1983, national grain production fell below consumption needs and has never recovered. Even the 1992/93 record harvest of nearly 8,000,000 MT fell 330,000 MT short of needs. As the graph shows, production has grown in the last decade, but the population continues to grow even faster.

Following a disappointing 1993/94 harvest, the government estimates that 6.7 million people (around 13 percent of the population) need emergency food aid. This figure rose by 51 percent between December 1993 and April 1994, due to:

- the addition of pastoral areas, which had not been assessed previously;
- the effects of an unusually severe dry season (October to January) and late *belg* rains—normally between February and May—see Map 8 for location of major and minor *belg* areas); and
- the apparent inadequacy of traditional coping mechanisms among those hit by crop losses and stressed livestock conditions.

The past year's events—a patchy 1993 *meher* (main) harvest, followed by unfavorable weather from November to March, a steep rise in estimated food aid needs, and widespread reports of malnutrition-related deaths have sharply emphasized both the high dependence of Ethiopia's food economy on unreliable rains and the extreme vulnerability of a large portion of the population (the population has grown by nearly 12 million since 1984) due to a lack of assets and income raising alternatives.

There is generally a high risk of drought in Ethiopia. In fact, there is almost certain to be drought somewhere in the country in any given year, causing hardship and localized food insecurity. However, the danger of generalized famine depends on how widespread the drought is and the availability of family resources to cope with vulnerability to famine. It is too early to talk of a 1994 drought although the *belg* (secondary) rains have already been very late and inadequate in many areas. Some observers believe that a severe drought (in whichever year it may come) could tip as many as half the Ethiopian population into food-aid dependency or, alternatively, starvation.

1. The threshold for stunting (low height-for-age) used here is minus two z-score deviations from the mean.

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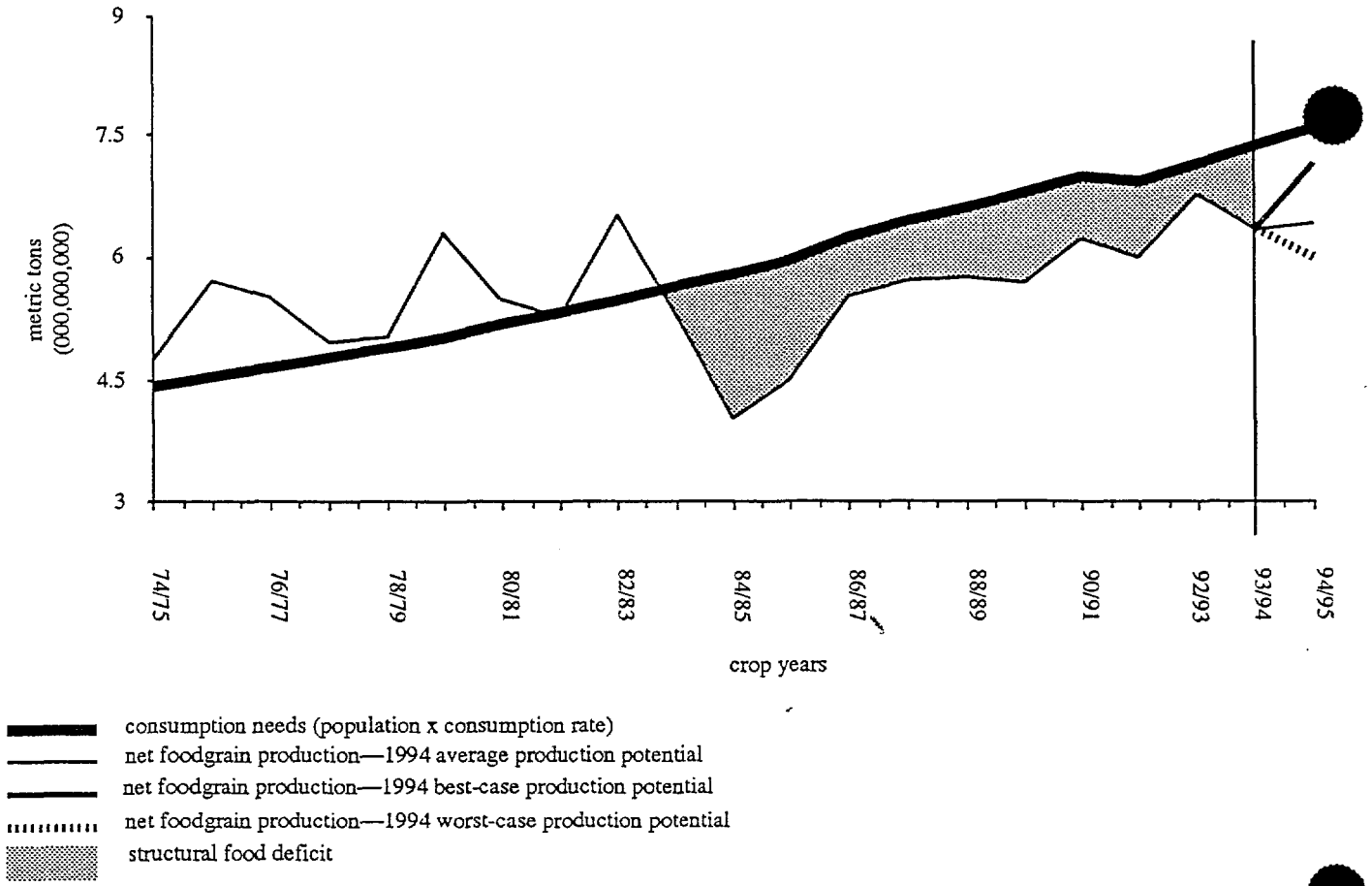
Figure 6. Ethiopia: Long term trends in food production and consumption needs 1974–94



Note: estimated population growth rate 1992–2000 = 2.7
Sources: FEWS/Ethiopia, The World Bank

ANALYSIS OF SOCIOECONOMIC GROUPS

Table 6 shows the distribution of people considered by the RRC to be in need of food aid during 1994. These figures are taken as a proxy measure of highly and extremely vulnerable populations by FEWS definitions (see page 47). The following sections consider the underlying (long-term) vulnerability of each main group, recent shocks affecting them, and their current vulnerability.

Resource-poor and drought-prone farming communities

Resource-poor and drought-prone farming communities (located mainly in Tigray, Amhara, Oromia, and the SPAR regions) are by far the largest famine-prone group in Ethiopia. Table 6 shows that 4,785,000 people in the agricultural areas are considered in need of food aid during 1994 due to natural factors (i.e. crop and livestock loss due to drought, floods, hail, pests, and diseases). This is 71 percent of the total highly and extremely vulnerable population. Given the background outlined above, the impact of these short-term (1993/94) natural factors must be interpreted in the context of a decreasing capacity to cope with the ongoing impacts of drought. This decreasing coping capacity is due to the progressive erosion of assets (both for production and for liquidation in times of need), a general failure of the agricultural economy to produce enough food, lack of diversification both within and outside the agriculture sector, and an absolute shortage of essential resources (most fundamentally, land) in relation to the growing population. It is striking that the short-term shocks that have produced the high level food insecurity and the rise in food aid needs for 1994 have been almost entirely climate related.

In Tigray, the Southern and Eastern zones were particularly badly hit by drought during the 1993 *meher* and the following dry season. Pests caused further significant crop losses. The late *belg* rains have prolonged the current problems and threaten a failure of the *belg* harvest in the south. Relief needs in Tigray were initially underestimated and food distributions are reported to have been inadequate.

North and South Wello also suffered from a poor 1993 main harvest (due to drought and pests), followed by late 1994 *belg* season rains and questionable production outcome. Major migrations and deaths have been forestalled by actual or expected relief distributions, but the situation is precarious.

North and South Gonder remain seriously affected by

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drought. In South Gonder Zone, there have been reports of unusual human and animal migrations in recent months, and of high malnutrition rates. As in Wello, migrations have been limited by food distributions.

In East and West Harerghe, the late *belg* rains have caused serious delay to the 1994 *meher* harvest preparations. Meanwhile, alarming malnutrition levels and trends were found in parts of East Harerghe Zone during March and April. Conditions in North and South Omo zones of the Southern Ethiopia People's Administrative Region (SEPAR) have deteriorated rapidly in the last six months. The Wolayita area (the northeast of North Omo Zone) has in particular been seen as a microcosm of the wider situation. Its underlying vulnerability due to population density, resource poverty, and weather-dependent production is so high that relatively small shocks have rapidly produced a crisis.

Drought is again the main factor this year—a poor 1993 *meher* harvest followed by a very dry *bega* (dry season), and now a poor *belg*. Early May rains were good in both Omo zones, following the late start in March. *Belg* crops were then widely planted and reported to be doing well, but the harvest will be late and may have interfered with *meher* planting. Meanwhile, child nutritional status has been falling sharply, substantiating widespread reports of malnutrition-related deaths. There are fears the situation may be even worse in remote areas which are not being monitored or assisted by nongovernmental organizations.

The delay in the 1994 *belg*, and the poor distribution and quantity of rainfall, are likely to affect food security in the *belg*-producing areas of N. Omo, N. and S. Wello, N. Shewa, and southern Tigray (Raya & Azebo). Some sowing has taken place in all these areas, but the risks are high and the harvest outlook is generally poor. A failure of the *belg* harvest in these areas would intensify and lengthen the July-November hungry season. The *belg* rains are also important for the preparation and sowing of *meher* crops, and for the feeding and sustenance of livestock (pasture and water). The 1994 *belg* rains may have a significant impact on the main season. A more detailed assessment of *belg* production will be available by mid-September.

Resource-poor and drought-prone pastoralists

While most rural households depend to some extent on livestock, Ethiopia's pastoralists are concentrated in the lowland and semiarid areas of the south, southeast and northeast (see Table 6 and Map 8). They are a relatively small proportion of the rural population, but many are vulnerable to food insecurity. Approximately 12 percent (794,500) of the people currently reported to be in need of food aid are nomadic pastoralists.

The underlying vulnerability of pastoralist groups is determined by uncertain climate, lack of assets, and an inadequate diversification of income options when their main production system fails. Many communities have still never fully recovered from the droughts of the last decade. In all livestock dependent areas, the lack of veterinary services and drugs is a constant impediment to productivity, and adds to livestock losses.

In Afar Region (Region 2), both rainy seasons in 1993 were very poor, resulting in severe livestock stress and some ethnic clashes over scarce resources. The 1994 spring rains were late, but good rainfall in April and May has helped revive some pasture areas.

In Borena (where the economy was just beginning to recover from a devastating drought in 1990/91), the main 1993 spring rains were good, but were followed by virtually no rain during the secondary (October/November) season, a very dry *bega* season, and late spring rains in 1994. The impacts of this sequence are alarming. Extreme physical stress on livestock quickly produced acute food shortages, as milk production virtually ceased, and the exchange of animals (and animal products) for grain collapsed. Acute child malnutrition was evident, although no systematic survey was made. Conditions have improved following rains from late March onwards, though livestock losses have not been quantified.

South Omo had poor 1993 rains, and food shortages have been escalating in both pastoralist and agricultural areas since October 1993. The Ogaden, by contrast, had excellent rains in 1993. The food situation in most parts of Region 5 (Somali) is reported to be better than in previous years, and the lateness of the 1994 spring rains (which started in April) should not cause major problems.

As of mid-May, all four of the major pastoralist areas were receiving adequate rainfall. This should improve pasture and water conditions and should reduce the short-term vulnerability to food shortages. However, even if the current rains continue, the rapid deterioration of conditions in Borena earlier this year showed clearly how vital the secondary rains and usual dry season showers are in maintaining the viability of livestock in semiarid zones.

Urban poor and destitute

The total urban population in 1992 was estimated at 6.9 million, with over a third living in Addis Ababa. Townspeople are a relatively low proportion of the Ethiopian population compared to other more rapidly urbanizing countries, but the depth of poverty and destitution in Ethiopia's towns is a serious, long-term concern.

The risk of individual starvation or generalized famine is lower in towns than in remote rural areas, and the characteristics of vulnerability are different. The main issue for urban groups is access to food, rather than its general availability. Urban dwellers' food security is determined almost entirely by the relationship between their incomes and the price of food. An International Food Policy Research Institute (IFPRI) sample survey of Addis Ababa in 1990/91 found that 43 percent of households were living in "food poverty"—that is, their combined household income was insufficient to buy a basket of foodstuffs which met a minimum nutritional standard. While the most vulnerable and most visible groups are the absolute destitute—beggars, street children, the disabled—this finding gives shocking confirmation of the extent of absolute poverty in the city, painting a grim picture of the urban poor in Addis Ababa. Comparable data are not available for other towns.

The current vulnerability of the urban population is moderate but increasing. Grain prices (maize, sorghum and *teff*) were relatively stable compared to those in the drought affected rural areas, until February. In March and April prices began to climb sharply (see Figure 7). This trend appears to be continuing in May. If the next main harvest is poor, the urban, moderately vulnerable groups will be adversely affected by fur-

Map 8. Ethiopia: *belg* and pastoral areas

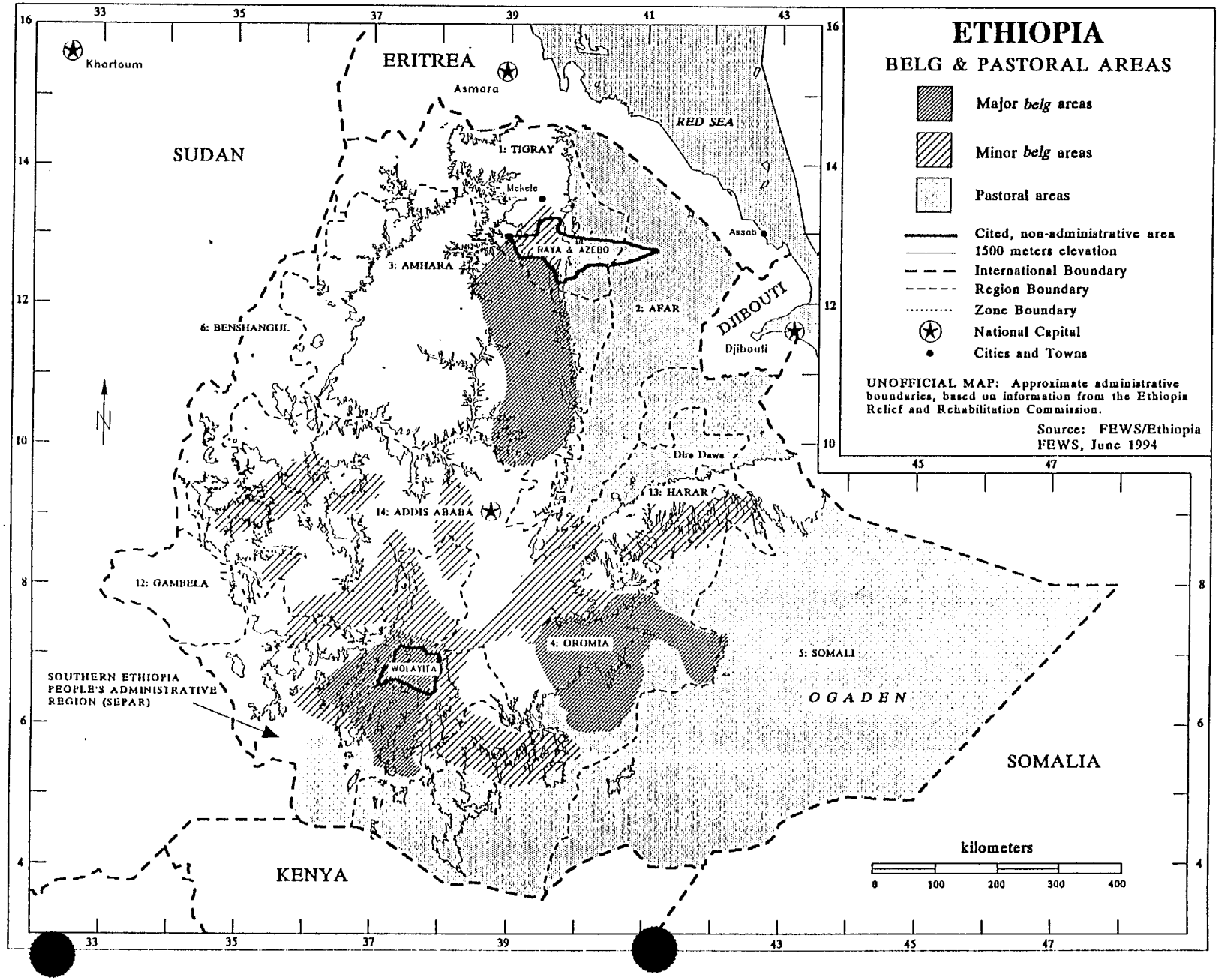
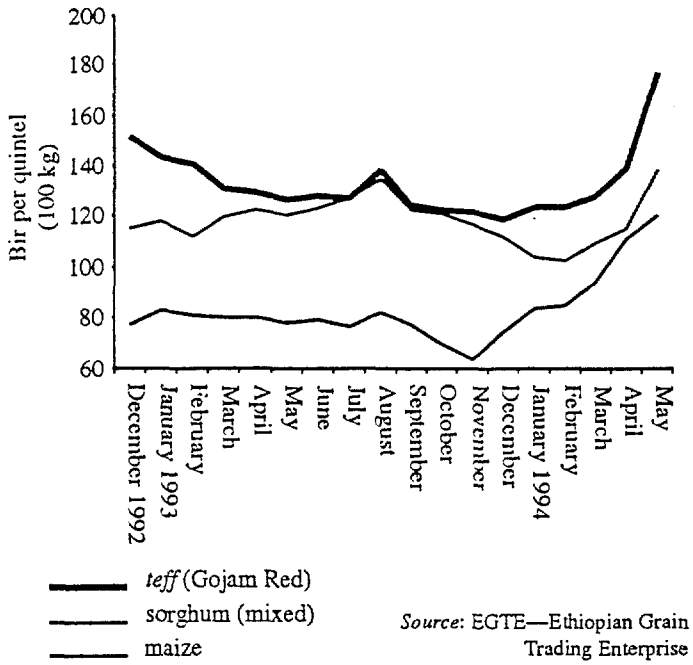


Figure 7. Ethiopia: Addis Ababa—staple cereal prices



ther price increases.

There is a considerable overlap between the urban poor and the next major vulnerable group—the displaced and demobilized. As Table 6 shows, 81,000 highly vulnerable people in this category are currently listed as needing food aid in Addis Ababa, 37,000 in Mekele (Tigray) and 8,000 in Dire Dawa (listed under Region 4, Oromia). These figures undoubtedly underestimate the urban dimension of the "man-made" food-security problems, as many of the displaced and returnees are in towns throughout the country.

Internally displaced, demobilized and returning populations

These categories are by definition transitory, though individuals may move into other chronically vulnerable groups. The numbers classed by the RRC as in need of food aid due to man-made factors have roughly halved over the last 16 months—from 2,211,660 in December 1992 to 1,359,745 in December 1993, and to 1,120,500 in April 1994—despite problems associated with postwar reintegration and continuing displacement due to local conflicts. Nevertheless, these groups still represent nearly 17 percent of the highly and extremely vulnerable people in Ethiopia.

CONCLUSIONS

The overall outlook for national food security in 1994/95 is precarious. With so many people already in need of food aid and with little or no resources to fall back on, a widespread harvest failure could mean disaster in 1994. The largest number of highly and extremely vulnerable people is again among the poor farming communities of the drought affected regions, particularly in Tigray, N. and S.Wello, E. and W. Gonder, E. and W. Harerghe, and N. and S. Omo. A large number of resource-poor pastoralists in the lowland areas are also highly and extremely vulnerable. Most of the displaced, demobilized, and returnee populations have been reabsorbed, to varying degrees, among the urban and rural populations. Many are still dependent on food aid and should be considered a distinct vulnerable group. The urban poor, living in grinding poverty without adequate access to food, remain chronically moderately vulnerable. Price increases could severely affect them in the event of a widespread harvest failure.

The Ethiopian structural food gap can only be reduced by increased agricultural productivity. There is growing concern among observers that government strategies, slow in formulation, will not be sufficiently focused or coordinated to assure rapid increases in production and declines in food assistance. The structural nature of the food gap, and government actions, suggest that Ethiopia will need substantial short- and medium-term food imports. During the short-term, Ethiopia will need food aid. At this point FEWS/Ethiopia suggests three possible scenarios for 1994/95:

- **Best case**: in its December 1993 analysis, the World Bank projected a foodgrain deficit of 429,000 MT for 1994/95 as the most optimistic scenario imaginable—assuming a repeat of the record rise in production achieved in 1992/93. Already, it is almost impossible that this target can be reached, given the likely impact of the late and poor *belg* rains on the secondary harvest, and on the timing of the main season cultivation.
- **Average production potential**: if the harvest falls within the range of long-term trends, there will be another annual deficit of over a million MT.
- **Worst case**: a widespread failure of the *kiremt* (main) rains—which cannot be predicted at this point—could double this deficit. As a worst-case scenario, if there were a major drought this year, and production fell by the same proportion as in 1984/85 (i.e., around 24 percent), the implied foodgrain deficit would be in the area of 2.77 million MT (calculated on FAO assumptions, including a very low consumption figure of 134 kg of grain per capita per year).

By far the most important single factor in the coming year's food security will be the *kiremt* rains and resulting *meher* harvest. Other factors having an impact on food production will be pest attacks and diseases (also largely influenced by weather conditions), and fertilizer use in surplus production areas. The final outcome and timing of *belg* production will also be important in *belg*-producing areas discussed above.

A catastrophic failure of the main rains could be evident as early as July. On the other hand, a good start to the rains followed by an early end could be equally disastrous, and may not be clear until September or October; while the impact of patchy rains with regional dry spells and variations (a more "normal" pattern) would probably not be fully apparent until crop assessments start in November/December.

Table 6. Ethiopia: Distribution of population in need of food aid in 1994—highly and extremely vulnerable categories

Region	Zone	Agriculturalists	Nomadic patoralists	Displaced, ex-soldiers returnees	Total
Tigray (Region 1)	Western	66,000	—	20,000	85,000
	Central	197,00	—	37,000	234,000
	Eastern	431,000	—	54,000	485,000
	Southern	228,000	—	35,000	263,000
	Mekele Regional total	92,000	—	163,000	1, 085,000
Afar (Region 2)	Zone 1	—	35,000	—	35,000
	Zone 2	—	55,000	—	55,000
	Zone 3	—	33,000	—	33,000
	Zone 4	—	58,000	—	58,000
	Zone 5	—	33,000	—	33,000
	Regional Total	—	215,000	—	215,000
Amhara (Region 3)	N. Wello	509,000	—	91,000	600,000
	S. Wello	271,000	—	185,000	466,000
	N. Gonder	226,000	—	14,000	240,000
	S. Gonder	424,000	—	4,500	428,500
	N. Shewa	299,000	—	12,000	311,000
	W. Gojam	—	—	10,300	10,300
	E. Gojam	47,000	—	4,000	51,000
	Regional total	1,776,000	276,000	232,000	2,095,800
Oromia (Region 4)	Arsi	123,000	—	13,000	138,000
	Bale	166,000	—	10,000	176,000
	E. Harerghe	529,000	—	76,000	505,000
	W. Harerghe	217,000	—	26,000	243,000
	Dire Dawa	52,000	—	8,000	60,000
	N. Shewa	58,000	—	—	58,000
	W. Welega	7,000	—	—	7,000
	E. Welega	130,000	—	3,000	133,000
	W. Shewa	30,000	—	2,000	3,000
	E. Shewa	78,000	—	2,000	80,000
	Ilubabor	46,000	—	6,000	52,000
	Jima	53,000	—	2,000	55,000
	Borena	—	—	84,000	360,000
	Regional total	1,487,000	—	232,000	1,995,000
Somali (Region 5)	Jiga	—	30,000	—	30,000
	Degehabur	—	18,000	—	18,000
	Nagob/Fikre	—	45,000	—	45,000
	Warder	—	6,000	—	6,000
	Kabridehar	—	30,000	—	30,000
	Gode	—	15,000	—	15,000
	Afder	—	50,000	—	50,000
	Liben	—	6,000	—	6,000
	Shinile	—	50,000	—	50,000
	Regional total	—	250,000	—	250,000
Benshangul (Region 6)	Asosa	—	—	44,000	44,000
	Metekel	—	—	39,000	39,000
	Regional total	—	—	83,000	83,000
Southern People's Administrative Region	Sidama	—	—	3,500	3,500
	Gedio	—	—	10,000	10,000
	N. Omo	373,000	—	800	800
	S. Omo	—	53,000	1,300	54,800
	Hadiya	43,000	—	93,000	141,000
	Gurage	—	—	20,500	20,500
	AKT *	20,000	—	108,000	128,000
	Shekicho	—	—	300	300
	Maji	20,000	—	—	20,000
	Special weredas **	91,000	—	—	91,000
	Regional totals	547,000	53,500	240,200	840,700
Gambela (Region 12)		27,000	—	500	27,500
Harar (Region 13)		26,000	—	—	26,000
Addis Ababa (Region 14)		—	—	81,000	81,000
National total		4,765,000	794,500	1,120,500	6,700,000

Notes: * = Alaba, Kembata & Tembro.
** = Amaro-Kele, Konso, Derashi and Bur.
Sources: RRC/EWPS, "Food Situation in 1994 and Assistance Requirements," April 14, 1994; FEWS/Ethiopia

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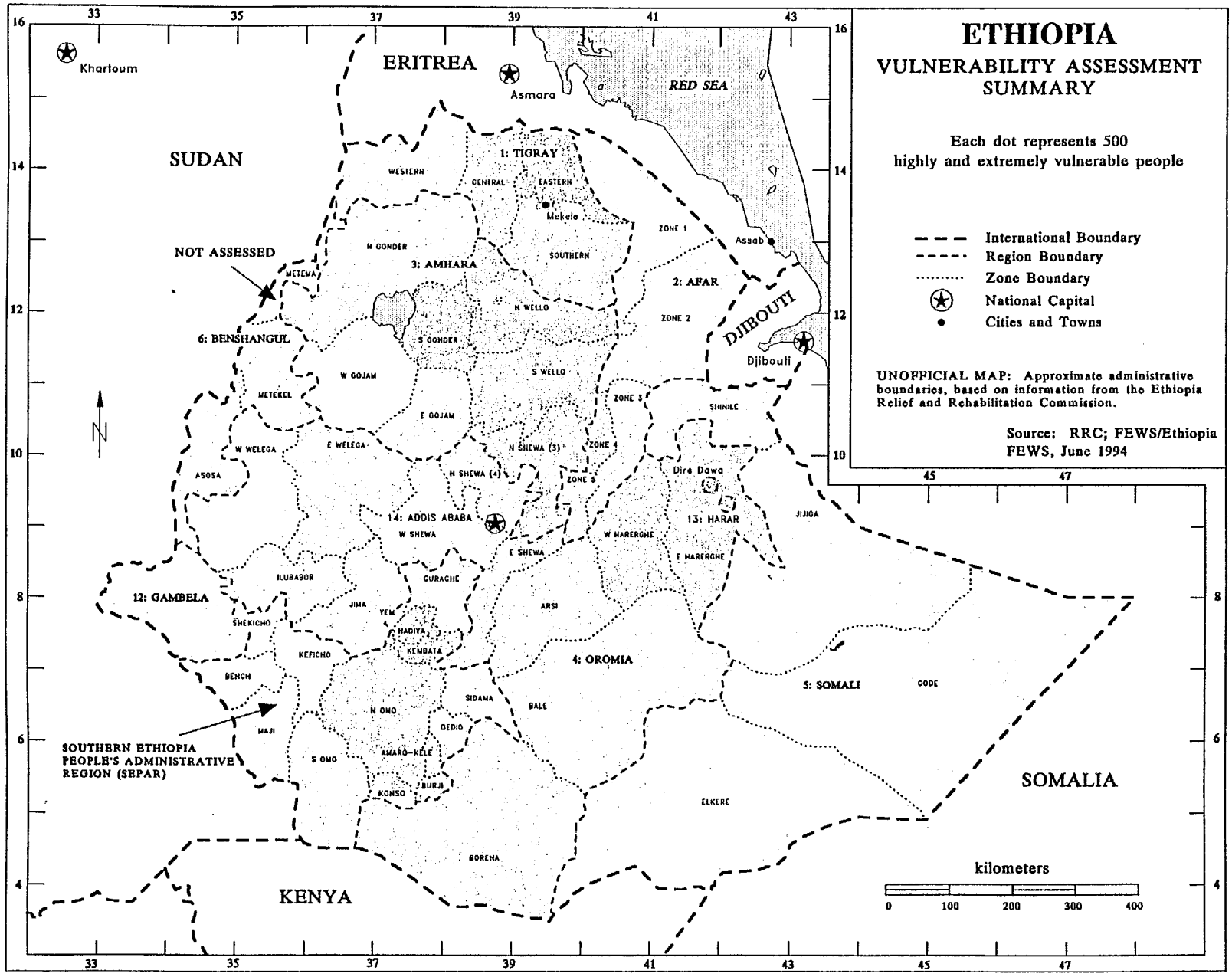
Map 7. Ethiopia: Vulnerability Assessment Summary



ETHIOPIA

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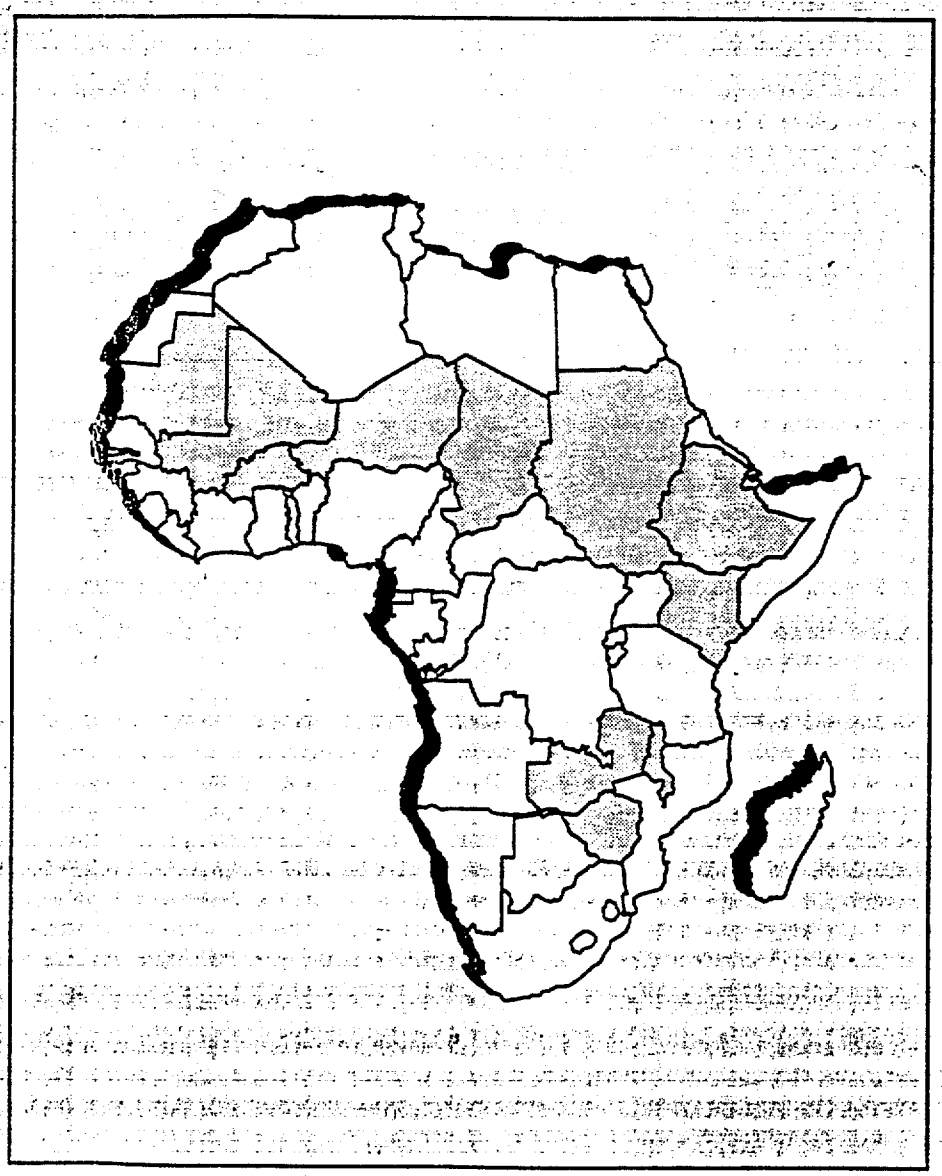
FEWS Vulnerability Index

Level of Vulnerability	Conditions of Vulnerability	Typical Coping Strategies and/or Behaviors	Interventions to Consider
SLIGHTLY VULNERABLE	**Maintaining or Accumulating Assets** and **Maintaining Preferred Production Strategy**	**Assets/resources/wealth:** either accumulating additional assets/resources/wealth or only minimal net change (normal "belt-tightening" or seasonal variations in) assets, resources or wealth over a season/year. i.e., coping to minimize risk. **Production Strategy:** any changes in production strategy are largely volitional for perceived gain, and not stress related.	**Developmental Programs**
MODERATELY VULNERABLE	**Drawing-down Assets** and **Maintaining Preferred Production Strategy**	**Assets/resources/wealth:** coping measures include drawing down or liquidating less important assets, husbanding resources, minimizing rate of expenditure of wealth, unseasonable "belt-tightening" (e.g., drawing down food stores, reducing amount of food consumed, sale of goats or sheep). **Production Strategy:** only minor stress-related change in overall production/income strategy (e.g., minor changes in cropping/planting practices, modest gathering of wild food, inter-household transfers and loans, etc.).	**Mitigation and/or Development: Asset Support** (release food price stabilization stocks, sell animal fodder at "social prices," community grain bank etc.)
HIGHLY VULNERABLE	**Depleting Assets** and **Disrupting Preferred Production Strategy**	**Assets/resources/wealth:** liquidating the more important investment, but not yet "production," assets (e.g., sale of cattle, sale of bicycle, sale of possessions such as jewelry). **Production Strategy:** coping measures being used have a significantly costly or disruptive character to the usual/preferred household and individual life-styles, to the environment, etc. (e.g., time-consuming wage labor, selling firewood, farming marginal land, labor migration of young adults, borrowing from merchants at high interest rates).	**Mitigation and/or Relief: Income and Asset Support** (Food-for-Work, Cash-for Work, etc.)
EXTREMELY VULNERABLE or AT-RISK	**Liquidating Means of Production** and **Abandoning Preferred Production Strategy**	**Assets/resources/wealth:** liquidating "production" resources (e.g., sale of planting seed, hoes, oxen, land, prime breeding animals, whole herds). **Production Strategy:** Seeking nontraditional sources of income, employment, or production that preclude continuing with preferred/usual ones (e.g., migration of whole families).	**Relief and/or Mitigation: Nutrition, Income and Asset Support** (food relief, seed packs, etc.)
FAMINE	**Destitute**	**Coping Strategies Exhausted:** no significant assets, resources, or wealth; no income/production.	**Emergency Relief** (food, Shelter, medicine)

Vulnerability Assessment



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Kenya

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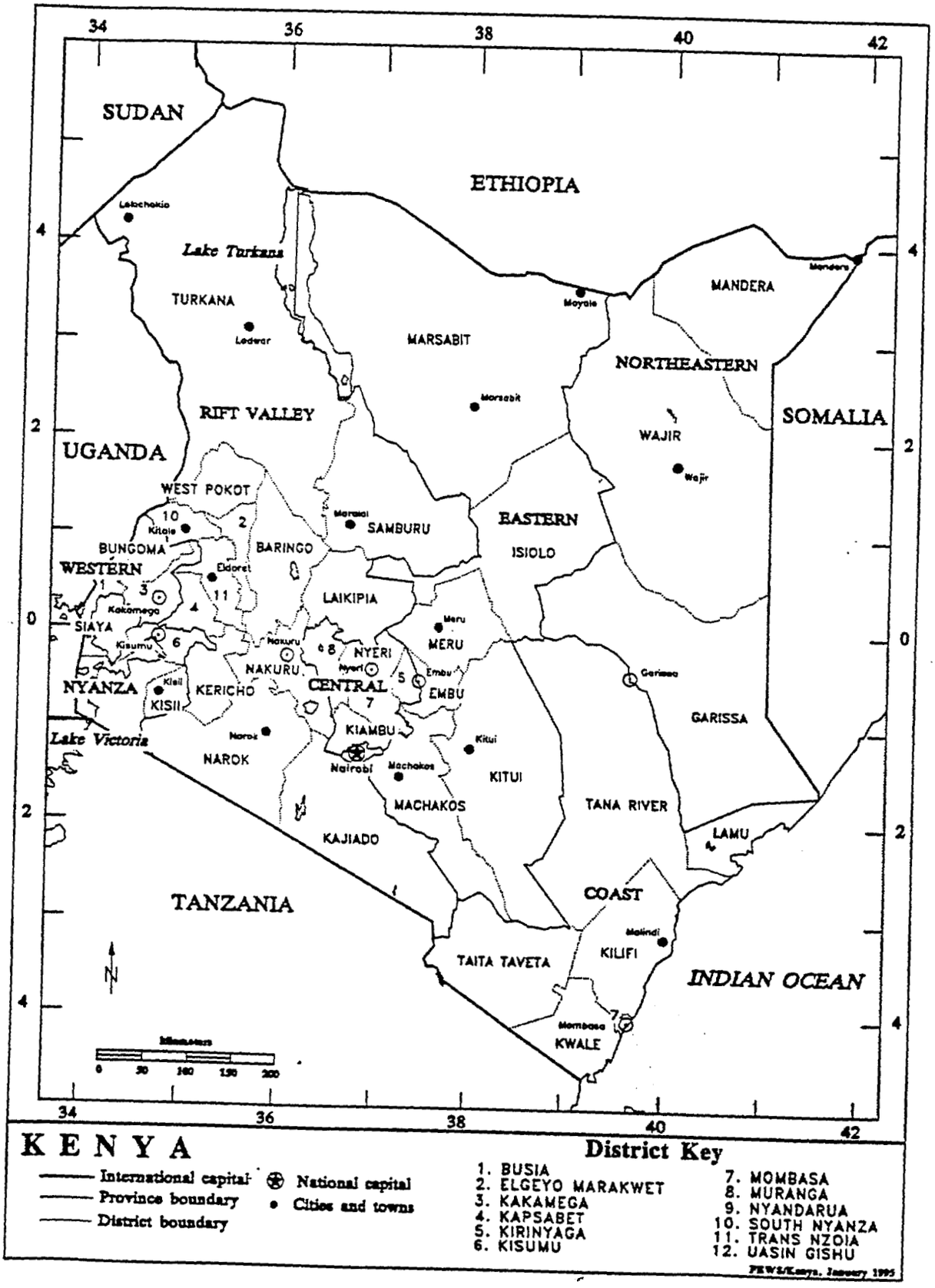
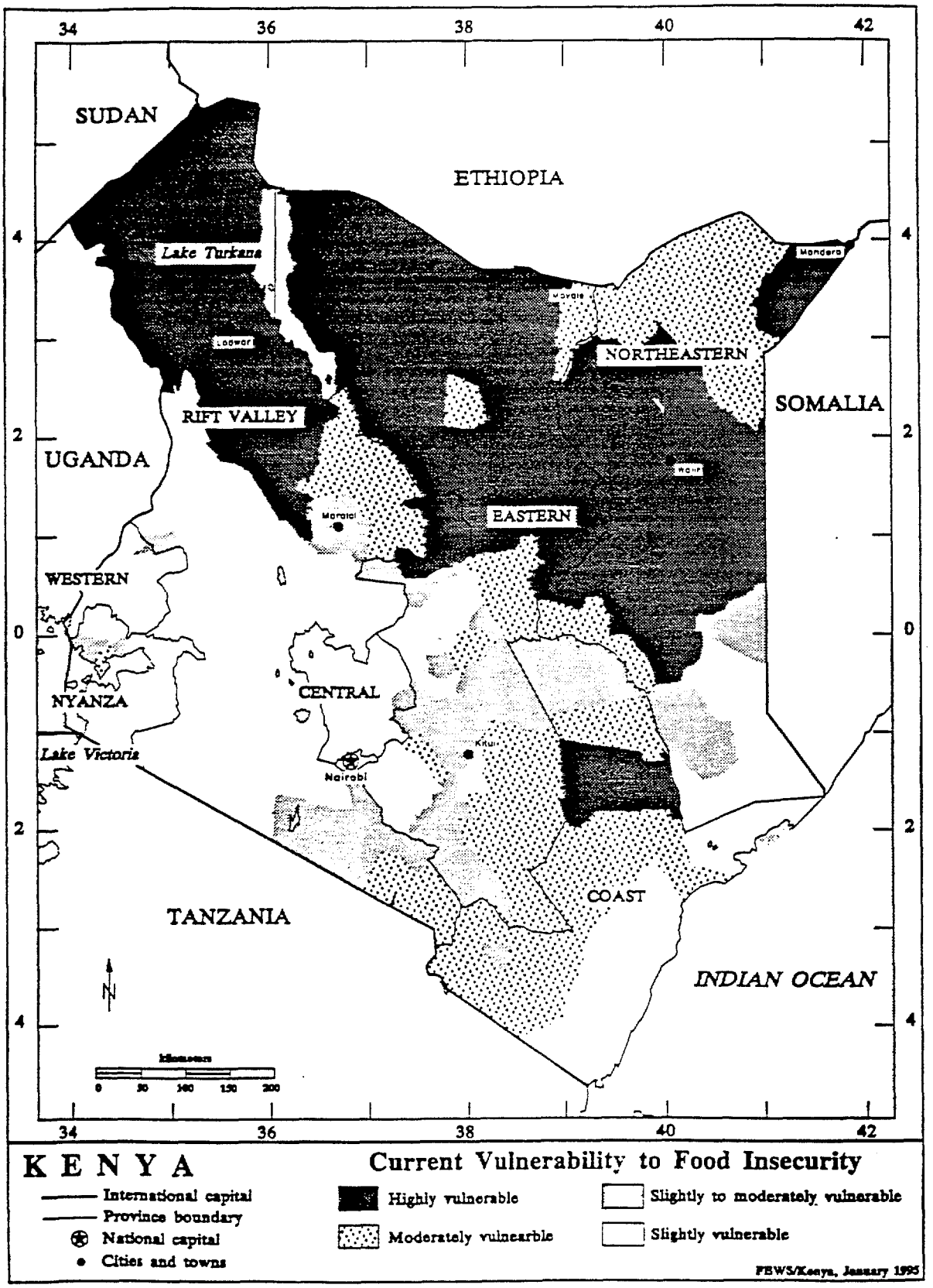
Map 1. Kenya: District Key



Map 2. Kenya: Current Vulnerability to Food Insecurity



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Map 3. Kenya: Chronic Vulnerability to Food Insecurity

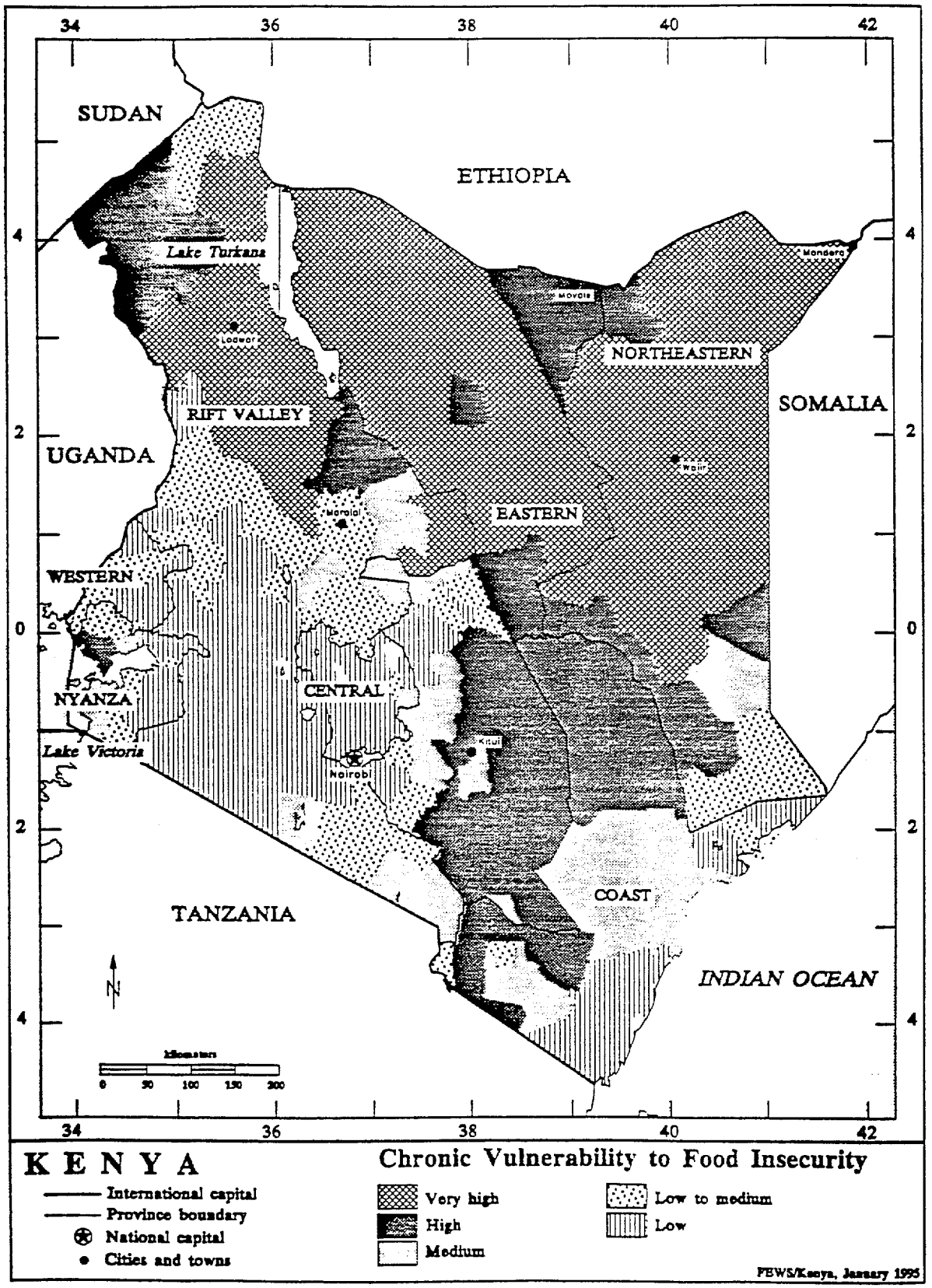

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Table 1. Kenya: 1994/95 Summary of vulnerability

Division	Rank	District	Total population	Vulnerable pastoralists	Vulnerable subsistence farmers	Total vulnerable
Highly vulnerable						
North Horr	(4)	Marsabit	37,410	29,928	—	29,928
Lokitaung	(2)	Turkana	31,497	25,198	3,150	28,348
Loiyangalani	(3)	Marsabit	14,302	11,442	—	11,442
Central (Kalokol)	(1)	Turkana	48,378	38,702	4,838	43,540
Lokori	(7)	Turkana	24,029	19,223	2,403	21,626
Katilu	(6)	Turkana	27,530	22,024	2,753	24,777
Griftu	(5)	Wajir	27,691	22,153	—	22,153
Sericho	(9)	Isiolo	12,919	7,751	646	8,397
Modogashe	(12)	Garissa	15,316	12,253	—	12,253
Laisamis	(10)	Marsabit	18,263	14,610	—	14,610
Buna	(23)	Wajir	5,299	4,239	—	4,239
Merti	(22)	Isiolo	14,823	8,894	741	9,635
Turkwel	(19)	Turkana	31,479	25,184	3,148	28,331
Dadaab	(15)	Garissa	6,284	5,027	—	5,027
Central	(24)	Wajir	42,928	30,049	—	30,049
Wajir-Bor	(21)	Wajir	13,752	11,002	—	11,002
Habaswein	(17)	Wajir	15,958	12,766	—	12,766
Kibish	(80)	Turkana	2,633	2,107	263	2,370
Central	(8)	Mandera	30,423	21,296	—	21,296
Waso	(16)	Samburu	9,764	7,323	976	8,299
Kakuma	(28)	Turkana	39,517	31,613	3,952	35,565
Fino	(13)	Mandera	18,269	14,615	913	15,529
Galole	(38)	Tana River	54,934	31,862	8,240	40,102
Sololo	(40)	Marsabit	6,801	5,441	340	5,781
Moyale	(39)	Marsabit	16,867	11,807	1,687	13,494
Subtotal			567,064	426,508	34,050	460,558
Moderately vulnerable						
El Wak	(20)	Mandera	26,824	21,459	—	21,459
Mutomo	(34)	Kitui	124,850	—	8,740	8,740
Baragoi	(29)	Samburu	38,101	28,576	3,810	32,386
Garba Tulla	(37)	Isiolo	14,191	8,515	—	8,515
Takaba	(14)	Mandera	19,152	15,322	—	15,322
Mbalambala	(31)	Garissa	12,001	9,601	—	9,601
Banissa	(11)	Mandera	20,574	16,459	—	16,459
Rhamu	(18)	Mandera	14,585	11,668	729	12,397
Rarieda	(41)	Siaya	150,677	—	60,271	60,271
Bute	(27)	Wajir	10,771	8,616	—	8,616
Loitokitok	(61)	Kajiado	98,136	34,348	—	34,348
Tharaka	(30)	Tharaka-Nithi	87,540	—	6,128	6,128
Garsen	(53)	Tana River	55,742	32,330	8,361	40,691
Central	(25)	Garissa	47,248	23,624	—	23,624
Mutito	(35)	Kitui	83,381	—	5,837	5,837
Taveta	(75)	Taita Taveta	48,385	2,419	1,452	3,871
Central	(44)	Marsabit	30,603	12,241	9,181	21,422
Bura	(32)	Tana River	28,595	16,585	4,289	20,874
Voi	(58)	Taita Taveta	57,270	2,864	1,718	4,582
Mwatate	(65)	Taita Taveta	61,276	3,064	1,838	4,902
Wamba	(63)	Samburu	23,137	17,353	2,314	19,666
Yatta	(59)	Machakos	127,227	—	6,361	6,361
Madogo	(36)	Tana River	22,700	13,166	3,405	16,571
Magadi	(68)	Kajiado	19,114	6,690	—	6,690
Subtotal			1,222,079	284,898	124,434	409,332

Table 1. Kenya: 1994/95 Summary of vulnerability (*continued*)

Slightly–moderately vulnerable

Division	Rank	District	Total population	Vulnerable pastoralists	Vulnerable subsistence farmers	Total vulnerable
Gachoka	(56)	Embu	133,127	2,663	25,294	27,957
Liboi	(26)	Garissa	5,004	4,003	—	4,003
Kyuso	(33)	Kitui	121,067	—	8,475	8,475
Maseno	(70)	Kisumu	160,315	—	43,285	43,285
Central	(55)	Isiolo	44,731	22,366	4,473	26,839
Masinga	(52)	Machakos	92,089	—	4,604	4,604
Lorroki	(85)	Samburu	59,130	44,348	5,913	50,261
Kapsokwony	(134)	Bungoma	50,939	—	5,094	5,094
Bura	(43)	Garissa	7,682	6,145	—	6,145
Saboti	(77)	Trans Nzoia	181,040	—	34,398	34,398
Bondo	(45)	Siaya	141,856	—	56,742	56,742
Central	(82)	Kajiado	115,664	40,483	—	40,483
Wundanyi	(91)	Taita Taveta	65,449	3,272	1,963	5,236
Makueni	(48)	Makueni	216,141	2,161	34,583	36,744
KwaVonza	(47)	Kitui	136,120	—	9,528	9,528
Mwingi	(49)	Kitui	123,677	—	8,657	8,657
Nithi	(51)	Tharaka-Nithi	205,132	—	14,359	14,359
Kibwezi	(46)	Makueni	177,938	1,779	28,470	30,249
Faza	(96)	Lamu	20,586	—	618	618
Mwea	(62)	Kirinyaga	124,106	—	18,616	18,616
Cheptaisi	(166)	Bungoma	89,165	—	8,917	8,917
Mau	(165)	Narok	137,528	45,384	12,377	57,762
Jarajila	(69)	Garissa	2,605	2,084	—	2,084
Subtotal			2,411,093	744,484	575,234	1,319,719

Summary of current vulnerability

	Pastoralists	Subsistence farmers	Total vulnerable
Highly vulnerable	426,508	34,050	460,558
Moderately vulnerable	284,898	124,434	409,332
Slightly–moderately vulnerable	744,484	575,234	1,319,719
Total	1,455,890	733,718	2,189,609

Percent of national population

	Pastoralists	Subsistence farmers	Total vulnerable
Highly vulnerable	1.7	0.1	1.8
Moderately vulnerable	1.1	0.5	1.6
Slightly–moderately vulnerable	2.9	2.3	5.2

Source: FEWS/Kenya

factor explaining this vulnerability, and pastoralists constitute the vast majority of the vulnerable population in these areas.

The second most vulnerable category is more diverse, both geographically and socioeconomically. Some divisions in this category are in pastoralist areas with a slightly better natural resource base and more significant household assets than the first category. Other divisions in this category lay in semi-arid eastern Kenya, including much of Eastern Province and the inland areas of Coast Province. Vulnerable households in these areas are both small-scale agriculturalists and pastoralists. Both of these categories would be considered moderately vulnerable to food insecurity, using baseline indicators. The food security of these groups is most likely to deteriorate quickly as a result of shocks such as drought or physical insecurity. The next three categories have long-term conditions which render them slightly to moderately vulnerable to food insecurity. This group includes a few pastoral divisions, a number of semi-arid agricultural areas, plus a few divisions within districts normally considered part of the high potential area.

ANALYSIS OF SOCIOECONOMIC GROUPS

Vulnerability to famine for the most at-risk socioeconomic groups has reduced significantly in the past six months. However, the 1992–93 period caused severe hardships and the loss of assets for many people in the four most vulnerable socioeconomic groups: pastoralists, subsistence farmers, the urban poor, and newly destitute urbanized pastoralists. Data used in this VA to measure assets are not robust enough to capture changes from year-to-year, but it is certain that those affected by a reduced asset base will not have recovered fully.

If the ongoing "short rains" season continues to be adequate, vulnerability for pastoralists and subsistence farmers will further decline. A good 1995 "long rains" season would probably return most households to pre-1992 levels of vulnerability. Conversely, a poor season would have immediate negative consequences due to the reduction in assets over the past two years. Even with another good rainy season, vulnerability in the arid north will remain above chronic levels due to the likely continuation of pastoralist insecurity.

Pastoralists

Pastoralism is the primary economic activity in all of the divisions included in the most chronically vulnerable 10 percent of divisions in Kenya. Some pastoral divisions in the arid districts are only moderately vulnerable, while a number of pastoral divisions in semi-arid districts are just slightly to moderately vulnerable to chronic food insecurity. Primarily pastoral parts of Narok District are among the least chronically vulnerable divisions in the country. In other words, pastoralism does not necessarily result in vulnerability, although the most vulnerable households are pastoralists.

Most pastoralists who are not chronically vulnerable to food insecurity have access to areas with relatively better quality land with a smaller variation in vegetation. Within the arid districts, Jarajila in Garissa District, Kibish in Turkana District, and Lorroki in Samburu District have the lowest level of chronic vulnerability.[4] These three divisions have per capita High Potential Equivalents (HPE) above the national average.

Other indicators included under the "depth of the household entitlement base" help explain why some pastoralists are less vulnerable than others. Pastoralists in Narok and Kajiado districts have better physical access to markets, and therefore would be expected to receive a higher price for their animals. Poor roads and insecurity further increase the cost of marketing animals from remote areas in the north to major population centers.

Only limited opportunities for nonagricultural income or cash crop production exist in the arid pastoral districts. Small-scale gold mining and basketry in Turkana District, the collection of gum arabic in Isiolo, Marsabit, and Turkana districts and limited vegetable production in areas closer to markets are practically the only alternative income earning possibilities open to pastoralists in arid districts. When security permits, cross-border trade in small stock and camels can be an important source of income in North Eastern Province and Marsabit District. The recent influx of refugees from neighboring countries offered some short-term income earning opportunities (such as charcoal making or employment with relief agencies), but these will decline as the refugees are repatriated.

The number of animals owned by pastoral households is the key factor in determining relative vulnerability. The district-level data used here to calculate per capita Tropical Livestock Units (TLUs) provides gross estimates of animal populations, but it is insufficient for more detailed analysis. In addition to the absolute number of animals, herd composition appears to be linked to vulnerability.

Camel ownership seems to be an important factor differentiating the level of vulnerability among pastoralist households facing similar environmental conditions. The TLU calculations in this model simply convert all animals into equivalents based on their weight. In times of drought, however, camels are more than "worth their weight" because of their drought resistance and ability to graze farther away from watering points than other animals.

Attempts were made to gather quantitative and qualitative estimates of the percentage of households owning camels per division. The results of the chronic vulnerability analysis change significantly for primarily pastoralist divisions if the percentage of households owning camels is factored in. North Eastern Province and parts of Marsabit District become relatively less vulnerable when camel ownership is included. Communities which are not traditional keepers of camels, such as the Borana in Marsabit District and the Samburu, become more vulnerable. These data were not integrated into the primary analysis because the estimates are very rough and comparable indicators were not available for non-camel keeping areas. In future iterations of the VA, separate analyses of pastoral and non-pastoral areas may be conducted and additional efforts may be placed on understanding the correlations between camel ownership and vulnerability.

Many of the divisions that were most vulnerable to food insecurity during the 1992 and 1993 period were also in pastoral areas in northern Kenya. Unlike chronic vulnerability where the most vulnerable divisions were spread throughout all seven

northern districts, in the 1992–93 period, the most vulnerable divisions were located in just four arid districts: Turkana, Marsabit, Wajir, and Garissa. All divisions in Turkana and Marsabit districts fell within the most vulnerable 10 percent of all divisions, reflecting both the severity of drought and physical insecurity.

Two divisions of Narok District with large pastoralist populations, Osupuko and Mau, ranked among the most vulnerable 10 percent of all divisions in the 1992–93 period. The pastoralists in these divisions were food insecure because of drought which decimated livestock herds, while agriculturalists lost crops due to drought, and were the most common victims of ethnic violence in the area. Vulnerability also increased for pastoralists in Loitokitok (Kajiado District) due to drought.

Subsistence Farmers

Subsistence farmers, defined as food crop farmers who consume more of their own production than they sell, are considered to be the most vulnerable rural residents after pastoralists. In the divisional analysis, the most chronically vulnerable subsistence farmers are located in the following districts and divisions:

- Kitui — Kyuso, Mutomo, Mutito, Kwa Vonza, and Mwingi divisions
- Tharaka-Nithi — Tharaka Division
- Makueni — Kibwezi and Makueni divisions
- Tana River — Bura and Madogo divisions
- Siaya — Rarieda and Bondo divisions

With the exception of the two divisions in Siaya District, the most vulnerable subsistence farmers live in the semi-arid regions of eastern Kenya. These areas are characterized by much lower per capita TLU holdings than the arid districts and relatively low per capita holdings of good quality land. Although the risk of drought is slightly lower than the most vulnerable pastoral divisions, the variation in vegetation is still well above the national average.

The vulnerability of subsistence farmers in Kitui and Makueni districts is reduced by the high share of nonagricultural income in those districts. According to the 1992 WMS, nearly half of the household income in these two districts comes from nonagricultural sources, primarily wages, self-employment, and transfers.

Rarieda and Bondo divisions in Siaya District are the only divisions outside of eastern and northern Kenya to fall into the slightly to moderately vulnerable category. These two divisions bordering Lake Victoria suffer from a significant degree of variation in vegetation, increasing the risk of drought. The divisions fall within Agroclimatic Zones IV and V and have a relatively high population, resulting in a low per capita HPE ratio.

In the 1992–93 period, most vulnerable subsistence farmers were found in areas where drought was combined with tribal clashes and/or crop destruction by elephants. Vulnerability in Laikipia, Taita Taveta, Uasin Gishu, and Nakuru districts can be attributed evenly to both drought and insecurity. Insecurity was caused by the elephant menace in the first two districts and tribal clashes in the later two districts. Part of Laikipia district was also hit by relatively minor tribal clashes.

Increased vulnerability for farmers in Yatta (Machakos District) and along the northern shores of Lake Victoria in Siaya District was caused by drought; while food insecurity in parts of Kitui and Tana River districts was caused by drought and banditry/raiding.

Urban Poor

The model used to assess vulnerability does not attempt to capture urban vulnerability. Urban vulnerability differs greatly from rural vulnerability, where climatic conditions and market accessibility are of paramount importance. In urban areas, vulnerability is more closely linked to income opportunities, the price of food, and other basic commodities.

Most available data on urban areas concentrates on measuring poverty, which is not directly equivalent to vulnerability to food insecurity or famine. However, recent survey data suggests that urban residents are less likely to be poor than rural households. The 1992 Welfare Monitoring Survey indicated that the urban population of Nairobi and Mombasa comprises roughly nine percent of the national population, while poor households in the two centers comprise between four and six percent of national poverty.

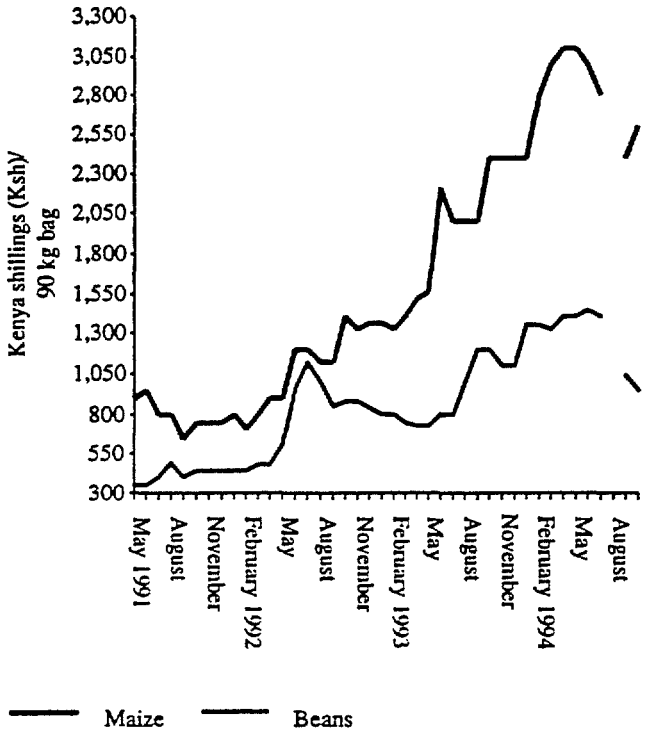
The incidence of food poverty is also less in urban areas than in rural areas. The urban poor are most likely to be casual laborers or informal sector workers. In Nairobi, most of the poor live in the sprawling slums, with Korogocho, Mukuru, and Kibera recording the lowest income per household head.[5] The population density reaches as high as 50,000 people per square kilometer in these slums,[6] where public services such as water and sanitation are virtually nonexistent.

Analysis of nominal retail prices suggests that food insecurity increased in major urban centers in the 1992–94 period. This change was due mainly to inflation and rising maize and bean prices. Maize and bean prices have increased consistently from late 1991 (see Figure 1). After two years of steady increases, prices have started to decline following the bumper 1994 "long rains" harvest. Rising prices were especially hard on the poor, who spend a larger share of total income on food than the nonpoor.[7]

The minimum wage has not kept pace with the sharp increases in consumer prices, especially food prices (see Figure 2). Urban vulnerability was probably at its height during the period between August 1993 and August 1994. During this period, maize and bean prices had increased 200 to 300 percent, respectively, over the base period while the minimum wage increased less than 50 percent. The May 1994 increase in the minimum wage and the subsequent decline in food prices started to reduce the gap between wage increases and the cost of living. While this narrowing has reduced vulnerability for the urban poor employed at low wages, an estimated 410,000 people remain unemployed in urban areas.[8] Nearly 1.5 million people are estimated to work in the informal sector (almost the same number as "modern sector" wage employment). Many informal sector workers are underemployed, earning less than the gazetted minimum wage.

The recent decline in food prices is likely to reduce urban vulnerability back to normal levels, where the poorest urban residents are considered slightly to moderately vulnerable. During the period of stress in 1992 to mid-1994, it is clear that

Figure 1. Kenya: Nairobi maize and bean prices—May 1991–present



Source: FEWS/Kenya

some of the urban poor became moderately vulnerable. Targeted assistance programs such as the World Food Program urban feeding program helped mitigate the effects of the national food shortages and economic reform, and may be necessary in the future.

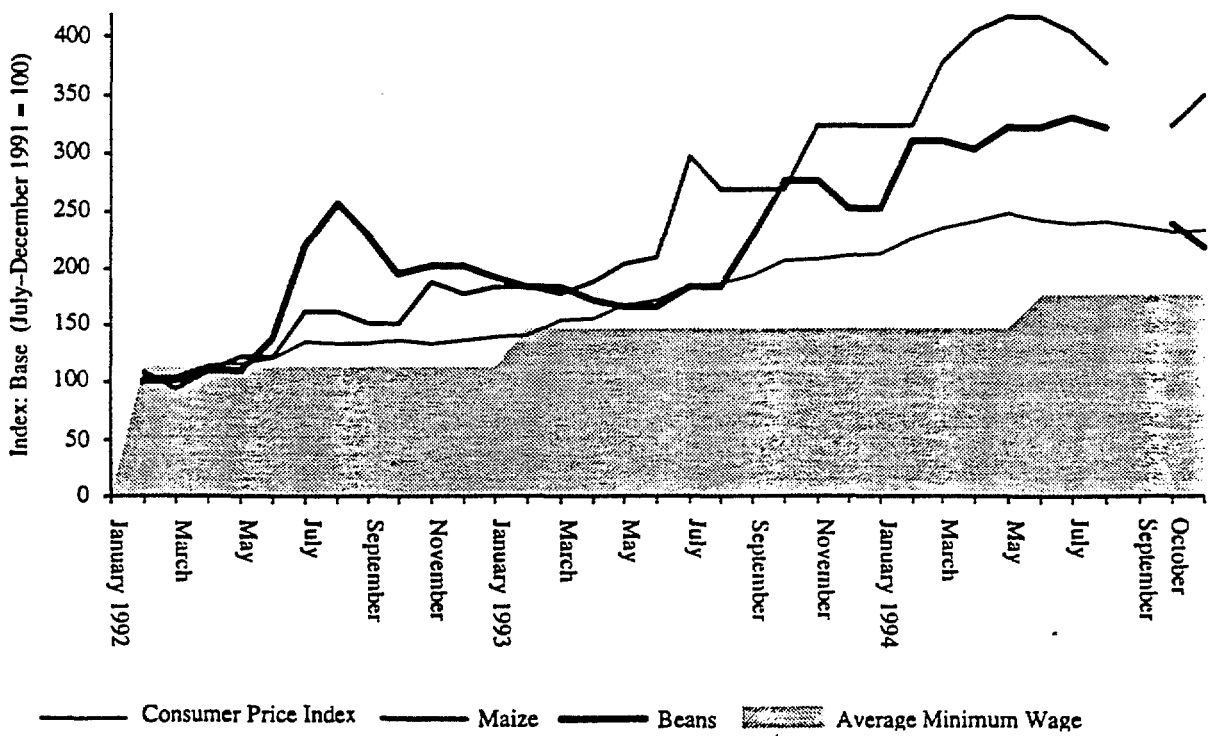
Newly Destitute Pastoralists

One highly vulnerable subgroup of the urban poor are destitute pastoralist households living on the outskirts of northern towns like Wajir, Mandera, and Lodwar. Many of these households were impoverished by the 1984 drought, and became destitute when they lost all of their remaining animals in the 1992/93 drought. Small-scale NGO restocking activities are underway, but implementation has proven difficult. Food insecurity for this subgroup is likely to increase as relief food distributions and NGO-operated Food for Work programs are phased out, probably in 1995. It is difficult to estimate how many people fall into this category, although it is likely to exceed several thousand. Countless other destitute pastoralists have migrated into urban centers outside the arid north.

District Level Analysis

The results of the model were aggregated up to the district level by averaging the results for all divisions within each district. Nairobi and Mombasa were removed from the analysis to avoid distorting this primarily rural assessment with data from

Figure 2. Kenya: Index for maize, beans, consumer prices,* and the minimum wage in Nairobi—1992–present



* = Consumer price index for low-income groups

Sources: USAID/AGR,CPI , 1994 Economic Survey, and CBS

urban areas. The aggregation eliminated the important variation within districts, and allowed for a simpler analysis (using 47 districts units rather than 255 divisions). Several districts have a large degree of variation in chronic vulnerability among divisions, including Baringo, Bungoma, Embu, Garissa, Kajiado, Machakos and Meru. In all cases, the variation results from agroecological zones cutting across districts leaving some divisions in low potential zones and other divisions in high potential zones. In Machakos District, for example, Kathiani, Kangundo, and Central divisions have a much lower ranking in terms of chronic vulnerability than Masinga, Yatta and Mwala Divisions. In Embu, the two divisions closest to Mount Kenya, Runyenjes and Manyatta, are less chronically vulnerable than Gachoka and Siakago.

The variation within districts was even more pronounced in the 1992–93 period, when drought and clashes hit some divisions in a district more than others. In Baringo, vulnerability increased in Nginyang and Kabartonjo while the higher potential areas of Ravine, Mogotio, and Tenges remained relatively less vulnerable. In Bungoma, ethnic clashes and drought combined to make divisions near Mount Elgon much more vulnerable than other divisions in Bungoma. All of these differences are smoothed over when divisional level vulnerability is aggregated up to district level.

Table 2 lists the current, recent, and chronic vulnerability by district, ranking from most to least vulnerable for each temporal category and giving the Z-scores for each category. Negative Z-scores mean that the district is more vulnerable relative to the national average, while the magnitude of the Z-score from zero indicates how anomalous the district is from the mean. Z-scores can not be compared across time because of the different indicators used for current, recent, and chronic vulnerability.

Current Vulnerability

The most vulnerable districts are the northern arid districts plus semi-arid districts east of Nairobi (see Table 2). Preliminary estimates of district level 1994 "long rains" maize production confirm the improvement in most high potential agricultural areas. Production was above the five-year average in a number of key maize growing districts, including Kericho, Bungoma, Narok, Uasin Gishu, Trans Nzoia, and Nandi. Many victims of ethnic clashes have resumed agricultural production in these districts so the good harvest should assist in their recovery.

The "long rains" harvest was again below normal in Eastern Province, especially Kitui/Mwingi, Makueni, Machakos, Meru, Nyambene, and Tharaka-Nithi districts. Although stress increased after this poor harvest, the third consecutive poor harvest in many parts of Eastern Province, relief activities continue and good national maize availability is keeping prices down. The "long rains" harvest accounts for a smaller share of annual production in these districts than the "short rains," so the harvest in January/February 1995 will be critical.

The "long rains" were mixed in the arid northern districts. Drought recovery started and relief inputs have been scaled back. The positive signs from the ongoing "short rains" should result in continued recovery and a further cutback in relief supplies, assuming the season continues normally.

Recent Vulnerability

District-level vulnerability changed dramatically during the 1992–1993 period. Narok District moved from the least vulnerable district assessed (45th of 45 districts) to the 14th most vulnerable. Taita Taveta, Laikipia, Kirinyaga, Uasin Gishu, and Nakuru districts also became significantly more vulnerable during this period than during the baseline period.

Drought and physical insecurity were equally important contributors to the increased vulnerability in these districts. Tribal clashes and crop destruction by elephants also resulted in increased vulnerability in areas which are not chronically vulnerable (see Map 4).

Turkana, Marsabit, and Wajir were the most vulnerable districts during the period, followed by Taita Taveta, Samburu, Mandera, Laikipia, and Isiolo.

Chronic Vulnerability

The arid districts in the north are the most chronically vulnerable compared to other districts in Kenya, although the semi-arid districts of Tharaka-Nithi and Tana River rank higher than Samburu in district-level vulnerability.[9] The semi-arid districts of Kitui, Makueni, Taita Taveta, Laikipia, Machakos, and Kajiado districts also show relatively high levels of chronic vulnerability.

Interestingly, Narok District is the least vulnerable district based on long-term factors. The per capita high potential land equivalents (HPE) in Narok are among the highest in the country, due to its relatively good land and low population.[10] Animal ownership is also high and physical accessibility to markets is relatively good. Narok became one of the most vulnerable districts in the country during the 1992–93 period due to a combination of prolonged drought and tribal clashes. Tribal clashes resulted from a number of complex factors, but the fact that Narok has some of the least populated, good quality land remaining in Kenya certainly has contributed to population influxes and the resultant tribal tensions. The change in vulnerability in Narok over time highlights the fact that all areas are potentially vulnerable to food insecurity if certain shocks occur.

CONCLUSIONS

Table 3 presents a summary of vulnerability through 1994 by socioeconomic group. Current agriculture conditions throughout much of Kenya are good. "Short rains" precipitation levels were adequate in most growing areas except for small pockets in Eastern province that received late and again, insufficient, rainfall.

Maize prices have fallen as a result of additional imports and interprovincial transfers. The agroclimatic outlook for the 1995/96 season is promising as the effects of an active El Niño

Map 4. Kenya: Recent Vulnerability — Insecurity 1992–94

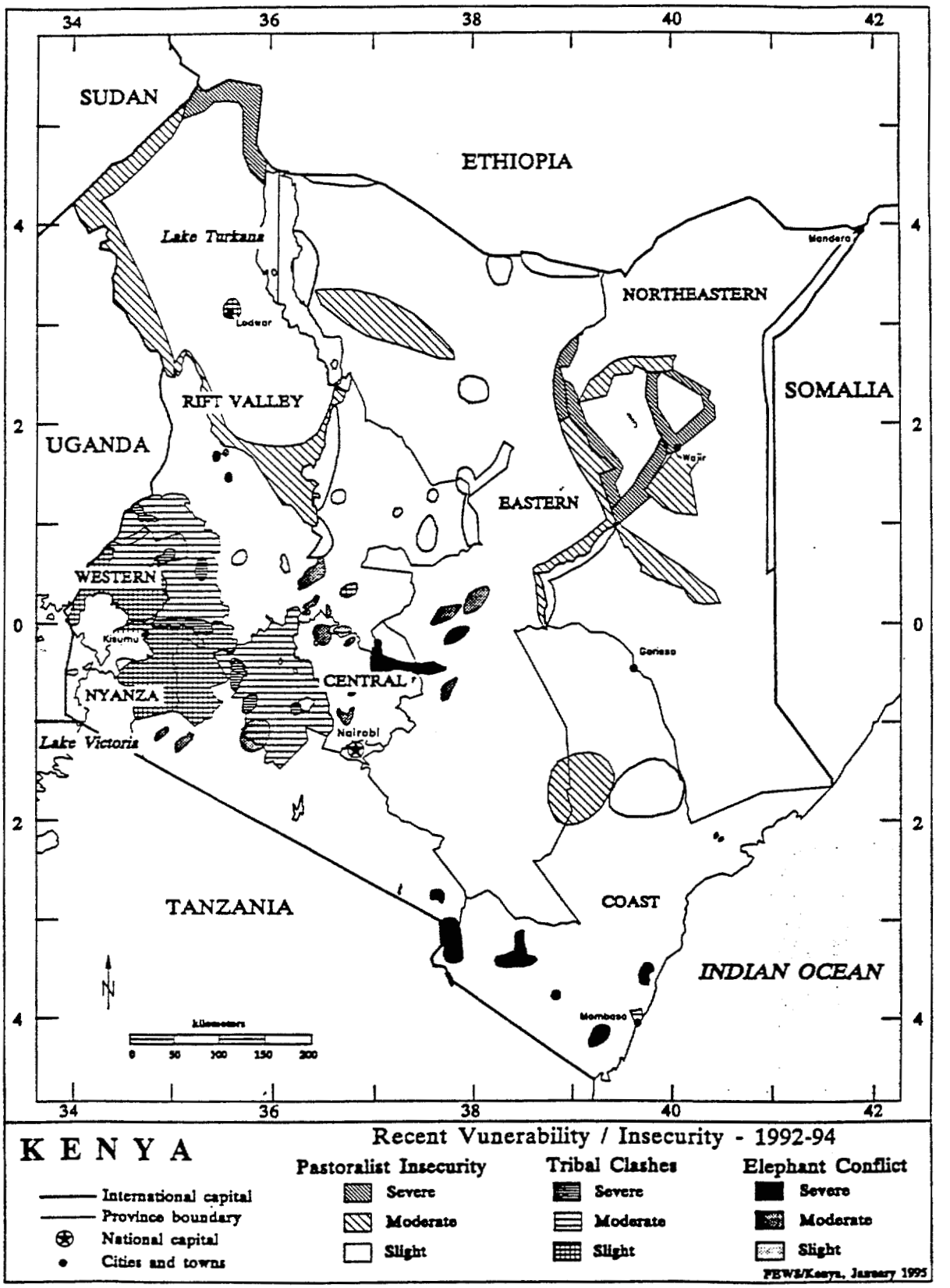


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Table 2. Kenya: Ranking of district vulnerability across time

District	Current (Dec. 1994)		Recent (1992 & 1993)		Chronic (baseline)	
	Rank	Z-score	Rank	Z-score	Rank	Z-score
Turkana	1	-5.00	1	-3.47	1	-2.13
Marsabit	2	-4.52	2	-3.18	4	-1.72
Wajir	3	-3.97	3	-2.74	3	-1.73
Isiolo	4	-3.38	8	-1.68	5	-1.34
Mandera	5	-3.17	6	-1.92	2	-1.89
Tana River	6	-2.73	11	-1.42	8	-0.98
Samburu	7	-2.61	5	-1.97	9	-0.97
Taita Taveta	8	-2.24	4	-2.13	12	-0.49
Garissa	9	-2.10	15	-1.03	6	-1.06
Tharaka-Nithi	10	-1.99	10	-1.47	7	-0.99
Kitui	11	-1.86	16	-0.95	10	-0.96
Kajiado	12	-1.84	17	-0.89	16	-0.19
Machakos	13	-0.99	21	-0.56	15	-0.28
Makueni	14	-0.84	25	-0.34	11	-0.56
Laikipia	15	-0.72	7	-1.70	14	-0.33
Embu	16	-0.64	27	-0.28	24	0.16
Bungoma	17	-0.56	18	-0.81	25	0.20
Trans-Nzoia	18	-0.42	13	-1.20	18	-0.01
Siaya	19	-0.37	28	-0.24	13	-0.39
Kirinyaga	20	-0.28	12	-1.22	23	0.11
WestPokot	21	-0.06	23	-0.49	22	0.10
Kwale	22	0.16	19	-0.66	34	0.77
Busia	23	0.19	24	-0.46	17	-0.07
Kilifi	24	0.26	35	0.07	26	0.24
Meru	25	0.30	30	-0.07	29	0.48
Narok	26	0.31	14	-1.07	45	1.29
Kisumu	27	0.38	20	-0.61	27	0.39
Homa Bay	28	0.54	31	-0.05	19	0.00
Lamu	29	0.56	29	-0.11	31	0.53
Baringo	30	0.87	32	-0.05	28	0.40
Nakuru	31	0.90	22	-0.54	36	0.99
Migori	32	1.08	37	0.26	21	0.07
Uasin Gishu	33	1.08	9	-1.66	20	0.01
Nyandarua	34	1.15	33	0.01	33	0.71
Kakamega	35	1.21	36	0.26	32	0.67
Vihiga	36	1.28	38	0.33	30	0.49
Nandi	37	1.38	26	-0.29	35	0.91
Nyeri	38	1.40	34	0.06	44	1.21
Muranga	39	1.70	43	0.78	41	1.11
Bomet	40	1.80	39	0.47	38	1.00
Kiambu	41	1.93	44	1.09	43	1.20
Nyamira	42	2.04	41	0.55	40	1.10
Kisii	43	2.18	42	0.77	37	0.99
Kericho	44	2.28	40	0.52	42	1.16
Elgeyo Marakwet	45	2.39	45	1.13	39	1.04

Source: FEWS/Kenya

event could again bring above-average rainfall to high potential areas in western Kenya.

Economic uncertainty within the maize market is of some concern, but maize should be readily available throughout much of 1995. Additional civil strife could cause disruption to planting and crop maintanence, and could again create food insecurity in areas of population movement.

Endnotes

1. See the Methodology Annex for a more complete discussion of the indicators and calculations used in this exercize.
2. For each indicator the average and standard deviation were calculated. The absolute figure for each division is subtracted from the national average, and then divided by the standard deviation. The result, the Z-score, is an indicator of how many standard deviations the division is away from the national average for that indicator. A negative Z-score means the division is below the national average, while a positive Z-score means the division is above the national average. The degree of difference from zero (above or below) indicates how anomalous the result is from the mean.

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Table 3. Kenya: Vulnerability summary by socioeconomic group

Group	Baseline vulnerability	1992–93 vulnerability	1994 vulnerability
Pastoralists			
arid districts	slight–moderate	high	moderate–high
semi-arid districts	—	moderate–high	slight–moderate
Subsistence farmers			
semi-arid districts	slight–moderate	moderate	slight–moderate
high potential districts	—	slight–moderate	slight–moderate
Urban poor	slight–moderate	moderate	slight–moderate
"Urbanized" pastoralists	—	extreme	high

Source: FEWS/Kenya

3. The population data for the arid districts is considered unreliable. The mobility of the population makes it nearly impossible to get an accurate count or assign a home location to pastoral households. Data are based on the 1989 census which, although problematic, remains the only source of divisional level population estimates.
4. Chronic vulnerability excludes physical insecurity.
5. World Bank, "Kenya Poverty Assessment," July 14, 1994, p. 24.
6. Kenya Population Census, Table 1.
7. Food receives a 44 percent weight in the low income group's consumer price index compared to 21 and 14 percent for the middle and upper income groups, respectively.
8. Republic of Kenya, Economic Survey 1994, p. 50.
9. Samburu District is traditionally considered one of the seven districts of the "arid north", although some of its land falls in Agro-Climatic Zones 3–5. Tana River District, laying outside the north and with a mixed population of pastoralists and riverine agriculturalists is sometimes lumped together with the other districts of the "arid north".
10. This is based on estimated 1994 population, extrapolated from the 1989 census and including the 1979–89 growth rate. Narok District had a growth rate of 6.49 percent between 1979 and 1989—the highest rate in the country.

METHODOLOGY APPENDIX

To analyze vulnerability to food insecurity or famine, Drought Risk, Depth of Household Entitlement Base, and Physical Insecurity indicators were compiled. A comprehensive discussion of the methodology follows in both an overview and practicle application form.

Indicator Overview

Drought Risk — Eighty percent of Kenyan households earn their livelihood from agriculture, which includes food, cash crop production, and animal husbandry. One of the most important determinates of vulnerability is the relative risk involved in agricultural activities. Drought is the most significant risk to agricultural production in Kenya. Other less readily measurable risk factors exist including: pests, floods, unavailability of inputs, etc.

Imagery from the NOAA AVHRR satellite[1] for each 10-day period from 1982 to 1991 was used to identify the frequency of large, unseasonal variations in vegetation. For the two growing seasons ("long" and "short" rains), the coefficient of variation of the cumulative vegetation was calculated for each division. Divisions with normally low cumulative vegetation and a high degree of variability across years were determined to have the highest probability of drought. Conversely, areas with normally high total vegetation and low variability across years were determined to have the lowest probability of drought.

To measure the performance of the 1992–94 seasons for the analysis of recent and current vulnerability, the cumulative vegetation for each growing season was compared to the average (1982–1990) cumulative vegetation for each division.

Depth of Household Entitlement Base — Food insecurity and famine are complex events that do not result solely from a decline in food production or availability, but also from a decline in an individual household's ability to acquire food. Therefore, vulnerability to food insecurity and famine can not be measured by agroclimatic factors alone. Some households can withstand a major drought with little or no change in consumption patterns, while other households may suffer severe food insecurity during a relatively minor drought.

Theoretically, a thorough measurement of all household income sources would allow a precise assessment of a household's ability to cope with drought or other shocks. Income in this sense would include earnings from the sale of labor, goods and services, earnings from goods produced by the household for its own consumption and based on the value of household assets, and transfers. In practice, however, available data are not complete enough to accurately measure all of these income sources.

Several large national household budget surveys, such as the 1992 Welfare Monitoring Survey (WMS), have attempted to measure income sources. Although the survey provided useful data on some indicators, it failed to capture all sources of household income in sufficient detail to understand households' abilities to cope with shocks. The assessment of poverty was a primary objective of the WMS, and the results of that effort differ significantly from the results of the present study.[2] In part, the divergent results are due to the difference between poverty and vulnerability, as summarized by Chambers (1989).[3]

> "Vulnerability is distinct from poverty. It represents not lack or want, but defenselessness, insecurity and exposure to risks, shocks and stress...and difficulty coping with them."

In the absence of a complete picture of household income, a composite indicator called, the depth of the household entitlement base, was created to measure the ability of the household to acquire food. This indicator measures resources available to the household in addition to its primary direct entitlement—its ability to produce food for its own consumption. The indicator included:

- the number of livestock units per capita
- the share of income from nonagricultural activities
- the share of income from cash crops
- the hectares of good quality land equivalents per capita
- the physical accessibility of urban infrastructure

Data on the first three indicators were available only at the district level, and were extrapolated to the divisional level. The fourth and fifth measures were conducted spatially (i.e. irrespective of administrative boundaries), and then aggregated up to the divisional level based on the Agro-Ecological Zones of Kenya, the Gazetteer of Populated Places, and the 1989 census.

Food price data would have been useful for measuring the ability of households to purchase food. Price data covering 1979–94 were analyzed, but poor data quality and limited geographic coverage prevented its integration into the methodology.

Physical insecurity — Physical insecurity continues to be a significant cause of food insecurity in Kenya. Various types of insecurity have existed in Kenya for years, but recently, insecurity has been exacerbated by conflict in Somalia, drought, and political factors. For the purpose of this assessment, three types of physical insecurity were measured: pastoralist insecurity, tribal clashes, and crop destruction by elephants. All three forms of insecurity were categorized as slight, moderate, or severe for each division (see Map 3). The assessment of chronic vulnerability excluded physical insecurity, while it was included in the measurement of recent and current vulnerability.

Pastoralist insecurity has continued for so long in some areas that it may appear to be a chronic problem, but excluding it from the baseline assessment allows for an examination of areas which would be more food secure if man-made insecurity could be controlled. This assessment only considered insecurity in pastoral areas in terms of the constraints on grazing and marketing opportunities. It intentionally excludes banditry and other forms of opportunistic violence which severely constrain the movement of travelers, nongovernmental organizations (NGOs), and others, but which do not necessarily affect pastoralist movements. Insecurity is greatest around national borders and between tribal boundaries. Many of the conflict zones lay in fertile grazing regions, and thus contribute significantly to vulnerability, especially when grazing land is limited due to drought.

Tribal clashes between 1991 and 1993 caused serious economic disruptions in agriculturally productive zones, and

resulted in food insecurity for victims and others. Food production declined, food stocks were destroyed, and businesses were closed. While clashes have subsided, the impact of the clashes has not disappeared as some areas remain unsettled and economic losses have not been fully recovered.

Destruction of crops by wildlife, especially elephants, is a devastating problem in some communities. The problem is not new, but the impact on food security appears to have increased recently for several reasons. The number of elephants in Kenya has recovered steadily with the success of antipoaching operations, while human population growth has pushed agriculturalists closer to national parks and other areas with concentrations of wildlife. During the past few years, drought in Tsavo, Amboseli, and Maasai Mara national parks brought elephants outside park boundaries in search of food and water. The development of tourist lodges outside park boundaries has resulted in operators encouraging the movement of animals into areas near the lodges—and into nearby farms. In addition, the system of government compensation for losses caused by wildlife has faltered, so the impact on food security is greater than it would be if compensation for crop destruction, loss of life, or injury were automatic. Although crop destruction by elephants is not a man-made problem, it is controllable if resources (electrical fencing and guaranteed compensation) are made available.

Practical Application

Drought risk

To calculate chronic vulnerability, the historical data on the variability in vegetation from year to year was extracted from satellite imagery at the fourth administrative unit (division). The variation in the long and "short rains" were calculated separately and then weighted by "long rains" and "short rains" dependency for each division.

The start of season date, the peak of season date, the peak of season vegetative value, the length of season, and cumulative vegetation were examined to determine which indicator best captured climatological variability in Kenya. These indicators have been used in various combinations in the Sahel to measure variability in vegetation. However, in the Sahel the vegetative seasons are unimodal, the topography is relatively simple, and the crop varieties are few. The complex nature of Kenyan topography and climatology complicated the analysis significantly. Vaariations in altitude, temperature, and soil types result in many permanent and annual crop patterns.

Calculations involving start dates and peak dates proved inconclusive because the complex topography of Kenya causes the seasonal vegetation in one area to peak before the season begins in other areas. Similarly, the peak of season value was an inadequate measure because of the distinct seasonal patterns prevailing in various areas of the country.

The length of the growing season is an important determinate of the success of an agricultural campaign or the adequacy of grazing land. However, there is not one "adequate" length of season in Kenya. FEWS attempted to gather information on maize varieties grown in different agroecological zones to compare the length of season of each variety for each agroecological zone against the actual length of season derived from satellite imagery. Because maize is not the only important crop, similar information would be necessary for other food crops and pastureland. The effort required for this type of analysis precluded its inclusion in this assessment.

Variability in cumulative vegetation proved to be the most useful indicator of climatic variability. The FEWS II-developed software program Vegetative Analysis in Space and Time (VAST), calculates the coefficient of variation of cumulative vegetation for any defined season, extracting statistics from the Image Display and Analysis (IDA) program. The analysis included the following steps (columns refered to in Table KA-1):

- The coefficient of variation (CV) was extracted for each division for each year from 1983–1991 for both the long and "short rains" periods (March–July and August–February, respectively). The average CV for 1983–1991 was calculated for each season. Z-scores were computed (Columns B & C).
- The cumulative vegetation for each season was summed and the share of total vegetation generated in each season was calculated (Columns D & E). These shares were multiplied by the respective CVs and summed in order to determine one seasonally weighted CV (Column F).
- The average annual cumulative vegetation was calculated for each division (Column G). The Z-scores were computed (Column H).
- The average of the seasonally weighted CV and the annual cumulative vegetation was calculated (Column I).

The third step was necessary because several areas in Kenya showed a high degree of variation within high vegetation zones, especially in the minor growing season (e.g., Tongareni and Bungoma). The coefficient of variation for these areas appeared equal to the variation in marginal areas where there is a high degree of variation in the major growing season such as Kitui. Averaging the CV with the annual cumulative vegetation highlighted the low vegetation areas, where variation is likely to be equated with crop failure. The final column (I) was used to determine the quality of the natural resource base in the measurement of chronic vulnerability.

For the measurement of recent and current vulnerability, the cumulative vegetation for three recent agricultural seasons was compared to average cumulative vegetation for the season. The inclusion of the past three seasons allows for a measurement of the cumulative effects of consecutive droughts.

For the recent vulnerability calculation, the most recent three seasons were the 1993/94 "short rains," the 1993 "long rains," and the 1992/93 "short rains." For the assessment of current vulnerability, the three most recent seasons were the 1994 "long rains," the 1993/94 "short rains" and the 1993 "long rains." The seasons were weighted as follows: most recent = .5, second most recent = .3, and third most recent = .2. Data for cropping season were multiplied by the share of normal cumulative vegetation produced in the "long rains" and the "short rains."

Districts with the highest Z-scores had the largest difference in vegetation in the previous three seasons compared to normal.

The depth of the household entitlement base

To measure the ability of households to command resources and access food even in times of drought, some measure of assets was necessary. A composite index was developed including:

- number of tropical livestock units per capita
- share of income from nonagricultural activities
- share of income from cash crops
- hectares of high potential land equivalents per capita
- accessibility to urban infrastructure

There was no simple way to weight each of the five components used to calculate the depth of the household asset base, so a simple average was taken for each division.

Tropical Livestock Units per capita

Livestock is an important asset for most rural households in Kenya. For small-scale agriculturalists sheep, goats, and sometimes other animals are held in reserve to be sold in the event of a poor harvest or to meet periodic or extraordinary cash requirements. Among some communities, milk from small stock is also consumed. Cattle are also very important for food security, household and market milk, and meat production. Animals are undoubtedly the most important asset for pastoralists, both for direct household consumption of animal products and for income derived from market exchange.

Data availability on livestock populations is limited. The last national survey by the Department of Remote Sensing and Rural Surveys (DRSRS) was conducted in 1987/88. District level aerial surveys have been done in some pastoral districts but comparable data for the rest of the country are not available. Regular estimates of animal populations are made by Ministry of Agriculture (MoA) field staff. The quality of these data varies, and there are some significant differences between MoA estimates and recent aerial surveys carried out in the arid districts. However, the advantages of using the same data set for the entire country were thought to outweigh the known weaknesses in the MoA data, so this data has been used.

Tropical Livestock Units (TLUs), defined as 250 kilograms of live weight, are used to convert different animal species into one equivalent measure. It is difficult to estimate an average weight of an animal species in Kenya. Improved dairy and beef cattle, for example, weigh significantly more than indigenous species of cattle held in the arid north. Similarly, Somali camels weigh much more than camels kept in Turkana. Data disaggregated by sub-species are not available, so this analysis simply used one set of TLU conversions for the arid district and one set of TLU conversions for the non-arid districts. Additional refinements could be made in the future, using more disaggregated data and conversion factors to reflect regional differences in animal weights and values.

The TLU conversion factors used were:

Non-arid districts		Arid districts	
sheep =	0.125 TLU	sheep =	0.095 TLU
goats =	0.100 TLU	goats =	0.095 TLU
cattle =	0.810 TLU	cattle =	0.660 TLU
amels =	1.200 TLU	camels =	1.200 TLU

The TLU conversions for the arid districts are from the Drought Monitoring Project (DMP). The conversions for the non-arid districts are FEWS estimates. Data on district level percentages of improved and unimproved stock were not available, so FEWS/Kenya assumed that 20 percent of all cattle in non-arid areas is improved. This yielded an average cattle weight of just over 200 kilograms.

The TLU data were converted to a per capita basis using estimates of the 1990 human population by district. The district-level growth rate between the 1979 and 1989 census data was used to update the 1989 district populations. The per capita TLU figures were then normalized using the Z-score statistic (see Table KA–2). Because the livestock population figures were available only at the district level, data had to be spread (disaggregated) to the divisional level.

Share of income from nonagricultural activities

Households with a larger share of income from nonagricultural activities are less vulnerable to the climatic variability captured in the first indicator. Non-rainfall dependent income sources such as services, manufacturing, and trade may protect households from the effects of drought. Some income sources which are not directly rainfall dependent, such as furniture making, may be tangentially linked to rainfall (if there is a drought, the furniture maker's farming customers may have less disposable income to spend on furniture), but these indirect linkages cannot be measured easily.

Data on the share of income from nonagricultural activities are derived from the 1991 Welfare Monitoring Survey (WMS) for the non-arid districts. Nonagricultural income is assumed to be the sum of wage income, self-employment income, rents, and income from others. The share of income from nonagricultural activities for the arid districts was estimated by FEWS.

The district-level share of income from nonagricultural sources was normalized using Z-scores. The district result was assigned to all divisions within the district. Although the WMS data can be calculated at the divisional level, the CBS sample frame used is only statistically valid at the district level (see Table KA–3).

Share of income from cash crops

Income from cash crops is also assumed to reduce exposure to adverse climatic conditions. Although tea, coffee, pyrethrum, cashews, and other cash crops can be affected by drought, the impact on household income is not as immediate or severe. The data on cash crop income were derived from the WMS for the non-arid districts. For the seven arid districts, estimates were compiled by FEWS. District-level data weres normalized and are presented in Table KA–4. The district figure was assigned to the divisional level.

High Potential Equivalents per capita

The High Potential Equivalents (HPEs) attempt to compare the land potential across agroclimatic zones on a per capita basis. The availability of good quality land is an important indicator of household resources. Average farm size data does

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not capture land quality. Farm sizes are much larger in marginal areas of Eastern Province than in Western Province, yet the income potential may be much lower because of soil quality and climate. Similarly, land in Central Province may support a much higher population density than land in Coast Province.

This indicator provides a measure of land quality and population density by estimating the potential income derived from an average hectare in each of the seven agroclimatic zones (ACZ). The total hectares in each ACZ in each division were aggregated, converted to high potential equivalents, and then divided by the divisional population (see Table KA–5).

The methodology used in this analysis calculates the differences between the seven ACZs which characterize land based on soil moisture availability. However, the analysis does not capture the differences within a single ACZ. For example, within ACZ–1, the highest zones, Upper Highland (UH1), will be very different in their climatic and productive potential from the lowest ones, Lowland 1 (L1), found along the coast. To get the clearest picture about land potential, it would have been necessary to disaggregate each ACZ by the various agroecological zones (AEZs) to capture temperature and altitude. Time did not allow such a detailed analysis, but this effort should be undertaken in the future.

The Farm Management Handbook (FMH), Volumes IIA (West Kenya), IIB (Central Kenya) and IIC (East Kenya) have been used as the main reference to calculate the ACZ conversion factors.[5] Due to logistical limits, representative regional sampling has been attempted. In particular, the data for ACZ–1 to ACZ–3 has been mainly derived from the Farm Management Handbook (FMH) volume for West Kenya. Although this represents a limited sample, the data from West Kenya provides a fairly reliable indicator of what to expect in other zones. For ACZ–4, FMH volumes for West Kenya and Central Kenya were used, while for ACZ–5 to ACZ–7 the FMH volumes for Central and East Kenya were the main basis for analysis.

The districts referred to in developing the HPE for ACZ–1 to 3 were Bungoma, Kakamega, Busia, Siaya, South Nyanza, Kisii, and Kisumu. For ACZ–4, Bungoma, Kakamega, Busia, Siaya, South Nyanza, Kisumu, Trans Nzoia, Uasin Gishu, Nakuru, Narok, Muranga, Kiambu, Nyeri, Nyandarua, and West Pokot were the reference districts. For ACZ–5 to ACZ–6, West Pokot, Samburu, Laikipia, Narok, Nakuru, Nyandarua, Baringo, Elgeyo Marakwet, Embu, Meru, Machakos, Kitui, Taita, Kajiado, Tana River, Lamu, Kilifi, and Kwale were the reference districts. Only Samburu District was used for ACZ–7 from the FMH. However, the Range Management Handbooks for Marsabit, Wajir, and Mandera districts were referenced. In all, over 31 districts were made reference to during the development of this methodology.

Three major crops were used for comparison between ACZs. For permanently cropped land, tea was used as the reference crop. In areas where tea is not found, coffee was converted into Tea Equivalent Units (TEUs). For perennial land, maize was used as the reference crop, with Maize Equivalent Units (MEUs). For pasture land, Dairy Equivalent Units (DEUs) were used for comparing milk yields.

For each ACZ, the yields of the crops above were estimated using data contained in the Farm Management Handbook by districts. For example, for ACZ–1, yields would be estimated for the various AEZs ranging from Upper Highland (UH1) to Lowlands (L1) for the sample districts. The district averages would then be used to arrive at a sample average. For example, maize yields in ACZ–3 may vary from 5.6 tons/ha in district A to 2.1 tons/ha in district B. If only these two districts were used as sample districts, an unweighted average of 3.85 ton/ha would be recorded for the ACZ in question.

In general, yields and production potential varied greatly, particularly as one moved from higher to lower altitude AEZs within the same ACZ. The aggregate figures provided for each ACZ under the current methodology thus hide significant AEZ differences within it. Further differentiation in the future, first by ACZ and then by AEZ would provide a much richer analysis of land potential.

The following assumptions have been made (see Table KA-6 for land use percentages):

- *Permanently cropped land*: throughout the HPE calculations, permanently cropped land is taken in terms of Tea Equivalent Units (TEUs). Although tea is only grown in ACZ–1, and coffee is grown in ACZ–1 to 3, tea has a much higher yield and value than coffee. Thus in terms of measuring the highest potential for a crop, TEUs are used for permanently cropped land for ACZs 1 to 3, and coffee data have been converted to TEUs.

  For the purposes of this calculation, a TEU is defined as a yield of 4.8 tons/ha/yr at the price of Kenya Shillings 47,615 per ton. The price was obtained by taking the five year unweighted average of calendar prices for 1989–1993 from the 1994 Economic Survey.[5] The average yield is a composite one for West Kenya, based on the FMH estimates of the AEZ potential. This could be modified later with inclusion of data from East Kenya to make it a more comprehensive and robust indicator.

  TEUs are used for ACZs 1 to 3. Farmland use statistics are used to arrive at the proportion of land that is permanently cropped, and this proportion is then converted in a tea equivalent unit.

- *Perennially cropped land*: throughout the HPE calculations, perennially cropped land is measured in terms of Maize Equivalent Units (MEUs). Maize is grown in ACZs 1 to 4, and marginally in ACZ–5. However, for the purposes of this exercise, maize is taken to grow from ACZs 1 to 4. Although maize is grown in ACZ–5, in many cases, livestock would provide a higher potential use of the land. The MEU is defined as a yield of 3.8 tons/ha/yr at the price of Kenya Shillings 5,220 per ton. The price was obtained by taking an unweighted average of calendar year prices for 1989–1993 from the 1994 Economic Survey. The average yield is a composite one, based on the FMH estimates of AEZ potential in West Kenya, and Central Kenya. It covers all the main maize growing zones, but it could be made more robust by inclusion of data from the more marginal zones in the future.

  MEUs are used for ACZs 1 to 4. Farmland use statistics from the FMH are used to arrive at the proportion of land that is perennially cropped, and this proportion is then converted into a maize equivalent unit.

- *Pasture land*: the milk yields are based on a Livestock Unit yielding 1,500 kg of milk per year. This may appear rather high, given that only 20–30 percent of Kenya's herd is improved. However, once this is converted into LUs per hectare, the high yields are diminished by the low carrying capacity of the land in zones 5 to 7. The assumption of the LU yielding 1,500 kg of milk/yr still provided credible results for the arid zones. The Dairy Equivalent Unit (DEU) is based on the ACZ–1 value of 2.8 tons of milk/ha/yr for the West Kenya case sample.

  DEUs are used for ACZs 1 to 7. Farm land use statistics were used from the FMH for ACZs 1 to 4, and all land for ACZs 5 to 7 was converted into pasture equivalents.

  Pasture land provides value in terms of animals produced for slaughter in addition to milk production. However, this analysis assumed converted pasture land into HPEs based only on milk yields for two reasons: detailed data on livestock offtake rates would have been required and the value of livestock is already included in the analysis in terms of TLUs per capita.

High Potential Equivalents (HPE)

The HPE is calculated based on values of price and yield realized for ACZ–1. Table KA–6 indicates the average productive capacity of the various ACZs for the four main commodities of maize, tea, coffee, and milk.

The methodology provides a relatively simple means of calculating High Potential Equivalents. Even without using price and income figures, one can easily see from the physical yield figures and land use patterns that the different ACZs have significant differences in potential. Initial calculations using the data above yielded the following ratios:

ACZ–1:	1 ha =	1 HPE
ACZ–2:	3 ha =	1 HPE
ACZ–3:	5 ha =	1 HPE
ACZ–4:	6 ha =	1 HPE
ACZ–5:	67 ha =	1 HPE
ACZ–6:	135 ha =	1 HPE
ACZ–7:	421 ha =	1 HPE

Accessibility to urban infrastructure

Past surveys have shown that most Kenyans rely heavily on markets. Even subsistence farmers normally sell produce after the harvest to meet other cash needs and later purchase food from the market. Most pastoralists are also market dependent, relying on markets for the purchase of grains and other commodities and sale of animals. As a proxy for physical market access, an accessibility index was created.

Accessibility between settlements and urban areas was modeled using a *gravity model*. Two variables are central to this approach:

- the distance between points (origin & destination)
- the "pull" or *attractiveness* of the destination point (i.e., the market).

Population was used as a proxy measure of a market's attractiveness. A market destination point having a relatively large population would have a relatively large attractiveness value and vice-versa. An intermediate accessibility value was generated for each settlement-destination pair. This exercise involved 165 markets, thus 165 intermediate access values were generated for each of the 2,162 settlement points (356,730 possible combinations). A final accessibility value is generated for each settlement, which is the summation of all it's intermediate access values.

The mathematical equation representing the accessibility index is:

$$\frac{\text{attractiveness index of a market center}}{(\text{distance between the location and the market})^2}$$

A *distance-decay* function is achieved by squaring the distance, thus making the case that accessibility declines exponetially as distance increases. A larger distance decay effect is introduced by using a larger exponent (i.e., cubing the distance rather than squaring). This analysis utilized only the square of distance, as it was deemed sufficient for representing diminishing physically accessibility with increasing distance.

Actual roads and rail data were not used as part of this exercise. Time constraints did not allow for incorporating such data into the analysis. Incorporating transportation infrastructure data into this work would surely give one more confidence in the end results. The infrastructure data should be added into the analysis at a later date. Although network analysis was not done, a digital map of the roads network was overlaid onto the accessibility maps generated. A purely visual interpretation of the results showed roads and accessibility, correlating as one would intuitively expect.

The market/destination points were chosen from the 1989 Kenyan Census data. The 165 most populated places (as of 1989) were used as markets, and their 1989 population figures were projected to 1994 using division specific growth rates. The attractiveness values of the markets, taken from 1994 population estimates, ranged from more than 1.6 million in Nairobi, to less than 1,000 in Witu.

The settlement/origin points were taken from the U.S. Defense Mapping Agency Gazetteer of Kenya (1978). The digital data was converted from the Rutgers University Global Grass data set (*Sites of the World*, 1994). The "populated place" features from the gazetteer file were extracted, and duplicate records, settlements located at 1 point having many names, were removed. This left a total number of 2,162 settlements, as origin points, for the market access exercise.

A GIS[6] was used to compute the distance measurements from the settlements to the markets. The process was automated using the *ArcInfo* macro language, which resulted in considerable time saving during data processing. The input data was georeferenced in decimal degree units of latitude and longitude, thus the resulting distance measurements were in decimal degrees. The results were output to a database file, and the units were converted from decimal degrees to km. (1 degree = approx. 110.8 km.).

The *ArcInfo* georeferenced points (settlements and markets) were converted to *AGIS* format, and the distance measurements were imported (joined to) their respective settlements. Since

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accessibility was calculated with point/settlement precision, it was necessary to then aggregate (average) the results up to the geographically larger Division level.

The results were sent from Washington to Nairobi for review, and to solicit suggested improvements to the model. After a series of discussions (FEWS/W, FEWS/Kenya, FEWS Tulane), it was suggested that the model was capturing both accessibility for rural populations to urban markets, and urban populations to their own urban markets. After aggregating the data from the point/settlement level to the polygon/Division level, it became apparent that this dynamic, where single points were acting both as settlements/origins and as market/destinations, was having an unwanted effect on the final results. To adjust for this effect, a second iteration of the model was run where all access values for settlements 0–2km. away from a market (i.e., urban populations) were removed when calculating accessibility. This adjustment had the desired effect of lowering accessibility values for a number of divisions in Northeastern Province (bordering Somalia and Ethiopia) where previous accessibility values were suspiciously high.

Physical Insecurity

Information on physical insecurity was gathered from nearly 30 separate sources. Due to the sensitive nature of the indicator, the sources of information will not be named here, but their contribution is gratefully acknowledged.

The three types of physical insecurity (pastoralist insecurity, tribal clashes, and elephant conflict) were all plotted on maps and coded according to severe, moderate, and slight insecurity. For each division, the highest degree of insecurity was taken. Divisions with severe insecurity were assigned a Z-score of -2, divisions with moderate insecurity were assigned a Z-score of -1, divisions with slight insecurity were given a Z-score of -.5, while divisions with no insecurity were given a Z-score of 0.

Endnotes

1. Images derived from the Global Area Coverage (apprx. seven kilometer resolution) received from the Advanced very High Resolution Radiometer (AVHRR) sensors on board the National Oceanic and Atmospheric Administration Polar Orbiting series of satellites. See Key Terms list on the inside back cover for more details.
2. In the WMS, Busia, West Pokot, Kericho, and Bomet record the highest prevalence of poverty. Those same districts are not considered to be highly vulnerable in this VA, ranking 17, 22, 38, 1nd 42 out of the most vulnerable of the 45 districts analyzed. An explanation of the difference between the results of the WMS and this assessment is that the WMS did not capture all houshold income sources, and therefore categorizes these districts as having a high prevalence of poverty.
3. *Vulnerability, Coping and Policy*, IDS Bulletin, Volume 20: No.2, pp. 1–7.
4. The Republic of Kenya: Farm Management Handbook, Volumes 11A, B, C.
5. The Republic of Kenya: Economic Survey 1994.
6. The "NEAR" module in *PC ArcInfo* was used in these calculations.

ZIMBABWE

Declining Food Security Among the Poorest

Based on a report released by FEWS/Zimbabwe on December 15, 1994

SUMMARY

Nearly 1.04 million people are highly vulnerable to famine in southern Zimbabwe. There is an ongoing food-for-work relief assistance operation in these areas that is now providing 4-5 kilograms/person/month to 1.1 million people. This, and the relatively large stocks of grain and low grain prices in the country, indicate that even in the event of a poor 1994/95 harvest, widespread food shortages and famine would be unlikely before the end of 1995. However, current information on El Niño Southern Oscillation (ENSO) events could change this outlook. If the strength of the ENSO event continues to increase, significant crop losses and consequent supply problems could result.

METHODOLOGY

In this assessment, vulnerability is assumed to be strongly correlated with the amount and variability of income from agriculture and in-kind transfers. Other important components of vulnerability that were also measured here include: level of development/asset ownership, crop risk, and observed stress. Pertinent indicators within each component were measured, indexed, and ranked, before finally using an average of the four component rankings to construct a final ranking of relative baseline vulnerability (see Table 3 [1 is the worst, 171 the best]). Table ZM–A2 shows the indicators that have been used to measure each component. Finally, recent data and income from agriculture and in-kind transfers were combined with the baseline vulnerability ranking to identify communal lands in which food security is low and recently declining, and therefore of particular concern (see Table 3).

ANALYSIS OF SOCIOECONOMIC GROUPS

This vulnerability assessment focuses on the rural "communal" sector of the country (more than 50 percent of total population). There are currently about 171 communal land (CL) areas in the country (see Map 7). Although recent changes in the Government's administrative structure make these administrative units largely unofficial, several important and lengthy datasets continue to be based upon them (e.g., agricultural and cash crop production, livestock census) and they form the basis for this vulnerability assessment (see Map 8).

People in these communal areas are largely farming or mixed-farming (agriculture and livestock raising) based. More than 70 percent of the farmers typically have some animal holdings. Other, possibly significantly vulnerable, socioeconomic groups not assessed here include commercial farm laborers and the urban poor. The number, characteristics, and conditions of commercial farm laborers are not easily available, although anecdotal and one-off studies indicate that their food security and poverty level may be worse than the communal sector population. General economic and and demographic data regarding the situation and number of the urban poor are also not avaliable, though their presence is noted.

Baseline Vulnerability Rankings

The most vulnerable communal area using the baseline measurements is Siyoka, in Beitbridge District (see Maps 7–8). Although this communal area has livestock and assets in an amount that is average for all communal areas, it is the fifth lowest in income from agriculture and in-kind transfers, ninth most risky in crop risk, and twelfth most stressed. The second and third most vulnerable are Matibi I and Maranda communal areas in Mwenezi District. Mashava South in Chivi District was ninth most vulnerable. All of these areas are found in close proximity in southwestern Zimbabwe.

The least vulnerable communal areas are found in the north-center of the country. Regular and plentiful rains, substantial staple food and cash crop production, modest assets and level of development, as well as a significant livestock presence, give the lowest vulnerability to Kunzwi in Goromonzi District.

The analysis of baseline agricultural income (including food for work transfers) found a range of average annual per capita income from agriculture and in-kind transfers (adjusted for inflation to 1994 values) running from a high of Z$1,830 in Mukumbura West (Centenary District), to a low of Z$61 in small Chikukwa (Chimanimani) (see Table 3). The median annual per capita income from agriculture and in-kind transfers was approximately Z$300.

At the extremes of both the high and low ends of this scale, there is evidence that data problems are distorting the results. Nevertheless, outside of these anomalies, a consistent, and somewhat expected, picture of low income levels is shown in the low rankings of several communal areas in Matabeleland South Province (Ngulube, Siyoka, Mphoengs, Mzinyatini). Agricultural production in these areas is low and highly variable. The lowest per capita value of staple crop production of any communal area (adjusted for inflation) is Z$ 18.59 in Siyoka (Beitbridge District). Siyoka also has very little reported cash crop production. Even though livestock resources are much higher in Siyoka than elsewhere, the estimated average annual

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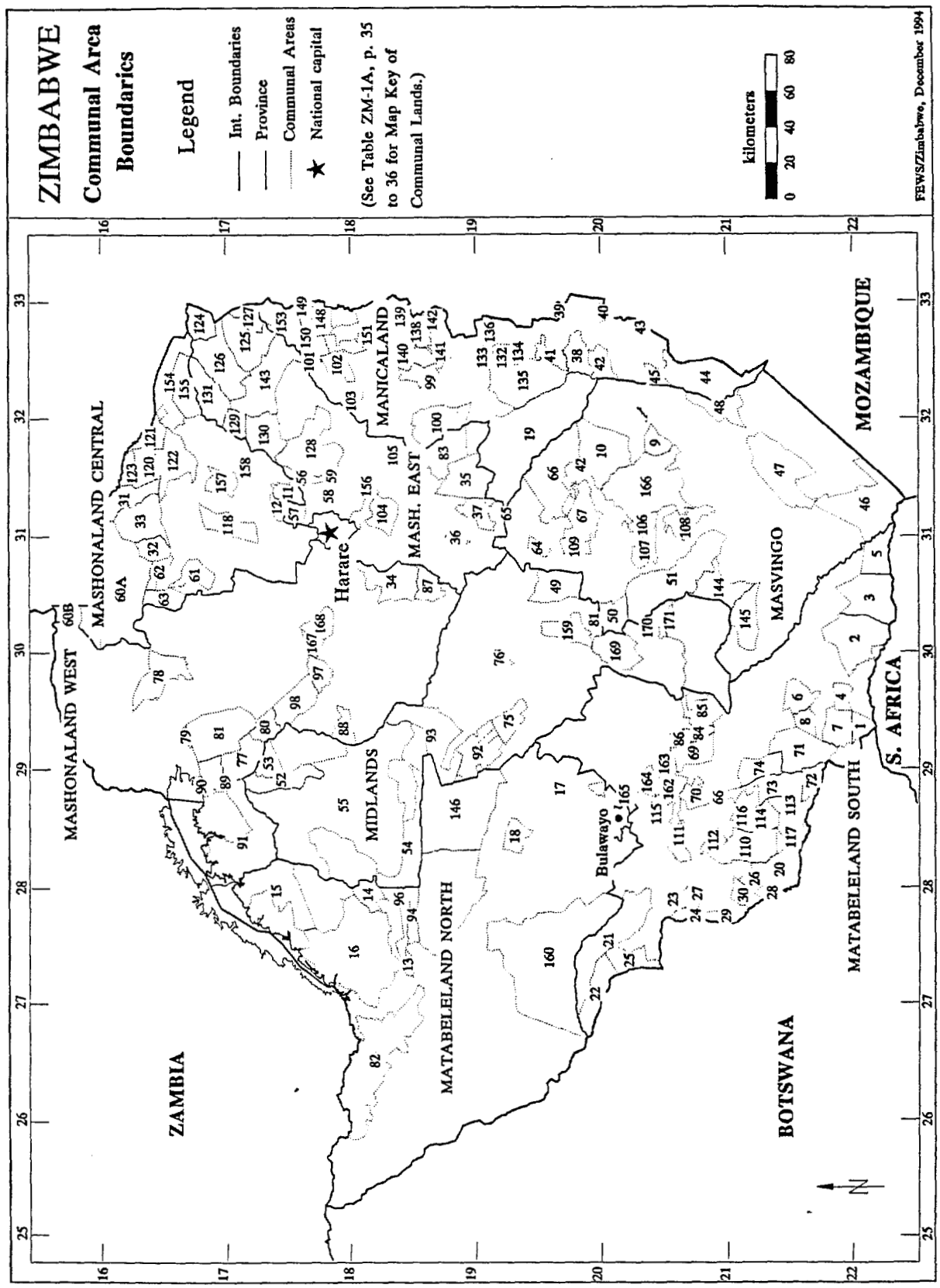

Map 7. Zimbabwe: Communal Area Boundries

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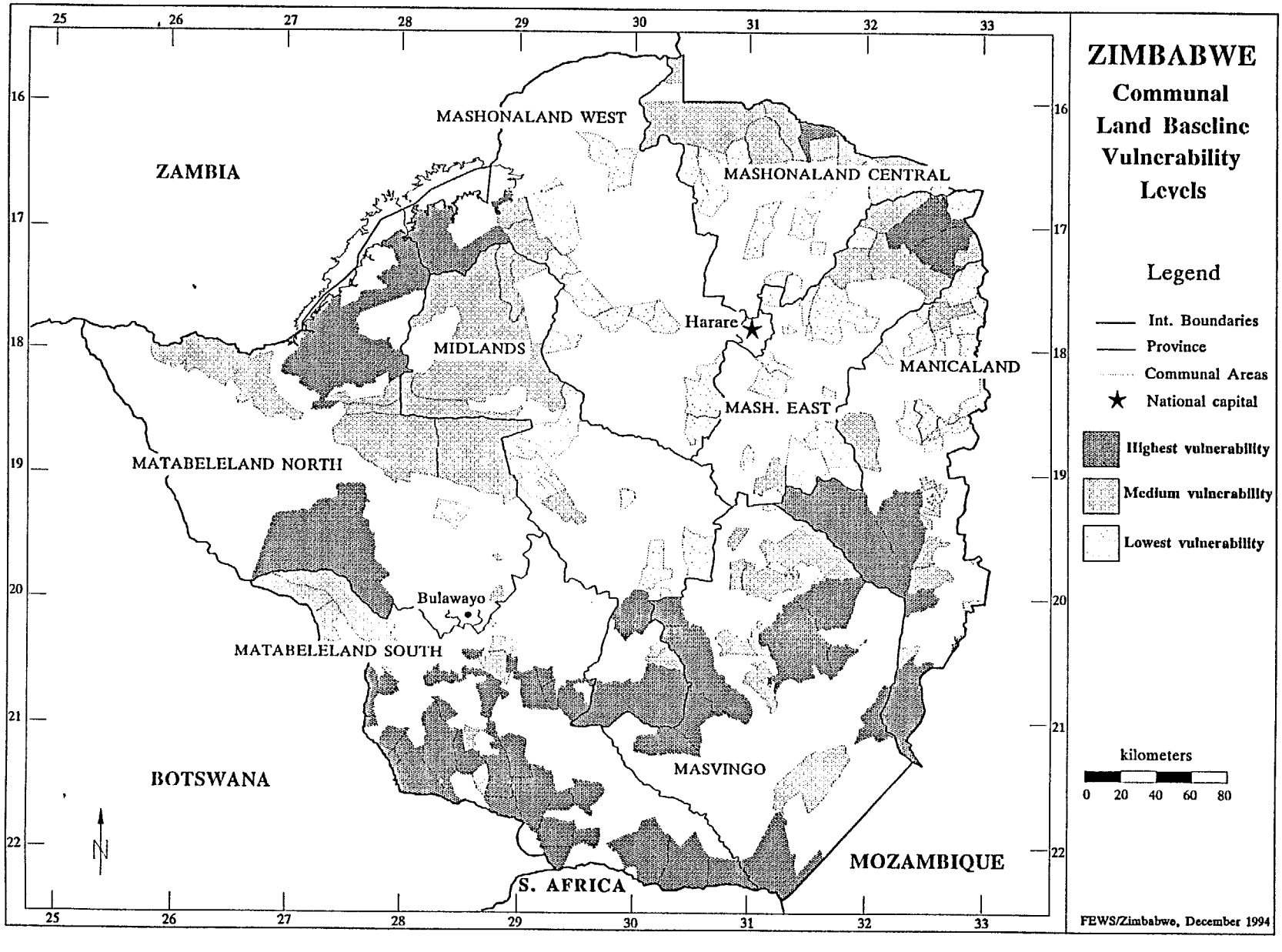
Map 8. Zimbabwe: Communal Land Baseline Vulnerability Levels



off-take rate of 5 percent for all animals limits the baseline per capita contribution of this sector to an approximately Z$ 35-75 in this and other nearby areas, not an exceptional contribution to total income for most of the communal lands.

Also found in the bottom ten communal areas in per capita production are several communal areas lying on the southern shore of Lake Kariba (Manjolo, Omay, Gatshe Gatshe, and Siabuwa). Besides showing a low average of agricultural production, these areas had only limited livestock holdings until recently because of tsetse (*trypanosomiasis*) infested woodland pasture areas. Tsetse eradication programs have brought some areas under control. As the increasing livestock numbers show in the current assessment, income levels from livestock are rising in these areas.

Half of the ten highest income communal lands are found where cash crops, particularly cotton, are present. Gandavaroyi and Sebungwe (Gokwe District), Mukumbura West and Gutsa (Centenary), and Sanyati (Kadoma) are all heavy cotton producers.

Some income data (remittances, wage income, and fishing production) which were not available for this assessment, or at all, would undoubtedly change the rankings of many of the lowest income areas. The typical Matabeleland South communal area shows high rates (50–60 percent) of female-headed households, reflecting the widespread practice that husbands emigrate to neighboring South Africa and Botswana for work. Assuming a relatively modest annual remittance to the household of Z$50–75 per capita, the bottom ten Matabeleland South communal lands could move up 20–30 places. Similarly, Gatshe Gatshe is a fishing economy, so its low ranking here is largely a defect of no data available on its principal economic activity.

The Zimbabwe Government's Drought Relief Programme—food-for-work grain distributions—have been a feature of many communal areas since 1982. An average of over 1.2 million communal sector residents receive drought relief rations of 5 kg or more per month on average in any year. The average annual per capita value (adjusted for inflation) of the food distributed runs from Z$6 to Z$55. While this may seem a minor per capita input compared to crops or livestock, it should be noted that this amount generally is not spread across the entire population of an area, as it is measured here, but usually goes to the poorest in an area. It is, therefore, a more meaningful income for many. It comprises 33 percent of the measurable income in some of these areas.

VULNERABILITY OF SOCIOECONOMIC GROUPS

Vulnerability Component: Level of Development/Asset Ownership

Of the ten lowest-income communal areas, only the four on the shore of Lake Kariba (Siabuwa and Manjolo, Omay, and Gatshe Gatshe, in Binga, Omay, and Kariba districts, respectively) were found at the bottom of this ranking. Others at the lower end include communal areas from Gokwe District, and several from the Zambezi Valley. These are generally areas that are inhospitable to cattle, relatively unproductive in agriculture, or are, in Gokwe's case, areas of relatively recent expansion of farming and population increase.

The highest-ranked communal areas in terms of level of development/asset ownership are areas that are in the relatively prosperous agricultural zones of Goromonzi, Zwimba, Chegutu, and Chikomba districts. The high scores tend to confirm the impression of a sustained and relatively unvarying income pattern.

Surprisingly, many of the low-income communal areas from Matabeleland South fared quite well on this factor ranking. They fared well not only because of substantial, but not preponderant, livestock holdings, but also because of high scores on the level of development index. Half of the sixteen highest scores on the level of development index came from communal areas in Matabeleland South, particularly in Umzingwane and Insiza districts. Looking at other, quite low factor rankings, the high level of development scores would appear to be the result of factors other than a pattern of income based upon agriculture or livestock.

Vulnerability Component: Crop Risk

Looking at the crop risk rankings, there is no question where the most frequent and severe shocks to food security are centered. Out of the bottom (most vulnerable) forty communal areas, well over thirty of them are found in Matabeleland South Province. The Limpopo River watershed that covers much of the province has the lowest mean annual rainfall of all the watersheds (approximately 453 mm), is affected by drought (less than 75 percent of mean annual rainfall) approximately one out of every four years, and has the highest degree of interannual variability in its mean rainfall totals. Surprisingly, almost all of the ten watersheds appear to suffer from drought at least one of every five years. Even the northern Hunyani (14 percent of mean annual rainfall) and Mazowe (18 percent) watersheds, and the (eastern) Border watershed have just slightly less than a one-in-five year history of drought.

Vulnerability Component: Observed Stress

Those districts showing the greatest baseline of participation in the drought relief feeding programme include communal areas in southcentral Zimbabwe. The following districts all have extremely high percentages of their population receiving assistance: Mberengwa (Mberengwa, 52.2 percent), Maranda and Matibi I (Mwenezi, 47.1 percent), Runde, Mazvihwa, and Ungova (Zvishavane, 44.7 percent), and Chivi and Mashava South (Chivi, 44.2 percent).

The communal areas which show the least level of observed stress are those found in the prime agricultural areas of the northeast. They include Chiweshe (Mazowe District), with an average of only 3.9 percent of its population normally eligible to receive assistance, Chinyika, Chikwaka, Kunzwi, and Chinamora (Goromonzi, 5.3 percent), and Musana and Masembura (Bindura, 5.3 percent).

Current Vulnerabilities

The value of the most important indicators of agricultural and livestock off-take incomes were computed for the three most recent years (1991/92, 1992/93, and 1993/94), and then compared to the baseline period (generally 1980-91). Table 3 summarizes these data and identifies:

- Those communal lands with highest baseline vulnerability
- Those where there have been significant declines of at least 33 percent in either, or both, of their agricultural production or livestock off-take values

The table illustrates it is clear that the last three years have been difficult ones, particularly in the southern third of the country, and especially in Matabeleland South. In the last three years, the greatest drought of the century in 1991/92 was followed by an excellent rainy season, and then by a year in which poor farmers saw their late planted crops devastated by an early termination of the rains. Within the third group of highest baseline vulnerability, 33 of the communal lands had significantly declining income from agriculture and in-kind transfers in the current period (see Table 4 and Map 9). Twenty-two of these are found in Matabeleland South Province. Even if incomes from those sources, that are difficult to measure (remittances, wages, craft sales, etc.), were added, the line between maintenance of health and the slow spiral of deteriorating food security appears very narrow in these lowest-ranked communal lands.

On the basis of the data shown here, as well as other anecdotal information, it is apparent that a substantial number of communal sector households in the southern half of the country fall under the FEWS Matrix (see Page 38) definition of highly vulnerable. This means that modes of production and behavior are being modified in response to food stress (probably higher rates of emigration, etc.), and there is a progressive disinvestment of household assets of lesser importance. This is the stage where the margin of safety that can cushion further shocks is being substantially eroded. Useful assistance to populations at this stage of vulnerability is help in maintaining their asset base and monitoring the impact on health of reduced food intake. It is perhaps necessary to note that there is no evidence of widespread or exceptional rates of malnutrition, much less starvation, in these areas. Nevertheless, it is also clear that there are few data available regarding the current nutritional status of these populations.

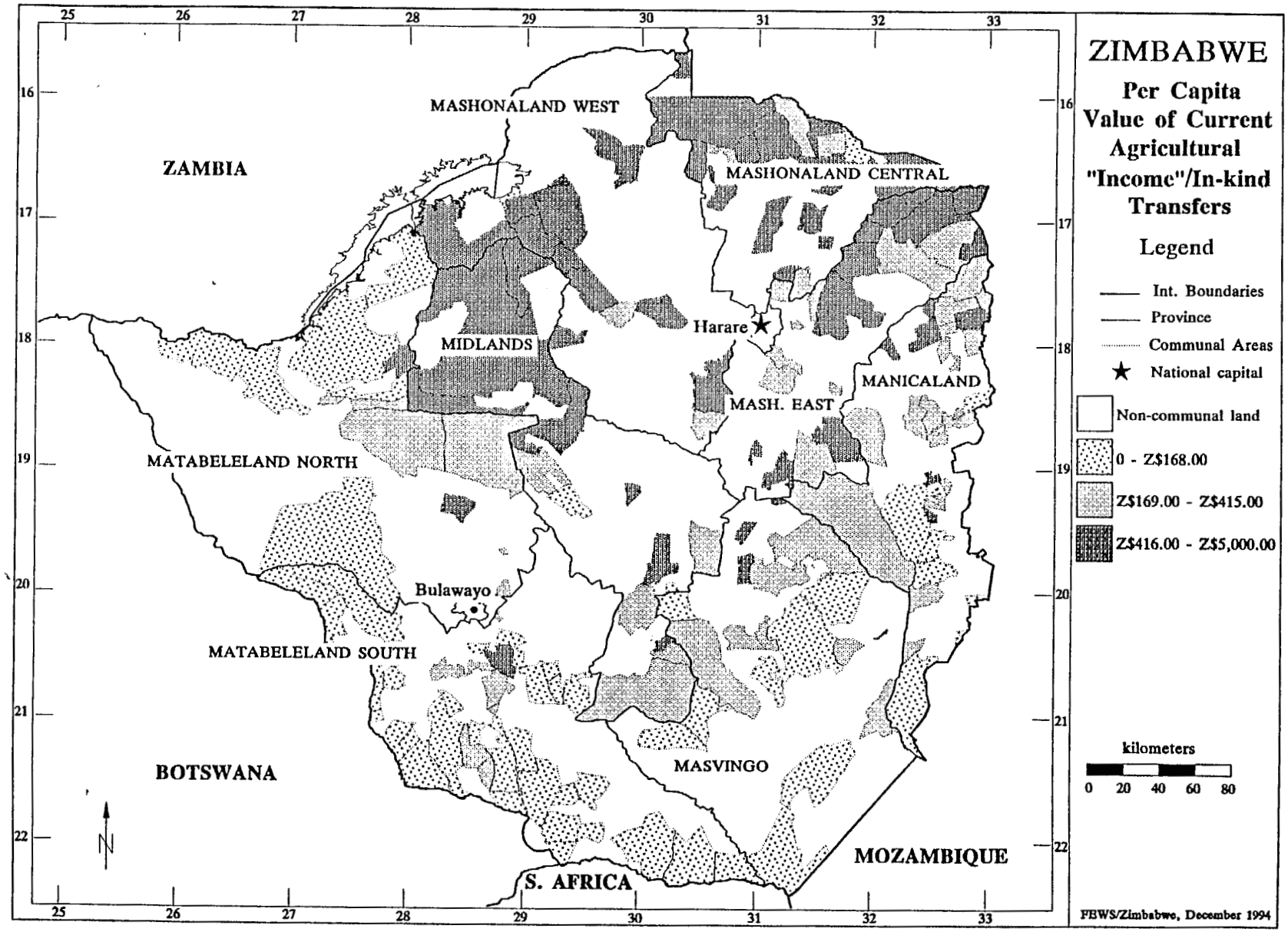
CONCLUSIONS

How many people may be highly vulnerable? The total population of the 58 communal areas of greatest vulnerability is approximately 2.07 million. Although wealth distribution data are not currently available for these areas, it is probable that not more than 50 percent (1.04 million) of the inhabitants of these areas may be experiencing significant difficulty in producing or acquiring sufficient food.

Recently, an assessment was made of the number of people receiving Drought Relief Programme food-for-work rations (of about 4–5 kg per person in November 1994) in the districts where most of the most vulnerable populations are found (all districts in Matabeleland South and Masvingo Provinces, Mberengwa and Zvishavane districts in Midlands Province, and Mutare and Chipinge districts in Manicaland). In all, 1.10 million recipients were found. This is quite close to the above estimate of 1.04 million.

The national grain stocks are currently quite large, and grain prices are relatively low. There is an ongoing food relief operation providing aid to almost 2 million people. It is likely that the country can meet current or even, in the case of a poor 1994/95 harvest, greatly expanded numbers of food insecure people during 1995. In the worst case, there will be sufficient lead-time to organize additional assistance if necessary.

Map 9. Zimbabwe: Per Capita Value of Agricultural Income and In-kind Transfers



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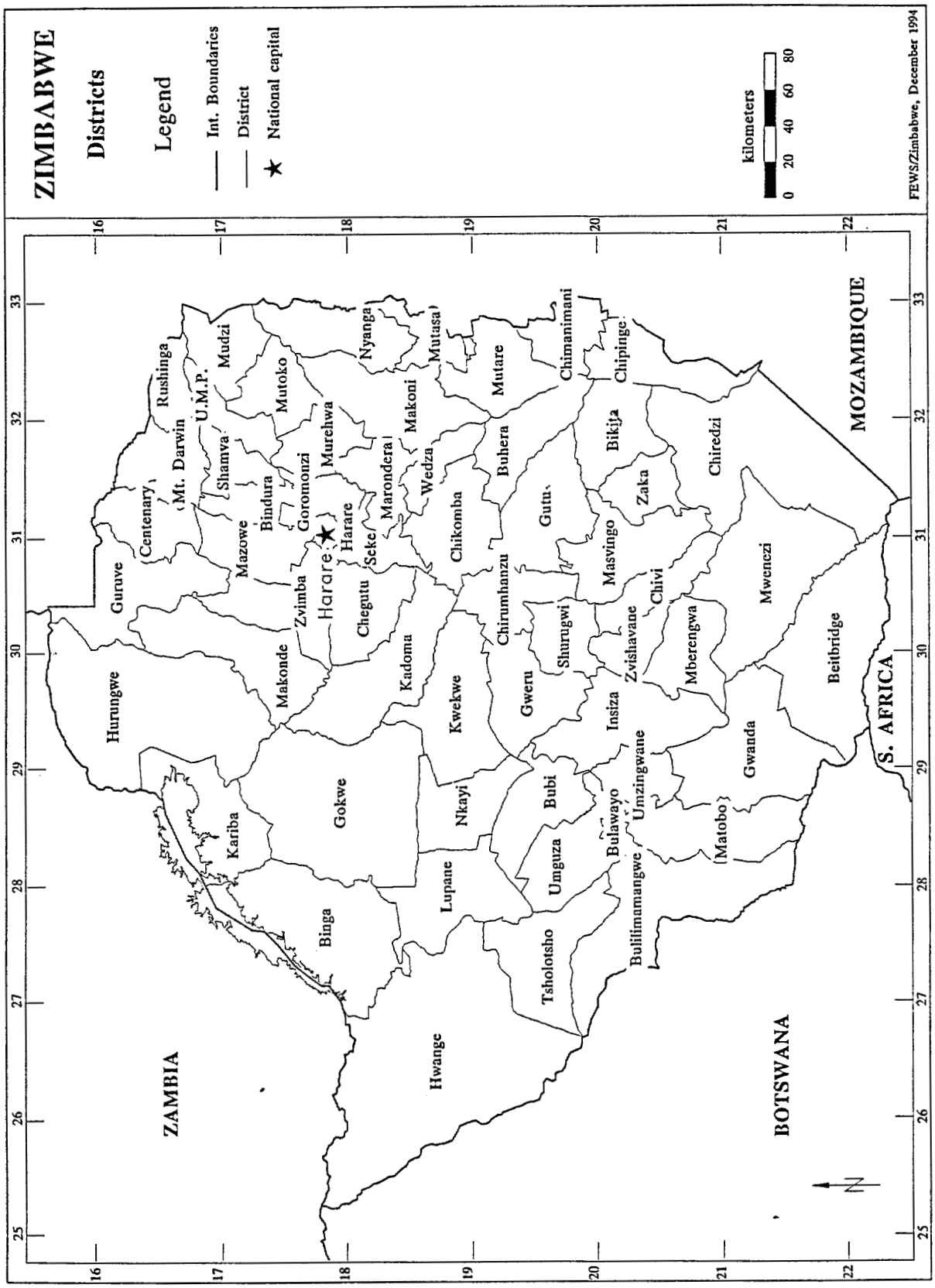

Map 6. Zimbabwe: Districts

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ZIMBABWE
Declining Food Security Among the Poorest

Based on a report released by FEWS/Zimbabwe on December 15, 1994

SUMMARY

Nearly 1.04 million people are highly vulnerable to famine in southern Zimbabwe. There is an ongoing food-for-work relief assistance operation in these areas that is now providing 4-5 kilograms/person/month to 1.1 million people. This, and the relatively large stocks of grain and low grain prices in the country, indicate that even in the event of a poor 1994/95 harvest, widespread food shortages and famine would be unlikely before the end of 1995. However, current information on El Niño Southern Oscillation (ENSO) events could change this outlook. If the strength of the ENSO event continues to increase, significant crop losses and consequent supply problems could result.

METHODOLOGY

In this assessment, vulnerability is assumed to be strongly correlated with the amount and variability of income from agriculture and in-kind transfers. Other important components of vulnerability that were also measured here include: level of development/asset ownership, crop risk, and observed stress. Pertinent indicators within each component were measured, indexed, and ranked, before finally using an average of the four component rankings to construct a final ranking of relative baseline vulnerability (see Table 3 [1 is the worst, 171 the best]). Table ZM–A2 shows the indicators that have been used to measure each component. Finally, recent data and income from agriculture and in-kind transfers were combined with the baseline vulnerability ranking to identify communal lands in which food security is low and recently declining, and therefore of particular concern (see Table 3).

ANALYSIS OF SOCIOECONOMIC GROUPS

This vulnerability assessment focuses on the rural "communal" sector of the country (more than 50 percent of total population). There are currently about 171 communal land (CL) areas in the country (see Map 7). Although recent changes in the Government's administrative structure make these administrative units largely unofficial, several important and lengthy datasets continue to be based upon them (e.g., agricultural and cash crop production, livestock census) and they form the basis for this vulnerability assessment (see Map 8).

People in these communal areas are largely farming or mixed-farming (agriculture and livestock raising) based. More than 70 percent of the farmers typically have some animal holdings. Other, possibly significantly vulnerable, socioeconomic groups not assessed here include commercial farm laborers and the urban poor. The number, characteristics, and conditions of commercial farm laborers are not easily available, although anecdotal and one-off studies indicate that their food security and poverty level may be worse than the communal sector population. General economic and and demographic data regarding the situation and number of the urban poor are also not avaliable, though their presence is noted.

Baseline Vulnerability Rankings

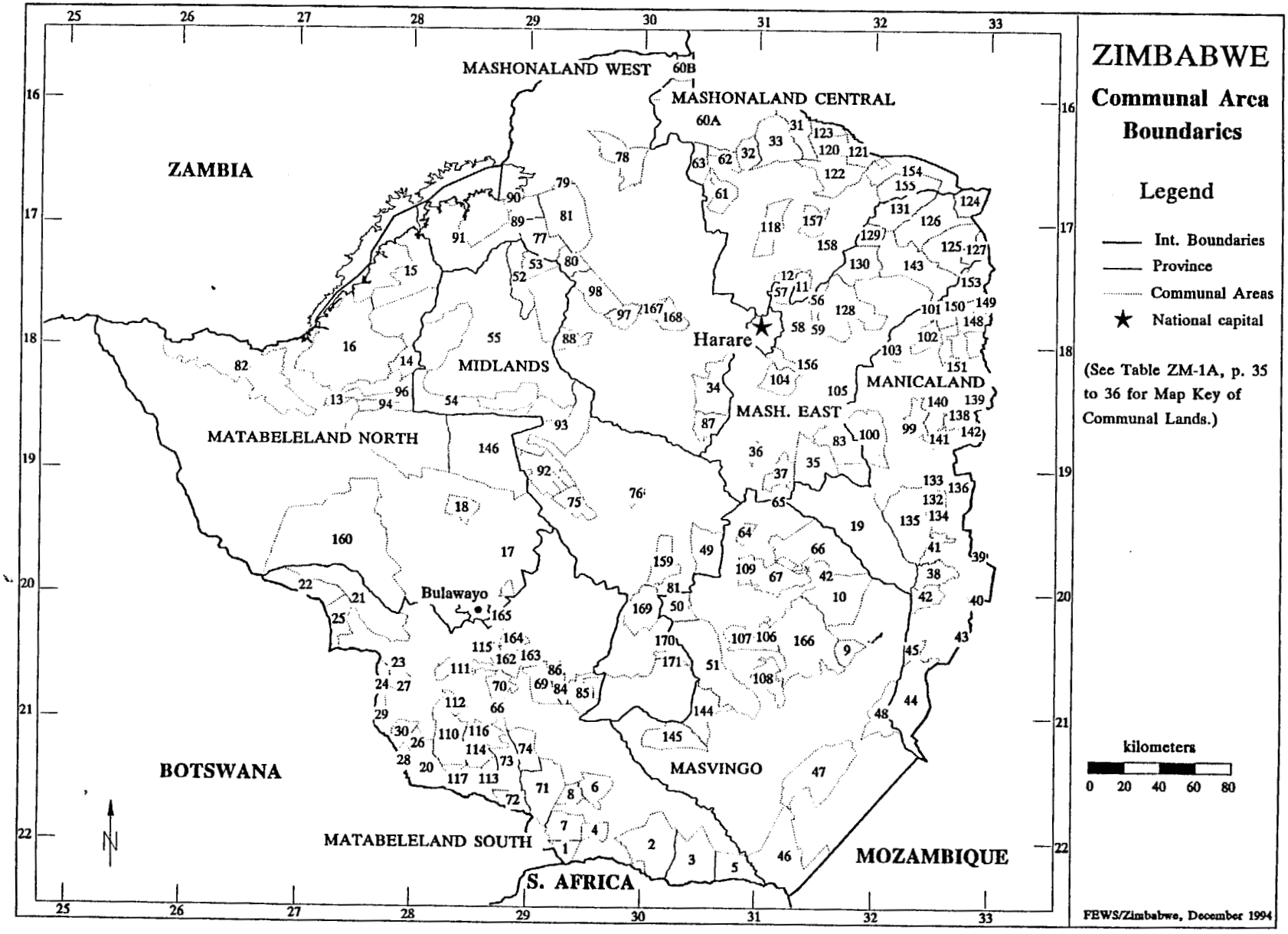
The most vulnerable communal area using the baseline measurements is Siyoka, in Beitbridge District (see Maps 7–8). Although this communal area has livestock and assets in an amount that is average for all communal areas, it is the fifth lowest in income from agriculture and in-kind transfers, ninth most risky in crop risk, and twelfth most stressed. The second and third most vulnerable are Matibi I and Maranda communal areas in Mwenezi District. Mashava South in Chivi District was ninth most vulnerable. All of these areas are found in close proximity in southwestern Zimbabwe.

The least vulnerable communal areas are found in the north-center of the country. Regular and plentiful rains, substantial staple food and cash crop production, modest assets and level of development, as well as a significant livestock presence, give the lowest vulnerability to Kunzwi in Goromonzi District.

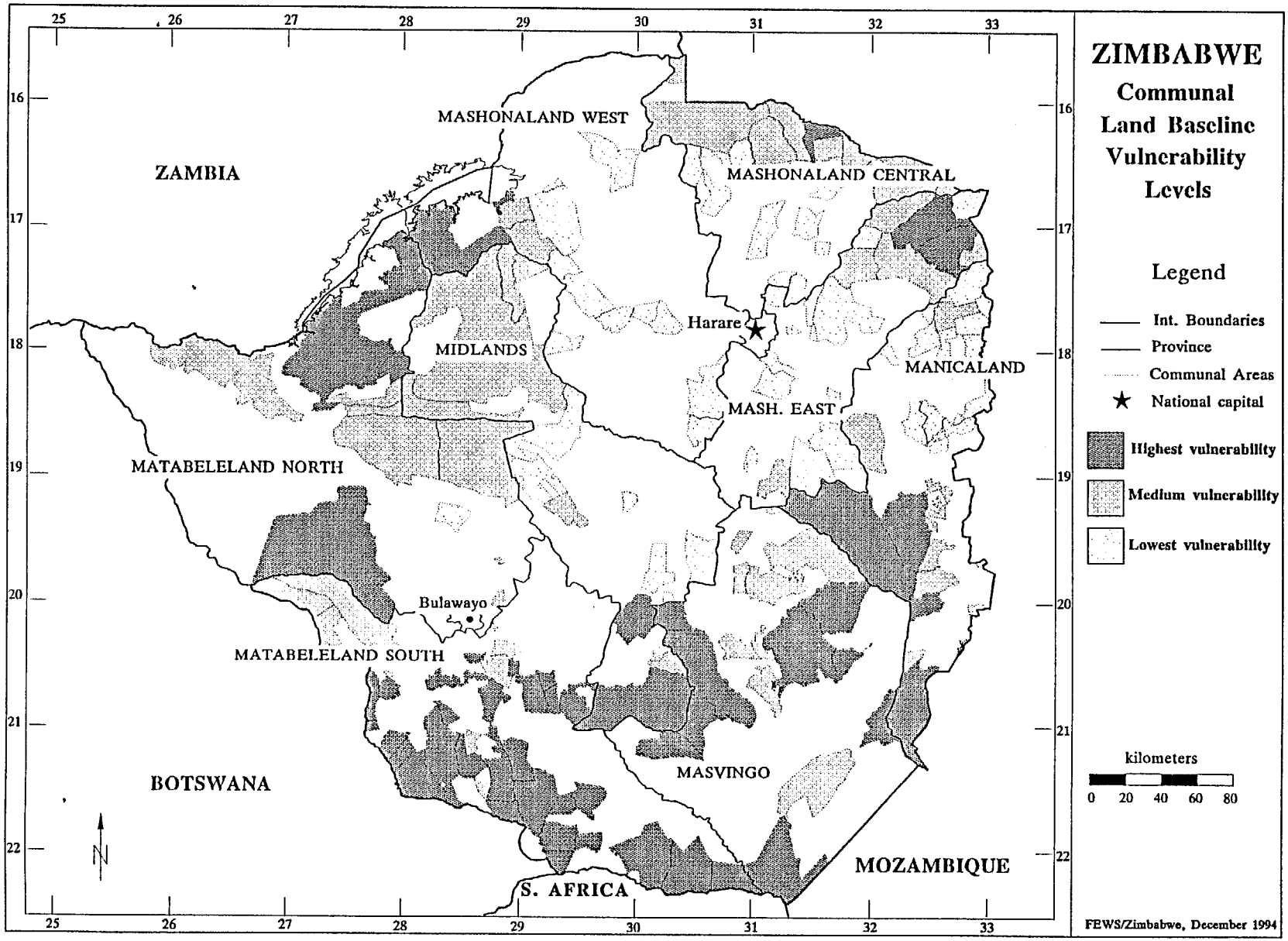
The analysis of baseline agricultural income (including food for work transfers) found a range of average annual per capita income from agriculture and in-kind transfers (adjusted for inflation to 1994 values) running from a high of Z$1,830 in Mukumbura West (Centenary District), to a low of Z$61 in small Chikukwa (Chimanimani) (see Table 3). The median annual per capita income from agriculture and in-kind transfers was approximately Z$300.

At the extremes of both the high and low ends of this scale, there is evidence that data problems are distorting the results. Nevertheless, outside of these anomalies, a consistent, and somewhat expected, picture of low income levels is shown in the low rankings of several communal areas in Matabeleland South Province (Ngulube, Siyoka, Mphoengs, Mzinyatini). Agricultural production in these areas is low and highly variable. The lowest per capita value of staple crop production of any communal area (adjusted for inflation) is Z$ 18.59 in Siyoka (Beitbridge District). Siyoka also has very little reported cash crop production. Even though livestock resources are much higher in Siyoka than elsewhere, the estimated average annual

Map 7. Zimbabwe: Communal Area Boundries



Map 8. Zimbabwe: Communal Land Baseline Vulnerability Levels



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off-take rate of 5 percent for all animals limits the baseline per capita contribution of this sector to an approximately Z$ 35-75 in this and other nearby areas, not an exceptional contribution to total income for most of the communal lands.

Also found in the bottom ten communal areas in per capita production are several communal areas lying on the southern shore of Lake Kariba (Manjolo, Omay, Gatshe Gatshe, and Siabuwa). Besides showing a low average of agricultural production, these areas had only limited livestock holdings until recently because of tsetse (*trypanosomiasis*) infested woodland pasture areas. Tsetse eradication programs have brought some areas under control. As the increasing livestock numbers show in the current assessment, income levels from livestock are rising in these areas.

Half of the ten highest income communal lands are found where cash crops, particularly cotton, are present. Gandavaroyi and Sebungwe (Gokwe District), Mukumbura West and Gutsa (Centenary), and Sanyati (Kadoma) are all heavy cotton producers.

Some income data (remittances, wage income, and fishing production) which were not available for this assessment, or at all, would undoubtedly change the rankings of many of the lowest income areas. The typical Matabeleland South communal area shows high rates (50–60 percent) of female-headed households, reflecting the widespread practice that husbands emigrate to neighboring South Africa and Botswana for work. Assuming a relatively modest annual remittance to the household of Z$50–75 per capita, the bottom ten Matabeleland South communal lands could move up 20–30 places. Similarly, Gatshe Gatshe is a fishing economy, so its low ranking here is largely a defect of no data available on its principal economic activity.

The Zimbabwe Government's Drought Relief Programme—food-for-work grain distributions—have been a feature of many communal areas since 1982. An average of over 1.2 million communal sector residents receive drought relief rations of 5 kg or more per month on average in any year. The average annual per capita value (adjusted for inflation) of the food distributed runs from Z$6 to Z$55. While this may seem a minor per capita input compared to crops or livestock, it should be noted that this amount generally is not spread across the entire population of an area, as it is measured here, but usually goes to the poorest in an area. It is, therefore, a more meaningful income for many. It comprises 33 percent of the measurable income in some of these areas.

VULNERABILITY OF SOCIOECONOMIC GROUPS

Vulnerability Component: Level of Development/Asset Ownership

Of the ten lowest-income communal areas, only the four on the shore of Lake Kariba (Siabuwa and Manjolo, Omay, and Gatshe Gatshe, in Binga, Omay, and Kariba districts, respectively) were found at the bottom of this ranking. Others at the lower end include communal areas from Gokwe District, and several from the Zambezi Valley. These are generally areas that are inhospitable to cattle, relatively unproductive in agriculture, or are, in Gokwe's case, areas of relatively recent expansion of farming and population increase.

The highest-ranked communal areas in terms of level of development/asset ownership are areas that are in the relatively prosperous agricultural zones of Goromonzi, Zwimba, Chegutu, and Chikomba districts. The high scores tend to confirm the impression of a sustained and relatively unvarying income pattern.

Surprisingly, many of the low-income communal areas from Matabeleland South fared quite well on this factor ranking. They fared well not only because of substantial, but not preponderant, livestock holdings, but also because of high scores on the level of development index. Half of the sixteen highest scores on the level of development index came from communal areas in Matabeleland South, particularly in Umzingwane and Insiza districts. Looking at other, quite low factor rankings, the high level of development scores would appear to be the result of factors other than a pattern of income based upon agriculture or livestock.

Vulnerability Component: Crop Risk

Looking at the crop risk rankings, there is no question where the most frequent and severe shocks to food security are centered. Out of the bottom (most vulnerable) forty communal areas, well over thirty of them are found in Matabeleland South Province. The Limpopo River watershed that covers much of the province has the lowest mean annual rainfall of all the watersheds (approximately 453 mm), is affected by drought (less than 75 percent of mean annual rainfall) approximately one out of every four years, and has the highest degree of interannual variability in its mean rainfall totals. Surprisingly, almost all of the ten watersheds appear to suffer from drought at least one of every five years. Even the northern Hunyani (14 percent of mean annual rainfall) and Mazowe (18 percent) watersheds, and the (eastern) Border watershed have just slightly less than a one-in-five year history of drought.

Vulnerability Component: Observed Stress

Those districts showing the greatest baseline of participation in the drought relief feeding programme include communal areas in southcentral Zimbabwe. The following districts all have extremely high percentages of their population receiving assistance: Mberengwa (Mberengwa, 52.2 percent), Maranda and Matibi I (Mwenezi, 47.1 percent), Runde, Mazvihwa, and Ungova (Zvishavane, 44.7 percent), and Chivi and Mashava South (Chivi, 44.2 percent).

The communal areas which show the least level of observed stress are those found in the prime agricultural areas of the northeast. They include Chiweshe (Mazowe District), with an average of only 3.9 percent of its population normally eligible to receive assistance, Chinyika, Chikwaka, Kunzwi, and Chinamora (Goromonzi, 5.3 percent), and Musana and Masembura (Bindura, 5.3 percent).

Current Vulnerabilities

The value of the most important indicators of agricultural and livestock off-take incomes were computed for the three most recent years (1991/92, 1992/93, and 1993/94), and then compared to the baseline period (generally 1980-91). Table 3 summarizes these data and identifies:

- Those communal lands with highest baseline vulnerability
- Those where there have been significant declines of at least 33 percent in either, or both, of their agricultural production or livestock off-take values

The table illustrates it is clear that the last three years have been difficult ones, particularly in the southern third of the country, and especially in Matabeleland South. In the last three years, the greatest drought of the century in 1991/92 was followed by an excellent rainy season, and then by a year in which poor farmers saw their late planted crops devastated by an early termination of the rains. Within the third group of highest baseline vulnerability, 33 of the communal lands had significantly declining income from agriculture and in-kind transfers in the current period (see Table 4 and Map 9). Twenty-two of these are found in Matabeleland South Province. Even if incomes from those sources, that are difficult to measure (remittances, wages, craft sales, etc.), were added, the line between maintenance of health and the slow spiral of deteriorating food security appears very narrow in these lowest-ranked communal lands.

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CONCLUSIONS

How many people may be highly vulnerable? The total population of the 58 communal areas of greatest vulnerability is approximately 2.07 million. Although wealth distribution data are not currently available for these areas, it is probable that not more than 50 percent (1.04 million) of the inhabitants of these areas may be experiencing significant difficulty in producing or acquiring sufficient food.

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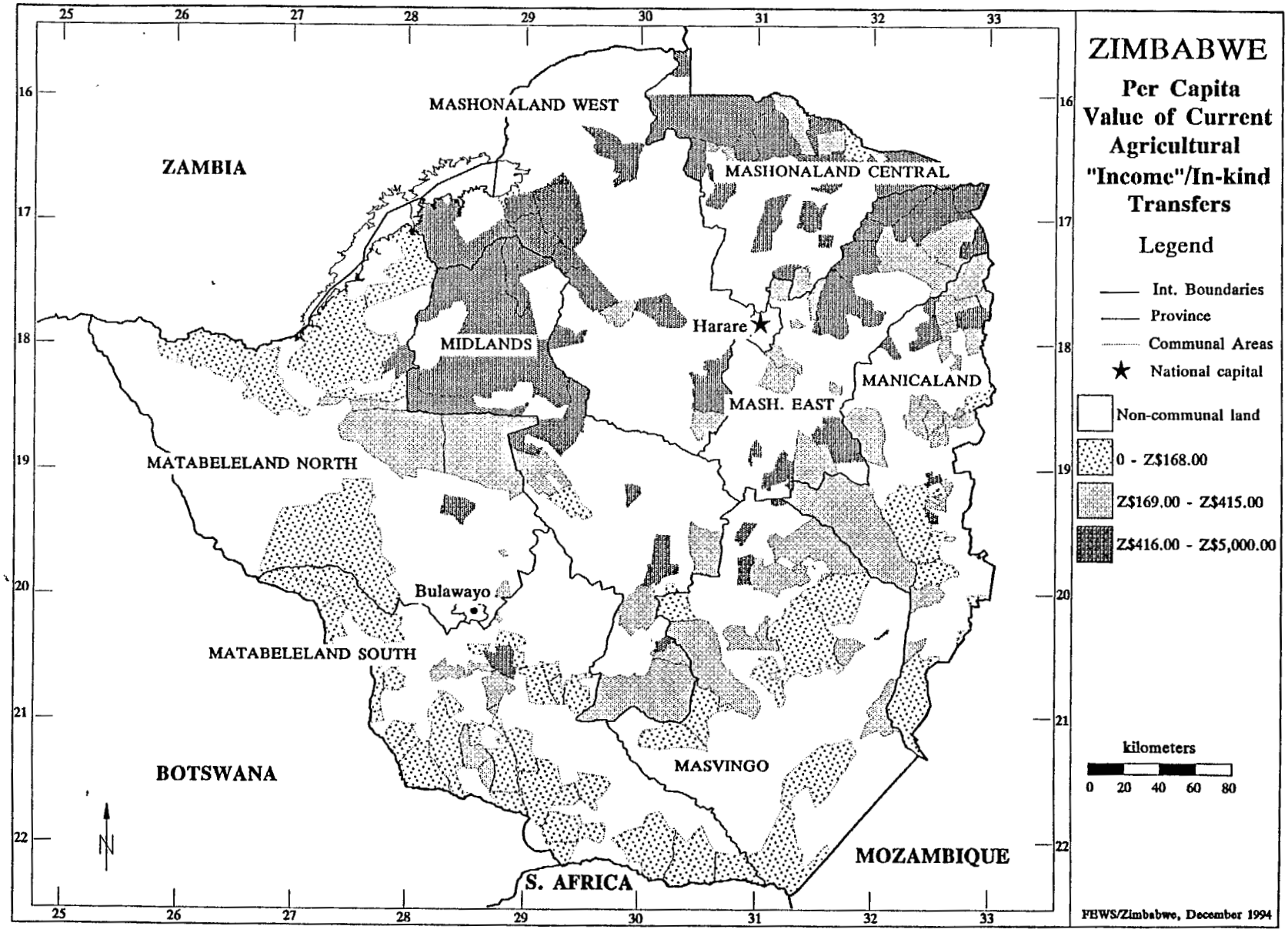
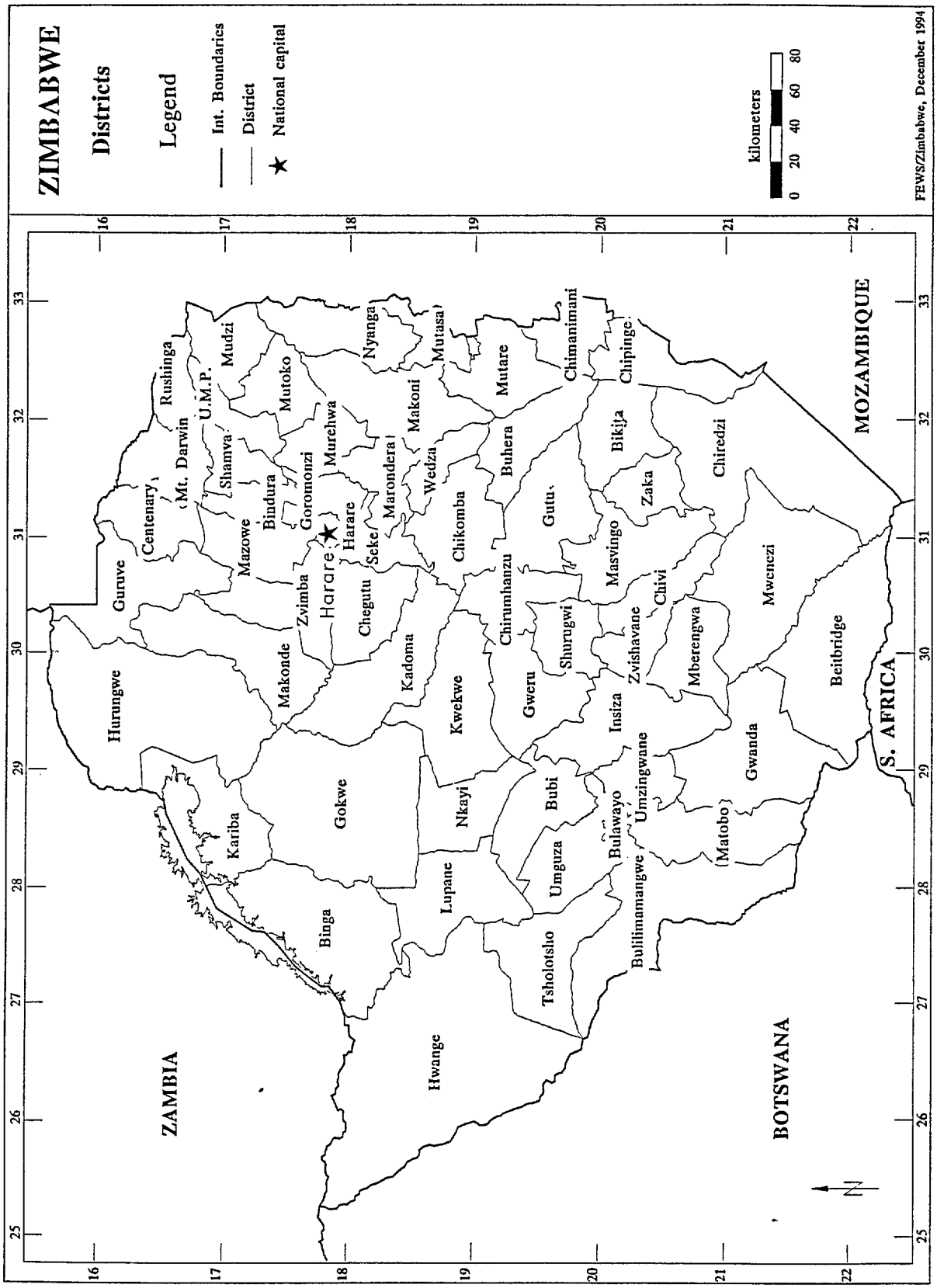
Map 9. Zimbabwe: Per Capita Value of Agricultural Income and In-kind Transfers





Map 6. Zimbabwe: Districts

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Household Food Security: Concepts, Indicators, Measurements

A Technical Review

Simon Maxwell
and
Timothy R. Frankenberger

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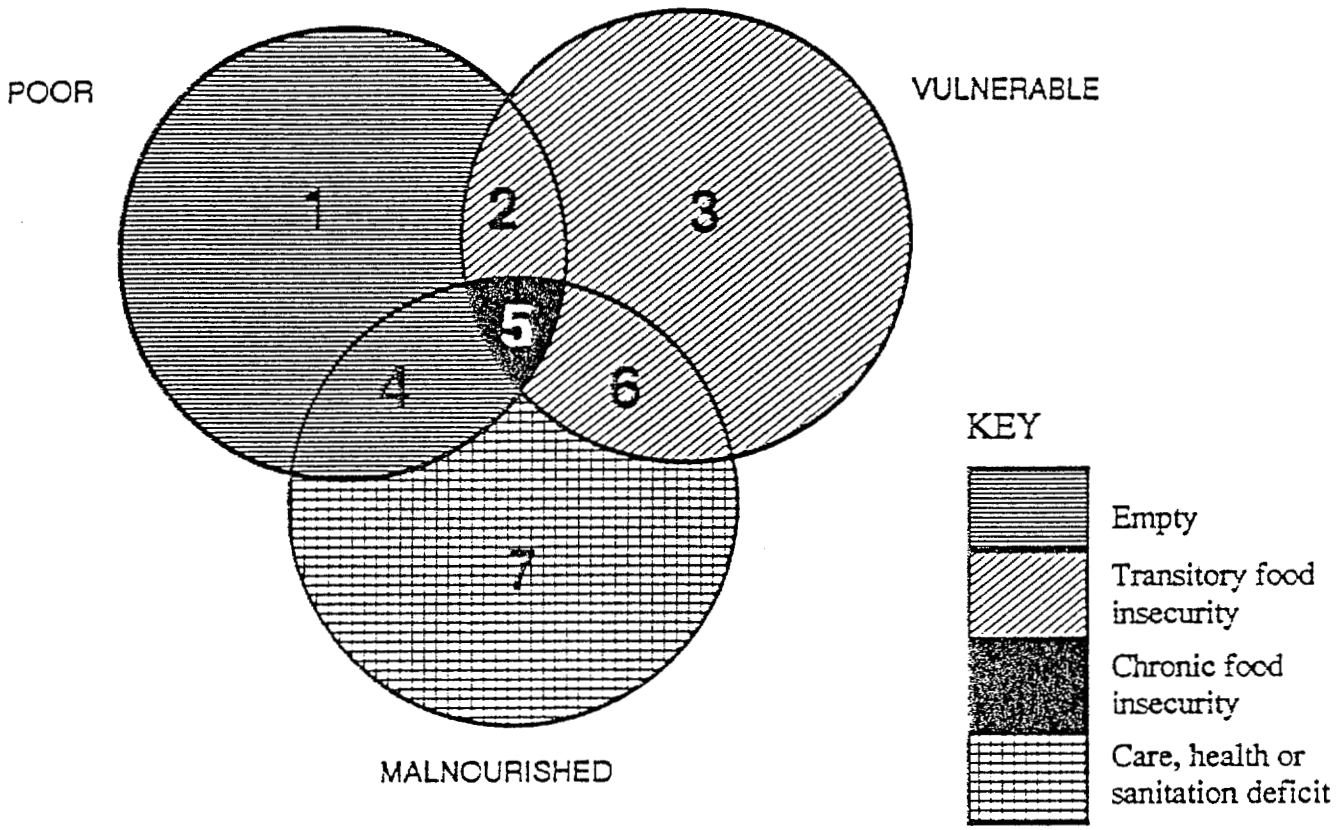

Figure 1.6
Source: Adapted from Maxwell 1986:6

Figure 1.9

Differences Between a Narrow "Food First" Approach and a Wider "Sustainable Livelihood" Approach to Household Food Security

Livelihood	"Food First" Approach	"Sustainable Livelihood" Approach
Objective	access to food	secure and sustainable livelihood
Point of departure	failure to subsist	success in feeding, living
Priorities	food at the top of a hierarchy of needs	food one part of a jigsaw of livelihood needs
Time preferences	food needs met before and in preference to all others	food needs met to the extent possible given immediate and future livelihood needs
Entitlements	narrow entitlement base (current and past consumption)	broad entitlement base (includes future claims, access to CPRs etc.)
Vulnerability	lack or want of food	defencelessness, insecurity, exposure to risk, shocks and stress
Security	opposite of vulnerability is enough food, irrespective of the terms and conditions on which it is acquired	opposite of vulnerability is security
Vulnerable groups	based on social, medical criteria	also based on economic, cultural criteria
Coping strategies	designed to maximise immediate consumption	designed to preserve livelihoods
Measuring and monitoring	present and past consumption	livelihood intensity
Relationship to food security and the environment	degrade environment to meet immediate food needs	preserve environment to secure future

Source: Adapted from Davies 1992 (forthcoming)

Table 2.4

Indicators for Timely Warning and Coping Mechanisms of Communities

Community mechanism to deal with food crises	Potential indicators	Possible sources of data
Change of food source	Number of households dependent on reserve	Agricultural workers, health centres
Attempt to find employment	Unusual movement of adult males: change in wage rates or application for jobs	Chiefs, administrators, recruiting agencies, extension workers
Sell off livestock	Increase in sales, decline of livestock prices	Extension workers, cattle auctions, abattoirs
Attempt to purchase food in local markets	Increase in crop sales, Increase in crop prices	Marketing agencies, local price reporters
Request assistance from government	Number requesting assistance, applying	Records of assistance programmes, NGOs
Seek assistance from relatives	Change in school enrollment, changes in clinic attendance, increase in remittances	School, clinic records, books, post offices, (flow of remittances)
Migrate to areas not affected	Unusual movements of people	District and area administrators

Source: FGS 1990 and Eele 1987. (Taken from Davies et al. 1991)

allocation of resources and a need for information appropriate for decentralized HFS monitoring and interventions. Section II addresses these differential needs and identifies an approach that takes both of these concerns into account.

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Figure 2.5

Household Food Security Indicators

Indicator	Availability	Sources of Information and Collection Method	Measurement	Level of Aggregation	Limitation
Food Supply Indicators					
Meteorological Data (rainfall)	readily available	government reports monitoring stations satellite remote sensing	cumulative amount/average change from average onset	national regional district	number of stations timing of rains may be false indicator
Information on Natural Resources (includes grazing resources)	readily available	periodic assessments government, NGOs satellite imagery government and donor studies	dekedal values dekadal value/previous dekadal dekadal average/long-term dekadal average	national regional district	access to remote sensing
Agricultural Production Data (crops and animals)	readily available	government reports crop cutting on sample plots remote sensing farmer reports	seasonal kg/capita departure from average kg/capita % change from past years	national regional district	limited information on other crops besides staple
Agroecological Models	not readily available	monitoring stations soil assessments	FAO Crop Specific Soil Water Balance Model	national regional district	computer capability for analysis
Food Balance Sheets	readily available	secondary sources government reports	production-consumption requirements (opening stocks, production, imports, domestic per capita requirements, exports and closing stocks)	national regional	underestimate nontraditional crops
Information on Pest Damage	moderately available	field assessments government reports	seasonal kg/capita for crops % of change from last year	national regional	frequency of assessment

Figure 2.5 (continued): Household Food Security Indicators					
Indicator	**Availability**	**Sources of Information and Collection Method**	**Measurement**	**Level of Aggregation**	**Limitation**
Food Supply Indicators (continued)					
Market Information (prices)	readily available	price data market surveys	value of crop prices, livestock prices monthly value/average monthly value for previous year	national regional local	interpretation of sales and price
Regional Conflict	not readily available	key informants NGOs	# of incidents influx of refugees	regional local	collection of data in conflict zone

Figure 2.5 (continued): Household Food Security Indicators					
Indicator	**Availability**	**Sources of Information and Collection Method**	**Measurement**	**Level of Aggregation**	**Limitation**
Food Access (Effective Demand or Entitlement)					
Risk Minimizing Strategies					
land use practices	limited	RRA formal surveys	changes in crop mix changes in time of planting	HH/village	location specific
diversification of livestock	limited	RRA formal surveys	changes in livestock mix early movement to alternative range # animal deaths	HH/village	location specific
Loss Management Strategies					
dietary change (both quantitative and qualitative)	limited	RRA HH surveys in-depth interviews	reduction in # of meals decreased dietary diversity shifts from preferred to lower status food	HH/village	location specific
change of food source	limited	RRA HH surveys	increased dependence on wild foods # of HH dependent on reserves grain price increases	HH/village	location specific
diversification of income sources	limited	RRA HH surveys	changes in petty marketing patterns changes in wage rates increase # of HH seeking off-farm employment	HH/village	location specific
access to loans/credit	limited	RRA HH surveys	increase # of people seeking assistance from relatives # of people seeking credit	HH/village	location specific
livestock sales	available	market surveys secondary data	increase sale of livestock/season decline of livestock prices	national regional local	location specific
seasonal migration	limited	RRA HH surveys	large # of people migrating for work	village HH	location specific

Figure 2.5 (continued): Household Food Security Indicators					
Indicator	**Availability**	**Sources of Information and Collection Method**	**Measurement**	**Level of Aggregation**	**Limitation**
Food Access (Effective Demand or Entitlement) Loss Management Strategies (continued)					
sale of production assets	limited	RRA HH surveys	appearance in market of unusual amounts of personal and capital goods (jewelry, farm implements, draft animals) sale of young female animals	village HH	location specific
distress migration	limited	RRA HH surveys government records NGOs	# of whole families moving out of area	regional village HH	location specific

Figure 2.5 (continued): Household Food Security Indicators

Indicator	Availability	Sources of Information and Collection Method	Measurement	Level of Aggregation	Limitation
Outcome Indicators					
Direct Indicators					
household budget and consumption surveys	limited	national surveys	price per unit of food or caloric per unit of food conversion factors/capita	national regional district	high cost
household perception of food insecurity	limited	RRA in-depth interviews	# of months of self provisioning from household production and receipt of in-kind as perceived by the household	village HH	local population may distort data
food frequency assessments	limited	HH surveys 24-hr recall	# of meals per day # and types of ingredients in meals # of times per day a nutrient-poor gruel was served as main meal	village HH	difficult to aggregate at regional or national level limited level of precision culturally specific
Indirect Indicators					
storage estimates	limited	HH surveys RRA	# of months food stores will last as perceived by the HH	village HH	difficult to obtain due to cultural beliefs difficult to aggregate
subsistence potential ratio	readily available	HH surveys	size of farm, expected yield and age and sex composition of household Amount of food produced/food required	village HH	difficult to aggregate assumes all farm land used for food production
household food security card	limited	HH surveys	food available from main crop compared to HH requirements on monthly basis	village HH	only useful in areas where most food is grown by the household
nutritional status assessments	readily available	government health department formal surveys anthropometric measures	weight/age height/age weight/height arm circumference	national regional local	nutritional status influenced by sanitary conditions, care age assessment question

Section II:

Data Collection Methods for Using Household Food Security Indicators

Introduction

Household food security indicators are used by a number of different groups and organizational entities. The users include donors, national governments, local governments, NGOs and local communities. Each user group may have different data needs for the decisions they are going to make, requiring different types of collection methods. In designing HFS information systems and selecting the array of indicators to be used, the key questions to ask are: 1) who will be using the data; 2) what types of data will be needed; 3) what types of data already exist or are being collected by other agencies or organizations; 4) what methods are required to collect data that does not exist; 5) what resources (financial, personal, institutional) are available for collecting and analyzing the information; and, 6) what interventions are possible given the availability of resources.

This section begins with a discussion of the different user groups of HFS indicators and their data needs. This is followed by a discussion of the different types of data and collection methods that are used to meet these various needs. The section then addresses the various types of food security monitoring systems that presently exist, ranging from global and national systems to local systems implemented by NGOs. The section concludes with a discussion of a household food security monitoring approach that draws from the strengths of the various systems under review.

User Groups of Household Food Security Indicators

User groups requiring information on household food security operate at both the macro and micro levels. National governments and donors require such information to make informed planning and policy decisions, especially if limited resources have to be shared across regions. At the micro level, local governments, NGOs and local communities require information to identify vulnerable groups and appropriate interventions to improve HFS. Although there is considerable overlap in the decisions

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and data that are used by different groups, some key differences do exist which have bearing on the types of data that are required.

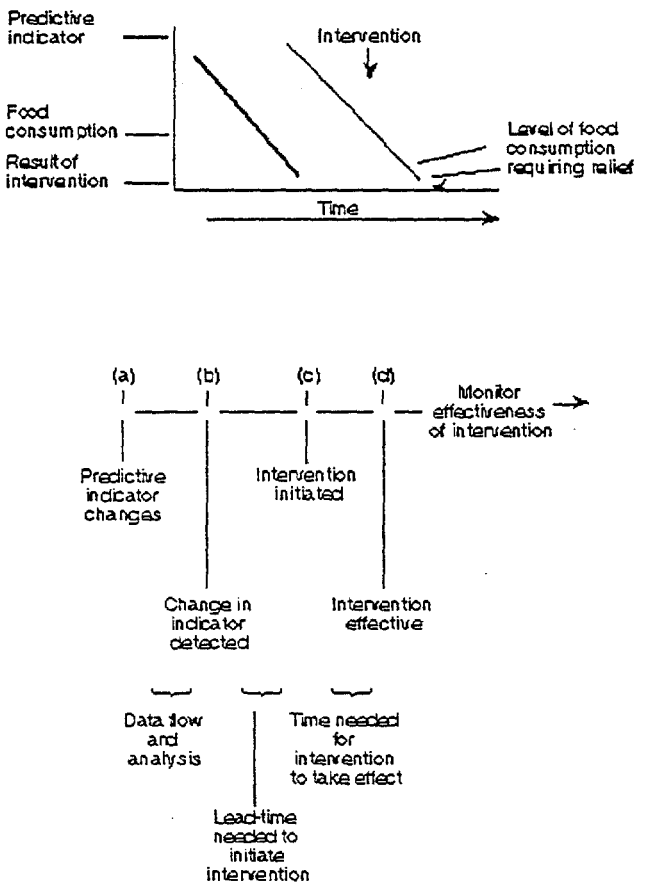
At the macro level (national or regional level), governments and donors seek a small range of indicators that can be aggregated and lend themselves for comparison across areas (Davies et al. 1991). This will allow for "objective" decisions to be made about the allocation of resources across regions. High quality, quantitative statistical data are required that are representative of the various regions under consideration. Supply indicators are well suited for this aggregate level of analysis (e.g. production, rainfall, food balance sheets), as well as anthropometric measures. Socio-economic data relevant to local populations are rarely used because of limitations on time, resources and knowledge, and the low potential for aggregation.

At the micro level, local governments, NGOs and local communities seek locational specific information that will enable them to detect food insecure groups and to identify appropriate interventions. Qualitative data that reveal the local processes at work are best suited for these types of decisions. Working close to the community, targeting errors regarding vulnerable households are less likely. Socio-economic data are often incorporated in the set of indicators used for monitoring at the local level. Locally relevant predictive HFS indicators are easier to incorporate into these decentralized monitoring systems. This is especially true for community based food security monitoring systems.

The differences in data needs have implications for detecting HFS problems and intervening in a timely manner. In countries where centralized decision makers are primarily responsible for identifying food insecure groups and interventions, problems may arise in detecting pockets of vulnerability in a given area due to the types of indicators used. The more remote the decision is from the problem, the greater the time lag in initiating appropriate action (Mason et al 1984) (See Figure 2.6). Location specific predictive indicators are difficult to incorporate into centralized decisions.

The time lag between detection of household food insecurity and appropriate action is decreased through decentralized diagnosis and response (Davies et al. 1991). Local food security monitoring systems can incorporate locally relevant socio-economic indicators to improve detection and response time. Examples of such decentralized monitoring systems are found in Indonesia (Brooks et al. 1985) and Botswana (Davies et al. 1991).

Figure 2.6



(Mason et al 1984)

Types of Data and Collection Methods

The information needs of different user groups entail the collection of different types of data using different kinds of methods. Data and collection methods can be classified into two general types: quantitative and qualitative. Quantitative methods produce numerical data usually through structured surveys (Casley and Kumar 1988) (See Figure 2.7). Quantitative data are collected when a number, ratio, or proportion related to the target population must be estimated or a variable such as crop production must be measured (Ibid. 1988). The major advantages of quantitative methods are: 1) the questionnaire can be standardized to remove interviewer biases; and 2) a sample of the population can be drawn to derive estimates about the whole population within known margins of probable error. The major disadvantages usually associated with

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quantitative methods are: 1) the time lag required to produce results; 2) the high cost associated with administering the survey; and 3) the non-sampling errors associated with the wording of the questions and the lack of consideration of local context (Molnar 1989).

Table Figure 2.7

Selection Criteria for Methods

Criteria	Classification		
	A	B	C
1. Scale of Inquiry	Phenomena of interest are rare and clustered	Village or community level Specific site or institution	Phenomenon of interest widely distributed throughout area
2. Interview Type	Free ranging: Unstructured	Open-ended questions: Attitudinal studies	Closed or structured questionnaire
3. Observations and Measurement	Technical requiring professional skill	Accurate and detailed	Simple counts or measures
4. Frequency	Continuous or very frequent	Multi-visit over year	Single visit

Source: Casley and Lury, 1982.

Case Studies — Enquiries involving one or more A types. These include rare phenomena, free ranging interviews, professional encounters, and continuous observation. These are not conducive to large sample surveys due to the demanding nature of the inquiry in terms of identification of respondents and the time and skill needed for the investigation. Case study approaches are also best used when the inquiry is focused on villages or at the community level (1B) and when the questions are open-ended or attitudinal in nature (1B). (Classic sociological case studies)

Sample Surveys — Are well-suited for inquiry about phenomena widely distributed throughout the area (1C) and when the questionnaire is closed or structured (2C). Sample surveys are also used when observations and measurements are accurate and detailed (3B), simple counts and measures (3C), multi-visit over a year (4B), and single visit (4C). (A nutritional survey involving anthropometric measures of children, regular but simple price collection)

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Qualitative methods produce descriptions of situations, events, people and systems interactions (Casley and Kumar 1988). Methods used include in-depth interviews with key informants, group interviews, focus groups and participant observation. Qualitative data are collected when the attitudes, beliefs, knowledge and perceptions of the target population must be known (Ibid. 1988). These types of methods are best used in case studies with small numbers of individuals or groups, where selecting is done deliberately according to specified characteristics rather than at random from the population. The major disadvantage associated with qualitative methods is that they do not generate information that is generalizable to a larger population.

Most information systems require collection of both quantitative and qualitative data. However, nationally based systems rely more on quantitative data that can be aggregated and compared across regions, while local level HFS information systems may operate with limited numerical information. Decentralized diagnosis may identify vulnerable groups through qualitative informal discussion. Thus, the types of data collected will depend upon the user of the information and resources available for obtaining it.

Sampling

One of the most controversial areas in sound use of HFS indicators is the selection of households and sampling. Qualitative techniques are criticized because they do not generate statistically sound survey data (Molnar 1989). Structured surveys using formal sampling techniques are criticized because many feel that what is gained in the reductions of random sampling error is lost through non-sampling error. As Molnar (1989) states, "random sampling gains the researcher nothing if the interviews selected through the random process are poorly conducted."

It is important to recognize that both quantitative and qualitative techniques are tools that play a useful and complementary role in improving our understanding of the HFS situation in a given area. Qualitative methods are useful for improving the depth of our understanding of the local circumstances that households operate in while quantitative tools help us determine the breadth to which observed behavioral practices, resources, or problems are distributed within a population. Although quantitative methods are very much concerned with representative probability sampling, sampling considerations also apply to qualitative information.

There are at least seven kinds of sampling procedures (Bernard 1988). These can be divided into probability based sampling and non-probability sampling techniques. Probability based samples are representative of a larger population and include simple random, stratified random and cluster samples. Simple random samples are samples where each individual within the population has an equal chance of being selected (Bernard 1988). Stratified random samples are done when it is likely that an important sub-population will be under represented in the simple random sample. Cluster samples narrow the sampling field down from large heterogeneous groups to small

homogeneous groups that are relatively easy to sample directly (Ibid. 1988). Cluster samples involve a multistaged process, such as sampling a geographical area then random sampling each cluster.

Population inferences are more difficult to draw from non-probability sampling, such as quota, purposive, snowball and haphazard sampling (Bernard 1988). The major disadvantage of these techniques is that studies based on them have very low external validity. Quota sampling involves identifying a number of sub-populations of interest and selecting proportions of those sub-populations for a sample. Purposive sampling, a technique commonly used in RRA and other qualitative methods, involves selecting a few cases (e.g. villages) for intensive study. Snowball sampling, commonly used in social network studies, involves asking a few key individuals to name others with similar interests, backgrounds or some other desirable characteristic. Haphazard or convenience sampling, involves selecting cases as they come along. It is an approach used in exploratory research (Ibid. 1988).

To draw a good sample, the first thing required is a good sampling frame. Unfortunately, in many rural areas where HFS problems exist, sampling frames are not easy to come by. Bernard (1988) recommends that whenever there is not a sampling frame (e.g. census) for a general population, a multi-staged cluster sample should be used. Sampling should be heavier at the higher levels in a multistaged sample and lighter at the lower stages. This is because as clusters get smaller, the homogeneity of the units of analysis within the cluster gets greater and greater. This means that when quantitative data on HFS indicators is being collected, the survey should attempt to cover more villages in the sample with fewer households per village, rather than many households in a few randomly chosen communities (Bernard 1988). A two-staged cluster sample design also will help save on transportation costs (Eklund 1991). However, cluster sampling also can increase the sampling error compared to simple random sampling, so the necessary sample size will increase (Eklund 1991). This may cancel out the cost savings.

Decisions on sample size are influenced as much by cost and time considerations as by the required precision in estimators (Eklund 1991). Other factors to take into account are the size of the population to which one wants to generalize, the heterogeneity of the population, the numbers of subgroups within the population, and how accurate one wants the sample statistics to be (Bernard 1988). There will always be a trade-off between greater accuracy and greater economy in sampling. Although the degree of accuracy may be reduced, smaller, more cost-effective samples will still provide administrators some notion of the trends that are occurring in the area (Eklund 1991).

Rapid Rural Appraisals

As stated in Section I, RRAs have been employed in food security monitoring as a way of increasing the speed of coverage of data collection. They bridge the gap between formal surveys and non-structured interviewing (Molnar 1989). RRAs are used to collect data on values, opinions, and objectives as well as on biophysical and economic factors. They neither generate statistically sound survey information nor provide an in-depth understanding comparable to long-term qualitative research methods used by anthropologists (Molnar 1989).

The major objective of RRAs is to gain maximum knowledge of the target area with a minimum amount of time and resources (Eklund 1991). They have gained in popularity in recent years because of the time and cost associated with more formal surveys.

In terms of sampling, RRAs normally use purposive sampling techniques in the selection of villages to interview people of different classes, ethnicity, age, gender and with different access to resources (Molnar 1989). Random sampling is then sometimes used (but not always) in selecting individual households (Eklund 1991). A minimum number of randomly selected observations will permit statistical inference to the agriculturalists in the village, even though the sample will not be representative of the population in the area (Ibid. 1991). This will allow for some exploration of relationships between variables upon which data are collected. Random sampling is not applicable to group interviews.

To correct the bias of purposive sampling, some researchers follow up informal RRAs with small formal surveys to test the hypothesis emerging from the RRA (Molnar 1989). Other ways that bias is reduced is through stratification, to ensure that less visible target groups are represented and that more remote agro-ecological zones are visited.

RRAs are well suited to decentralized food security monitoring systems. Such methods help local administrators and NGOs determine the constraints that impact the HFS of local populations, and help identify the key indicators that should be monitored in follow-up surveys. Because these data and their interpretation are location specific, it is often difficult to aggregate at the national level.

Discussion

Ways should be sought to strengthen the communication links between local and national decision makers. This could be done in three ways. First, more responsibility could be delegated to local governments in the collection of HFS information and response. Given the locational specificity of problems, this would improve considerably the detection of household food insecurity and the timing of interventions. Second, locally relevant socio-economic data need to be better reflected

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in national government and donor decisions. Third, local government and NGOs could attempt to collect data that can be aggregated more easily to address the data requirements of donors and national government decision makers in allocating resources. They should also aid in the interpretation of supply data and anthropometric measures.

Given that the decision requirements of different user groups require different types of HFS data and collection methods, the next section reviews the different types of information systems that have some relation to HFS monitoring.

Food Security Monitoring Systems

Early Warning Systems — National and Global Systems

Early warning systems (EWS) are systems of data collection established to monitor a populations' access to food in order to provide timely warning of impending crises and to elicit the appropriate response (Davies et al. 1991). As stated in Section I, the impetus for setting up such systems was directly related to the food crises that occurred in Africa in the 1970s and 1980s. The Global Early Warning System (GIEWS) was established by FAO following the 1974 World Food Conference to monitor aggregate food production and food supply both globally and on a national basis (Buchanan-Smith et al. 1991). Since then, a large number of different organizations and agencies have become involved in early warning, including multilateral and bilateral donors, national and local governments, NGOs and local communities. All countries in the Sahel and the Horn of Africa now have some kind of formal early warning system (except Senegal) (Ibid. 1991).

Most of the national EWS were established after 1985 as a response to the last major famine. This accounts for why many of these systems are famine focused, donor supported and located in country capitals (Buchanan-Smith et al. 1991). Until recently, very few systems were oriented towards household food security monitoring.

National and regional EWS were primarily created to monitor food supply indicators. Production data, rainfall and food balance sheets made up the basis of these information systems. Nutrition surveillance programs set up simultaneously in many of the same countries monitored nutritional status (Mason et al. 1984). Recently, some information systems such as the Famine Early Warning System (FEWS), have attempted to incorporate socio-economic indicators to assess vulnerability (Downing 1990). Geographic information systems and other computer software are being used to integrate multiple sources of data (Buchanan-Smith et al. 1991). GIEWS and the

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Southern Africa Development Coordination Conference (SADCC) are also attempting to incorporate socio-economic information into their assessments.

Despite these ground breaking attempts, most of these EWS are still primarily using supply type process indicators and food balance sheet analysis. Few systems have been able to integrate local access/entitlement data because of the difficulty of aggregating this information at the national level.

Local Early Warning Systems

There are few EWS that have been established at the sub-national level. EWS run by local governments have been established in Darfur, Sudan, Turkana, Kenya and Lombok, Indonesia (Buchanan-Smith et al. 1991; Brooks et al. 1985). The regional EWS in Darfur is based in the Agricultural Planning Unit, and coordinates its efforts with a number of other government institutions, donor-funded projects and NGOs (Buchanan-Smith et al. 1991). This decentralized system uses both qualitative and quantitative data to identify vulnerable groups (Ibid. 1991). Information related to coping strategies is collected during pre-harvest surveys using RRAs. Nutritional data also are collected through community-based nutrition monitoring carried out by an NGO (Oxfam). Vulnerable groups are identified on a geographic basis rather than by socio-economic criteria.

The major problem associated with this system is that information and response are not formally linked. This is primarily due to the limited resources the regional government has been able to secure from the national government (Buchanan-Smith et al. 1991).

The EWS set up in Turkana, Kenya in 1987 also operates at the sub-national level (Swift 1989). Run by the Turkana Drought Contingency Planning Unit, this system alerts authorities of deteriorating food insecurity by monitoring local coping strategies as well as quantifiable data provided by other government departments (Buchanan-Smith et al. 1991). Vulnerability is determined on a geographical basis. Data are collected on livestock, crops, diet, income generating activities, attendance in school, aerial surveys, rainfall and through remote sensing (Ibid. 1991).

The major feature of this system is that it operates on the basis of a predetermined *drought contingency plan* (Swift 1989). Similar to the Indian Famine Codes, this plan consists of a district drought policy, an EWS, and a set of pre-determined responses should a drought occur to ensure food availability (Borton and York 1987). Warning stages of the information system correspond to specific actions.

The food security information system was designed in two stages. The first stage involved a qualitative analysis to identify key indicators that could be monitored quantitatively in the second stage (Buchanan-Smith et al. 1991).

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A third example of a successful decentralized food security monitoring system operated by local government is found in Lombok, Indonesia (Davies et al. 1991). The Timely Warning and Intervention Information System (TWIIS) is a nutrition surveillance system set up at the district level (Brooks et al. 1985). It relies on villagers to collect food consumption data, and has developed a number of HFS indicators that are locally monitored. Operated at the District level, this system effectively links information to response in a cost efficient manner because the national government has delegated responsibility to the District.

NGOs also have been involved in establishing local level HFS early warning systems. For example, the Sudanese Red Crescent Society Drought Monitoring Program in Darfur, Sudan is a community-based EWS (Buchanan-Smith et al. 1991). Local level monitoring was carried out using participatory methods, collecting qualitative information on grain and livestock prices, migration, labor wages and availability and consumption patterns (Ibid. 1991). The key problem associated with this system was that information was not adequately linked to response.

A more effective decentralized food security monitoring system set up by an NGO is the Suivi Alimentaire Delta Sent (SADS) established by Save the Children Fund (U.K.) in Mali (Davies 1989). Set up in 1987, SADS is a food monitoring system based on village and household inquiries in the Fifth Region of Mali. This is a people-centered system that focuses on how people feed themselves (Buchanan-Smith et al. 1991). It collects both qualitative and quantitative information from local producers, key informants and local markets. Village level surveys (RRA) are carried out on a quarterly basis, collecting information on entitlement indicators such as availability of off-farm employment, access to wild foods, migration, available stocks, and crop production (Ibid. 1991). The data are collected on the basis of production systems to stress the HFS differences that exist within and between agro-ecological zones (Davies 1989). "Listening posts" also were established to monitor the situation on a monthly basis (Ibid. 1989). These are staffed by people recruited locally.

Similar to the system established in Turkana, SADS carried out qualitative surveys in the first year to understand the local HFS constraints in order to identify appropriate indicators (Davies 1989). Quantitative surveys were carried out the second year on these key indicators of access to food.

SADS also effectively links information with response. These interventions are intended to reinforce non-degrading food entitlements for well-defined target groups (Davies 1989). Interventions are initiated through NGOs and existing local structures such as village associations and local cooperatives. Potential interventions include seed banks, subsidized transport, small-scale credit and the replacement of productive assets (Ibid. 1989).

Vulnerability Mapping (Risk Mapping)

As stated in Section I, pioneering efforts in vulnerability/risk mapping have been carried out in Bangladesh and Sudan under WFP support (Borton and Shoham 1991). The USAID-funded Famine Early Warning Systems Project also has contributed significantly to this conceptual development (Downing 1990). Vulnerability maps are maps which identify the areas and sectors of the population which are most vulnerable to food insecurity. These maps highlight the regions that need to be monitored more closely, help governments and NGOs to target food aid more effectively and identify factors to take into consideration in designing interventions for vulnerable areas (Borton and Shoham 1991). An earlier version of vulnerability mapping used in the 1970s was "functional classification" of under-nourished populations as a basis for food and nutrition planning (Joy 1973).

Vulnerability to food insecurity, as explained in Section I, is an aggregate measure for a given population of the risk of exposure to different types of shocks or disaster events (primarily supply indicators) and the ability to cope with these events (primarily access/entitlement indicators) (See Figure 2.1). Mapping vulnerability involves assessing the *baseline vulnerability* (the contextual factors encompassing food insecurity events over the previous years), *current vulnerability* (the shocks overlaying the baseline) and *future vulnerability* (trends associated with long-term food security risks).

A number of different approaches have been used in mapping food-related vulnerability. These include: 1) disaggregating existing data on socio-economic groups; 2) surveys that collect information directly relevant to vulnerability; 3) using existing data on key indicators of vulnerability; and 4) conducting rapid rural appraisals (Borton and Shoham 1991). Combining approaches may be necessary due to quality differences in the data. Geographic Information Systems are now being used for combining different data sets (Hutchinson et al. 1992).

The types of information that can be used as indicators of vulnerability to food insecurity will vary considerably between countries and regions within a country. Some indicators may be more important than others in determining vulnerability, so subjective weighting of indicators is often necessary (Borton and Shoham 1991). If weighting must be done, it is important to rely on individuals who have local knowledge and experience in the areas to assign these weights.

Vulnerability maps drawn up for arid and/or semiarid regions should take into account the location of ecologically favorable areas that serve as refuge points during drought conditions (Susanna Davies, Personal Communication). The over-utilization of the resources in such areas by multiple users during times of stress can increase the future vulnerability of the local population. Monitoring posts or sentinel sites (Mason et al. 1984) could be established in these areas of convergence to assess the regional impact of droughts.

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Vulnerability maps have great potential for donors and national governments in assisting with decisions regarding the allocation of resources across regions. The development of such maps could ideally be a first step in identifying districts or subregions where more location specific HFS information is necessary to collect for designing appropriate interventions. Decentralized HFS monitoring systems could then be developed in these designated areas.

A Systematic Approach to Identifying Food Insecure Households

To strike a balance between the need for data for allocation decisions and the need for information appropriate for decentralized HFS monitoring and interventions, a staged approach can be adapted that builds upon the strengths of the various information systems previously described. In countries where national early warning systems already exist (e.g. crop forecasting, food balance sheets, nutrition surveillance), information supplied by these systems can help develop vulnerability maps for various regions. Existing data should be used to formulate these maps as much as possible to cut down on costs. These vulnerability maps should be based on both supply-type indicators and access/entitlement indicators as much as possible to avoid designating an area as vulnerable which may not be. These maps should be fine-tuned as more information becomes available.

The vulnerability maps can then be used to designate areas where more location specific HFS information can be gathered. If such information does not already exist, RRAs can be used to understand the local socio-economic context and identify HFS constraints and key indicators to be used in decentralized food security monitoring systems. This information will feed directly into the development of a district or sub-regional contingency plan, consisting of the HFS monitoring system and a set of pre-determined responses that would be implemented if and when food security conditions change. These responses would be designed in non-crisis years, and would encompass *development-type* interventions that enhance the long-term sustainability of HFS, *mitigation-type* interventions that enable households to retain their productive assets and existing entitlement, and *relief-type* responses if immediate food aid distribution is warranted. Responsibilities for these various actions will be negotiated and assigned to government agencies, donors and local NGOs prior to the onset of food crises to improve response timing.

Whenever possible, participation of local communities in information gathering and response should be encouraged. People-centered systems like SADS in Mali provide a good model to follow for community-based food security monitoring. Participatory rural appraisal approaches can provide guidance for community-based interventions.

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In situations where areas of chronic food insecurity have already been designated for project activities, location specific HFS information will be needed for identifying vulnerable groups in the area and appropriate interventions. Monitoring systems should incorporate process indicators as well as outcome indicators in order to detect changes in entitlement and food supply. Such changes can drastically affect the success of interventions, and may call for modifications or adjustments in the intervention mix being promoted by the project. For example, drought conditions may force some households to sell assets, diminishing their ability to take advantage of project inputs. Contingency plans may be necessary to provide income transfers through food for work/cash for work during stress periods to prevent project beneficiaries from selling off productive assets. Such plans can be built into the project design, and should be based on improvements in infrastructure and/or natural resource management that will enhance the long-term food security of the local area. To ensure such plans are appropriate, participation of local communities in identifying options will be necessary.

Summary

The information needs of different user groups will influence the selection of HFS indicators and the data collection methods to be used. National governments and donors require quantitative information to help make informed planning and policy decisions regarding the sharing of limited resources across regions. Local governments, NGOs and local communities require qualitative location specific information to design appropriate interventions.

HFS information systems can be designed to take both of these concerns into account. Using a staged process, vulnerability maps can help determine in a cost-effective manner where the decentralized food security monitoring systems should be located. Contingency plans can then be developed to link information to response.

For projects already established, monitoring systems should incorporate HFS process indicators as well as outcome indicators in order to detect changes in entitlement and food availability. Such changes may require modifications in the intervention mix presented by the project in the course of the project life. Contingency plans could also allow for income transfers during stress periods to protect the asset base of the project beneficiaries.

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Conclusion

A number of conclusions can be drawn from this review of household food security indicators. First, it is apparent that much intellectual progress has been made in our understanding of the processes that lead to food insecure situations for households. Food availability and stable access are both critical to HFS. Thus, any particular monitoring system used for assessing HFS must incorporate both food supply/production data and access entitlement data as part of their indicator set.

Second, household food security indicators are used by a number of different groups in making a variety of decisions regarding the allocation of resources, intervention design, and the timing of response. These user groups include donors, national governments, local governments, NGOs, and local communities. Each user group may have different data needs for the decisions they are going to make requiring different types of indicators and data collection methods. The subset of indicators that are used by a particular user group will be determined by the specific data needs and the resources that are available to collect this information.

Third, vulnerability to food insecurity can be mapped for a country or region to assist national governments and donors in making decisions regarding the allocation of resources across regions. Vulnerability to food insecurity is an aggregate measure for a given population of the risk of exposure to different types of shocks or disaster events and the ability to cope with these events. The types of information that can be used as indicators of vulnerability to food insecurity will vary considerably between countries and regions within a country. The development of vulnerability maps could be a first step in identifying districts or subregions where more location specific HFS information is necessary to collect. This information could then be used for targeting development initiatives and for setting up decentralized HFS monitoring systems. Such systematic approaches for targeting development should be encouraged.

Fourth, development projects and programs should be designed in such a way to take into account periodic shocks that may negatively impact the food security situation of households. To prevent households from selling off their assets and diminishing their ability to take advantage of project inputs, project designs should incorporate: 1) a monitoring system with indicators that can detect changes in entitlement and food supply; and, 2) contingency plans that protect the asset base of the project beneficiaries during periods of stress through income transfers such as food-for-work/cash-for-work. Through local community participation, these contingency plans can be designed to focus on improvements in infrastructure and/or natural resource management that will enhance the long term food security of the local area.

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Annex I:

Potential Indicators of Household Food Security from the Broader Literature

(Socio-Economic Indicators Related to Food Access)*

Household	Indicator	Comments
Demographic	Household size/composition	Household's size/composition is not static, but changes with household biological life cycle (Caldwell, Reddy, and Caldwell 1986). Adjustment of household size/composition to recurrent food insecurity is a common strategy (Messer 1989a; Norris 1988; Nabarro, Cassels, and Pant 1989; von Braun and Pandya-Lorch 1991). During prolonged economic crisis the trend is toward smaller consumption units (Seaman and Holt 1980; Taal 1989; Shipton 1990; Chambers 1989). Larger/extended households are more likely than smaller/nuclear households to be associated with greater diversification of assets, income sources and crop cultivation (Toulmin 1986; Taal 1989; Nabarro, Cassels, and Pant 1989), and less vulnerable to illness/death of breadwinners (Toulmin 1986; Lipton 1983a; Caldwell, Reddy, and Caldwell 1986). However, the poorest households tend to have large young families (Lipton 1983b). Households with female heads are often, but not always, disadvantaged (Peters and Herrera 1989; Kennedy and Haadad 1991; Louat, Grosh, and van der Gaag 1991).
	Migration	Distinguish between seasonal migration of able-bodied adults prior to/during peak agricultural labor periods and migration during dry season (de Waal 1988; Campbell and Trechter 1982; Autier et al. 1989). Rural Ethiopians could predict six months in advance whether household members would have to migrate in search of wage labor (de Waal 1988). Distress migration of whole families is usually the last in a sequence of household responses and a clear indication that other coping strategies failed (Corbett 1988; Watts 1983).
	Ethnicity/region	Certain ethnic or caste groups may be historically or geographically more vulnerable to seasonal or chronic food insecurity (O'Brien-Place 1988). Welfare levels often vary distinctly by region (Haddad 1991).

* Taken from: Haddad et al. 1991.

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Household	Indicator	Comments
Factor Market	Income sources	Smallholders spread risks through diversification of income sources most notably off-farm employment (Downing 1988; Shipton 1990; Caldwell, Reddy, and Caldwell 1985: Merryman 1984; Reutlinger 1987). The riskier the environment, the more diverse the economic activities relied upon will be (Reardon, Matlon and Delgado 1988; Staatz, D'Agostino and Sundberg 1990). The distribution of income sources within a given community may be U-shaped implying that income diversification has different purposes and consequences for the most and least vulnerable households (Castro, Hakansson, and Brokensha 1981: von Braun and Pandya-Lorch 1991). The source and/or control of income may be more important than total income in influencing household-level food security (Kennedy 1989).
	Changes in income/ income sources	Changes in petty marketing patterns of rural households may indicate anticipated food insecurity (McCorkle 1987; Cutler 1984). Increasing income within communities is associated with different diets but not necessarily improved nutrition (DeWalt et al. 1990; Behrman and Deolalikar 1987). The transition from subsistence to cash-cropping has been associated with increased vulnerability and increased malnutrition among children (Dewy 1981; Thomas, Paine, and Brenton 1989) and with increased household caloric intake (Kennedy 1989) or increased food expenditures (von Braun Hotchkiss and Immink 1989; von Braun de Haen and Blanken 1991). The effect of commercialization of semi-subsistence agriculture on food consumption and nutritional status of vulnerable groups has shown mixed results (von Braun and Kennedy 1986).
	Income flow	Income received seasonally in large sums will more likely be spent on lump-sum expenditures or consumer goods than on improved diets and other nutrition-related investments (Alderman 1986; Guyer 1980: Dewey 1979).
	Access to loans/credit	Nearly half of rural South Indian households took loans during a recent drought, and most felt these had been a considerable factor in maintaining minimum living conditions (Caldwell, Reddy, and Caldwell 1986). Access to traditional lines of credit through merchants collapses as collateral (for example, livestock) disappears during drought (Cutler 1986).
	Land ownership/ control	Number of different plots may be a more sensitive indicator than total acreage since households with fragmented landholdings can take advantage of different micro-climates more than households with larger but often less diverse landholdings (Dei 1990; Colson 1979; Paterson cited in Castro, Hakansson, and Brokensha 1981; Dewey 1981; Downs 1988, cited in Shipton 1990). Access to seasonally flooded lowlands is an important buffering mechanism in drought-prone areas (Longhurst 1986).

Household	Indicator	Comments
	Land use practices	Intensification of land-use practices is one of the earliest responses in a sequence of adjustments to stress by Indian farmers (Jodha 1975, 1978). Intercropping, multiple seed strains with different maturation periods/resistance to disease, and braced mixtures of available cultivars are important diversification strategies of African farmers to minimize the risk of crop failure and enhance food security (Shipton 1990; Taal 1989; Smith 1986). Access to good-quality land and alternative employment sources may be more important in determining nutritional status of rural populations than choice of crop (DeWalt et al. 1990).
	Sales of land	Distress sales of land is a desperate measure and tends to occur much later in the belt-tightening process (Caldwell, Ready, and Caldwell 1986; Corbett 1988). If land is a household's only asset, it will only be sold if there is no other way to survive; often the land is first mortgaged (Nabarro, Cassels, and Pant 1989). One of the more common reasons for land to come into markets in India was wedding and/or funeral expenditures (Srinivasan 1975 cited in Castro, Hakansson, and Brokensha 1981).
	Trees	Access to communal or private reserves of trees can significantly decrease the poor's vulnerability to contingencies (Chambers and Leach 1989; Chambers and Longhurst 1986). The percentage of cultivated land planted to tree crops can be used as a proxy for agro-climatic conditions, and was positively associated with child's height in Cote d'Ivoire (Strauss 1988).
	Livestock	Diversified herds with different pasture needs are less vulnerable to drought and infection than more homogenous herds that may produce more meat or milk (Colson 1979; Cutler 1986). The importance is not between small versus large herds, but between owning no animals at all and having at least some (de Waal 1988). Access to milk is indicated by having a female animal (de Waal 1988). Donkeys and mules are highly valued during famine because they help travel (Shipton 1990). Lack of access to resources, primarily oxen, makes women particularly vulnerable to drought in Ethiopia (McCann 1987).
	Sales of livestock	The ability to market livestock for grain commonly determines who will survive a famine and who will not (Shipton 1990). The sale of male animals before their optimum weight or of females before the end of their reproductive period is an indicator of insecurity (White 1986). Livestock sales occur normally, and do not necessarily imply a reduction of future productivity (Swinton 1988). Indicators related to livestock sales, prices or market demand/supply are difficult to interpret, and reliable data are hard to obtain in Chad and Mali (Autier et al. 1989).
Household	Indicator	Comments

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Household	Indicator	Comments
	Sales of assets	Important to distinguish sales of key productive assets from sales of assets which are primarily forms of insurance/saving (Corbett 1988). Successfully surviving drought depends upon a household's ability to retain intact all its productive assets (including family labor supply) solely by cutting back on ceremonial forms of consumption and by liquidating nonproductive assets (Jodha 1978). Poor people become poorer by disposing of productive assets (Chambers 1989). The income and assets owned by the richest and poorest quintiles is one of 20 suggested indicators of human welfare (Anderson 1990).
	Sales of food	The conversion of surplus food into durable valuables which can be stored and traded for food in emergencies is an important strategy for reducing vulnerability to risk (Colson 1979). The very poor in India cannot afford to consume their own home products and must sell them to obtain cash (Bhattacharya et al. 1991).
	Capital equipment	The number or diversity of assets may be a more useful indicator than net-worth of assets; households with low number and diversity of productive assets may be more vulnerable to external shocks and contingencies (Chambers 1989: Swift 1989). But low asset status is not necessarily synonymous with greatest poverty (Swift 1989). Some landless peasants in Tanzania actually owned tractors (which they hired out) and sewing machines (Pipping 1976, cited in Castro, Hakansson, and Brokenska 1981). Wells have become crucially important assets to Malian farmers for producing a regular grain surplus (Toulmin 1986).
	Consumer durables/semi-durables	Determine whether household owns enough cooking utensils to avoid borrowing plates or pots from relatives or neighbors (Lewis 1951). Determine whether Indian women own more than one sari or blouse (Bhattacharya et al. 1991).
Proximate	Ill health	The main asset of most poor people is their bodies (Chambers 1989). All producers are vulnerable to sickness and disability (Toulmin 1986). Work-disabling accidents and/or morbidity of household's breadwinners are often the pivotal events which impoverish households, making them useful indicators (Corbett 1989; Pryer 1989).
	Education	Few households with at least one educated member starve (Swift 1989). Women's schooling, even after adjusting for income, has a higher elasticity of nutrient demand than those for household size or income (Behrman and Wolfe 1984). Years of child schooling could be used as an easily-measured proxy for household's living standards (Birdsall 1982; Anderson 1990).

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Household	Indicator	Comments
	Food stores	Ability to store food post-harvest and availability of stored food pre-harvest are important indicators to monitor (Chambers 1989; Thomas, Paine, and Brenton 1989). Having two years household consumption requirements in store is seen as desirable in Sudan (Maxwell, Swift, and Buchanan-Smith 1990). Estimates of number of months stored grain will last are usually more accurate and culturally sensitive than asking farmers for volume estimates of stored quantity (Frankenberger 1985; O'Brien-Place 1988).
	Qualitative dietary changes	Shifts from preferred to lower status foods (starchy tubers or grain ground with stalks/ husks/bran) and unconventional foods (wild foods, insects or game: poorer products, e.g., broken rice grains) are a normal occurrence in areas facing seasonal food deficits, but may also indicate anticipated stress (Ogbu 1973; Colson 1579: Cutler 1986: Caldwell, Ready, and Caldwell 1986; Corbett 1988: Shipton 1990). Local sharing between families or households often intensifies when food is scarce (Shipton 1990; Maxwell, Swift and Buchanan-Smith 1990). The importance and intensity of wild food use depends upon severity and length of food shortages, the location of households with respect to wild food areas, and available household labor to collect them (Dewalt 1983; Zinyama, Matiza, and Campbell 1990). Households producing for auto-consumption are more likely to have greater dietary diversity than households producing primarily for the market (Fleuret and Fleuret 1980: Dewey 1979: Smith 1986). The correlation between dietary diversity and socioeconomic status is positive (Bentley 1987; DeWalt 1983; Schiff and Valdes 1990 b).
	Quantitative dietary changes	Fluctuation in consumption of main staple (Bhattacharya et al. 1991) or in meal patterns are indicative of food insecurity (Beck 1989; Taal 1989; Campbell and Trechter 1982; Oshaug and Wandel 1989; Galvin 1988). Food consumption reduction is part of a deliberate and early strategic household's response (Corbett 1988; Cutler 1984; Shipton 1990). The number of meals per day was not found to be a useful indicator in Chad and Mali (Autier et al. 1989), and missed meals did not necessarily imply food unavailability in India due to frequent eating outside the home or at work (Bhattacharya et al. 1991). Most agrarians derive the bulk of calories from one to three grain staples which could easily be monitored (de Garine 1988, cited in Shipton 1990). There was a drastic reduction in consumption of pulses in India during the 1967 drought (Rao 1989). Determine if household has recently participated in food aid programs (Cutler 1986; Beck 1989; O'Brien-Place and Frankenberger 1988).

MEASURING FOOD INSECURITY: THE FREQUENCY AND SEVERITY OF "COPING STRATEGIES"

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Measuring Food Insecurity:
The Frequency and Severity of "Coping Strategies"

Daniel G. Maxwell

Abstract

Defining and interpreting food security, and measuring it in reliable, valid and cost-effective ways have proven to be stubborn problems facing researchers and programs intended to monitor food security risks. This paper briefly reviews the conceptual and methodological literature on food insecurity measurement, describes a particular method for distinguishing and measuring short-term food insecurity at the household level, and discusses ways of generalizing the method. The method developed enumerates the frequency and severity of strategies relied on by urban households when faced with a short-term insufficiency of food. This method goes beyond more commonly-used measures of caloric consumption to incorporate vulnerability elements of food insecurity as well as the deliberate actions of household decision-makers when faced with food insufficiency.

Defining Food Security

Food security historically referred to the overall regional, national or even global food supply and shortfalls in supply compared to requirements, but with increased observation of disparities in the sufficiency of food intake by certain groups despite overall adequacy of supply, the term has been applied more recently mostly at a local, household or individual level (Foster, 1992) and has been broadened beyond notions of food supply to include elements of access (Sen, 1981), vulnerability (Watts and Bohle, 1993), and sustainability (Chambers, 1988). Most definitions of food security vary around that proposed by the World Bank (1986); major components of the most common definitions are summed up by Maxwell and Frankenberger as "secure access at all times to sufficient food for a healthy life" (1992, p.8). In their exhaustive review of the literature on household food security, however, they note several caveats. First, the household is the logical social unit through which to view

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the question of access to food, in spite of intra-household inequities in the distribution of food (Bentley and Pelto, 1991). This demands not only a knowledge of overall household needs and consumption, but also an understanding of intra-household dynamics affecting procurement and distribution of food. Second, household food security should be considered a necessary but not sufficient condition for adequate nutrition. Stated differently, food security at the household or even individual level is an "input," not an "outcome"--hence the distinction between food security and nutrition security (Babu and Pinstrup-Andersen, 1994; Haddad, Kennedy and Sullivan, 1994). Third, food security must be understood in terms of the rationality and logic of the persons or social units involved. Acquiring food and the provision of adequate nutrition are among the most basic of human pursuits. Human beings are not simply passive victims of either adequate or inadequate nutrition (de Garine, 1972). Summarizing the conceptual literature on food security, Maxwell and Frankenberger conclude:

> First, "enough" food is mostly defined ... with emphasis on calories, and on requirements ... for an active, healthy life rather than simple survival--although this assessment may in the end be subjective. Second, access to food is determined by food entitlements [Sen, 1981], which are derived from human and physical capital, assets and stores, access to common property resources and a variety of social contracts at household, community and state levels. Third, the risk of entitlement failure determines the level of vulnerability and hence the level of food insecurity, with risk being greater, the higher the share of resources ... devoted to food acquisition. And finally, food insecurity can exist on a permanent basis (chronic) or on a temporary basis (transitory) or in cycles (1992, p. 48).

A full definition of food security thus includes the related concepts of access, sufficiency, security (or vulnerability), and sustainability.

Measuring Food Security

Collecting data for a complete analysis of food security can be a virtually impossible task in a situation where household composition is variable and the "household" itself is subject to varying interpretations; where there may be multiple income sources among adult members of a household who have strong incentives not to reveal to each other the full extent of their individual earning power or assets; where responsibility for the production and/or purchase of food may be shared among these adults; and where subsistence production is harvested piecemeal and

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is neither measured nor recorded. Semi-proletarian households in both urban and rural areas may fulfill each of these criteria for making collection of valid and reliable food security data a difficult undertaking.

To get around this difficulty, most analyses rely on measuring food consumption. Two major methods have been widely used, and both are subject to measurement problems (Bouis, 1993). The first, notwithstanding the problems just discussed, is to estimate gross household production and purchases over a period of time, estimate the growth or depletion of food stocks held over that period of time, and presume that the food that has come into the household's possession and "disappeared" has been consumed. The second method is to undertake 24-hour recalls of food consumption for individual members of a household, and analyze each type of food mentioned for caloric content (and sometimes a more complete nutrient analysis). While this method results in more reliable consumption data and captures intra-household distributional differences which the first method overlooks completely, it is also subject to a number of drawbacks: memory lapses, observer bias, respondent fatigue, a short and possibly unrepresentative recall period, and such high data collection costs that resources often constrain analysis to relatively small samples. The former method is most often utilized by economists, that latter by nutritionists. Both of these methods result in consumption figures but neither provides a full assessment of food security because neither measures vulnerability or sustainability.[1] "Disappearance" methods take no account of intra-household distribution, but 24-hour recalls often are carried out only for certain individuals within a household, and therefore may not adequately reflect food access at the household level (Haddad, Kennedy and Sullivan, 1994). Both methods mostly only capture the sufficiency element mentioned above, and in the end, neither method has been accepted as a "gold standard" for an analysis of household food security.

Alternative Measures

Other indicators have been used to monitor food security, including food balance sheets, rainfall and marketing data, and even anthropometric measurement (Maxwell and Frankenberger, 1992). Haddad, Kennedy and Sullivan (1994) note a variety of indirect indicators that can be used as predictors for food insecurity at the household

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level, including asset ownership, household size and dependency ratio. While they mostly discuss the use of single indicators, they suggest that indicators could be combined for greater specificity.

Another approach has been to analyze the use of, and reliance upon, strategies for dealing with insufficiency of food at the household level as direct indicators. The range of such strategies have been noted. Examples of these strategies include short-term dietary changes; reducing or rationing consumption; altering household composition; altering intra-household distribution of food; depletion of stores; increased use of credit for consumption purposes; increased reliance on wild food; short-term labor migration; short-term alterations in crop and livestock production patterns, pledging; mortgaging and sales of assets; and distress migration (Watts, 1983; de Garine and Harrison, 1988; Corbett, 1988; Reardon, Matlon and Delgado, 1988; de Waal, 1989; Drèze and Sen, 1989; Moris, 1989; Frankenberger and Goldstein, 1991; Leonard, 1991; Rahmato, 1991; Frankenberger, 1992; Teklu, 1992; de Garine, 1993; Davies, 1993; Frankenberger and Coyle, 1993; Devereux and Naeraa, 1993; Watts and Bohle, 1993; Eele, 1994).

Numerous authors (Chambers, 1988; Maxwell and Smith, 1992; Davies, 1993; Frankenberger and Coyle, 1993) note that food security is but one element of livelihood security, and argue that indicators of the former should not be interpreted independently of a good understanding of the latter. Frankenberger and Coyle have observed that "poor people balance competing needs for asset preservation, income generation, and present and future food supplies in complex ways ... [and] may go hungry up to a point to meet other objectives" (1993, p. 36). For this reason alone, inferring food security purely from consumption data can be a tricky undertaking.

Davies (1993) makes the distinction between "coping strategies" (fall-back mechanisms to deal with a short-term insufficiency of food) and "adaptive strategies" (long-term or permanent changes in the way in which households and individuals acquire sufficient food or income). She notes a number of drawbacks about the use of "coping strategies" in food security research: first, they are something of a catch-all, although some of the clarifications just mentioned help to reduce this problem; second, they imply that people somehow "get by," when in fact coping strategies are an indication that things are getting worse; and, third, they are almost by definition

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nutritionally unsustainable, and are likely to be economically and environmentally unsustainable as well. Nevertheless, even though coping strategies are an indication of food insecurity, the distinction between "coping" and "failure to cope" is an important distinction to note in the famine literature (e.g. Drèze and Sen, 1989).

While this literature has offered a qualitative explanation of coping strategies in some depth, it offers relatively few concrete examples of their utilization in an actual method of measuring food insecurity. Haddad, Kennedy and Sullivan (1994) offer some comparison between the use of alternative indicators and more commonly-accepted consumption figures, but the indicators they explore are mostly not based on coping strategies *per se*. In studies of food insecurity in the U.S., approaches have included construction of a "hunger index" in the Community Childhood Hunger Identification Project (Wehler, 1994) and the Radimer "food insecurity scales" (Campbell, 1991; Radimer et al., 1992).

Measuring Coping Strategies as a Food Security Indicator

Given the difficulties of acquiring valid and reliable figures for income, expenditures and production, and the high data collection costs of 24-hour recalls, an indicator was developed to capture the short-term food sufficiency element of food security at the household level for use in a survey intended to quantify the determinants and impacts of a long-term, adaptive strategy: semi-subsistence farming in a major African urban center.[2] To do this, a range of short-term coping mechanisms was identified that are used when there is not sufficient food in the household, according to the person primarily responsible for the preparation and provision of food. Strategies identified relate specifically to food practices in the short term. Information about these individual strategies was collected through in-depth interviews with such persons. Strategies described included relatively small changes in eating practices (such as eating a less expensive and less preferred food) to relatively severe changes (such as going for an entire day without eating).

Subsequently, the various strategies identified were discussed in focus groups, and respondents assigned an ordinal rank to each strategy according to its perceived severity. Finally, a relative frequency scale was developed

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and pre-tested, and calibrated so that the higher the number on the scale, the less frequently a strategy had to be used (presumably, therefore, indicating a higher level of food security). While the full survey questionnaire for that study was lengthy, the amount of time devoted to questions related to food security was only a matter of 2-3 minutes. Some of the methods discussed by Campbell (1991) were followed in conceptualizing initial questions for in-depth interviewing. However, the detailed descriptions of individual coping strategies grew out of qualitative interviews. For the severity weighting, frequency-scaling and the development of a cumulative food security index, no methodological antecedent was found in the literature.

Six main short-term, food-based coping strategies were mentioned by respondents. They are listed here according to how they were ranked by focus groups, from least severe to most severe.

1. Eating foods that are less preferred. Although respondents in all income groups reported long-term trends toward eating foods that were less preferred as a means of adapting to lower real incomes, in a squeeze there is almost always an even less preferred and less expensive food to eat that is roughly comparable, at least in terms of energy. All but the wealthiest respondents stated that they occasionally must eat less preferred foods. Focus group respondents generally agreed that this was the least drastic measure to which they could resort.

2. Limiting portion size. Limiting the quantity of food served to an individual was practiced in the majority of households in the survey, although results indicate significant seasonal variation. Nevertheless, cutting back the amount of food that each person in the household gets was the second most common coping strategy, and in terms of severity, is roughly equivalent to eating foods that are less preferred. If more than a modest reduction of food is involved, most respondents said they would skip meals, so that when they did eat, they would be satisfied. The manner in which limiting portion size is done varies widely, and a sophisticated analysis would require distinguishing between uniform reductions and redistribution that favors some household members to the detriment of others.

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3. Borrowing food or money to buy food. Borrowing either food or money was a commonly-mentioned practice. Borrowing food from a relative or friend is the most common. Local merchants may extend short-term credit as well. However, borrowing money for food can lead to permanent indebtedness, and is an example of how a short-term coping strategy can put a household in a more vulnerable position with regard to longer-term livelihood options.

4. Maternal buffering. Maternal buffering is the practice of a mother deliberately limiting her own intake in order to ensure that children--usually recently-weaned toddlers--get enough to eat. There is, of course, no reason why someone besides the mother could not do the same thing, but no empirical evidence emerged in this study to suggest anyone other than mothers did this.

5. Skipping meals. Eating only one or two meals per day was commonly practiced, particularly by lower-income groups. As noted above, most respondents stated a preference for eating fewer meals, but "feeling satisfied" after these meals if food is not sufficient for three meals per day.

6. Skipping eating for whole days. Clearly a more severe means of dealing with food insufficiency, going whole days without eating anything was found to be practiced mainly by the lowest income group, and mostly at certain times of the year.

Of course, these various strategies are also often used together, but individually, they have been presented in the order of increased severity, with the first two (less preferred food and limiting portion size) roughly equivalent in terms of severity; the next three (borrowing, buffering and skipping meals) roughly the same in terms of severity; and the last one (skipping whole days) the most severe. Other coping strategies were alluded to, including drastic measures such as stealing food or abandoning children. Longer-term strategies such as migration back to rural areas were mentioned as well. However, the list presented above covers commonly practiced measures for dealing with short-term food insufficiency. Because these strategies were identified in urban or peri-urban areas, some of the possibilities mentioned in the introduction were not noted in this particular study--particularly

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reliance on wild foods and drawing down food stores (in fact, urban gardens functioned as food stores in this study).

Using the Indicator

A simple scale of 1-4 was developed for the frequency of each individual strategy, and multiplied by the weighting factor based on ordinal ranking assigned by focus groups, as depicted in Table 1. Thus a discrete score for each strategy was obtained, which added together made up a cumulative food security score or index. This score was then used both for bivariate comparison of groups in the study, and as an independent variable in multivariate analysis of nutritional status. Table 1 breaks down the results of this indicator by individual coping strategy according to income group[3] and season of the year--the first round of the survey was carried out during the rainy season, when relatively less food was expected to be available from household production and market prices were relatively higher; the second round was during the dry season, when food availability was greater and prices were relatively lower.

[Table 1 goes about here]

The purpose for which the indicator was developed was to compare short-term food sufficiency between two different urban groups, those who have access to some land for semi-subsistence farming and those who do not. The results of that comparison are presented in simple, bivariate form in Table 2, controlling only for income level. The results presented in Table 2 are particularly relevant to this discussion for several reasons. First, the cumulative food security index was developed to measure short-term coping strategies, but individuals and households facing difficulties in gaining and maintaining access to sufficient food rely not only on short-term means of "coping," they also devise alternative means of increasing access and security of access in the longer term. Urban and peri-urban agriculture in Africa is one of those means (Maxwell, 1995). But in developing an indicator of food security, it is necessary to distinguish between short-term coping strategies and longer-term adaptive strategies (Davies, 1993). Urban and peri-urban agriculture is **not** a coping strategy--that is, it is not

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something that one does when there is not sufficient food in the household for the immediate future. A complete analysis of food security would necessarily take into account both coping and adaptive strategies, but counting both short-term and longer-term strategies in the same indicator would undermine its validity by confusing different kinds of activities.

Second, simply comparing households on the basis of short-term strategies is a rather simplistic analysis. While this kind of comparison may be all that is required in some circumstances, the results in Table 2 suggest that important information can be learned by comparing the frequency and severity of short-term strategies while controlling for longer-term strategies and income level. In this case, it suggests that the group most vulnerable to food shortage consists of very-low income households who have no access to land for farming, particularly at certain times of the year--a finding supported by anthropometric analysis of nutritional status (Maxwell, 1995).

[Table 2 goes about here]

Comparing the Cumulative Index to Other Measures

Since this indicator was developed to avoid the problems of collecting household food procurement data and the high data collection costs of 24 hour recalls, it is not possible to compare results of this method with either of the two methods of measuring food consumption. Even if it were possible to compare the data, they are not measures of the same phenomenon. Although both consumption measures have been used as proxies of household food security, food consumption and food security are conceptually distinct (Figure 1). Relying on measures of caloric intake mostly only captures the food sufficiency element of the more complex notion of food security.

[Figure 1 goes about here]

Nevertheless, it is possible to check the results of this method against various other indicators that measure related phenomena. First, it is reasonable to expect that there would be a relationship between a measure of food security

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and both income level and seasonal variation in food availability and price. As is evident in Table 1, there is a notable relationship between the cumulative food security index and both income and seasonal variability, particularly for the lower-income groups.

Second, it is reasonable to expect that a measure of food security would be statistically associated with related factors in Figure 1. Table 3 depicts the correlation of the cumulative food security index with dietary and nutritional indicators, including the three commonly used anthropometric measures. The dietary measure is a semi-quantitative indicator of diversity based on food groups, following the methodology of Guthrie and Scheer (1981). It is not an indicator of caloric sufficiency *per se*, but rather of overall dietary adequacy, including energy, protein and micro-nutrients.

[Table 3 goes about here]

A simple correlation with each measure is presented in column three for both rounds of the survey. Columns four through seven present a four-cell analysis for the comparison between the cumulative food security index and more widely accepted nutritional and dietary indicators, using standard cutoff points in the nutritional measures (a Z-score of -2.00 for height for age and weight for age, -1.00 for weight for height) and the 33rd percentile as the cutoff for the cumulative food security index. For the dietary measure, the 25th percentile was used as the cut-off for round one data, and the same absolute number used again for round two data, although that figure was closer to the 20th percentile in the second round.

The food security index outlined here is not highly correlated with nutritional status, which is probably to be expected since the former is a household-level measure and the latter is an individual-level measure, and household food security is only one of several determinants of child nutritional status as depicted in Figure 1. The round one (rainy season) data demonstrate a fairly strong correlation between the food security index and dietary adequacy; the relationship is weaker though still significant for round two (dry season) data. Given the relatively low prevalence of malnutrition in the study area (prevalence of moderate to severe stunting, for

example, was 19% of the entire sample of 293 children), the cumulative food security index appears not to have strong sensitivity or specificity in detecting dietary or nutritional problems. But in such a relatively low-prevalence situation, the index appears to have a fairly high predictive value negative (PVN in Table 3). In other words, it generates relatively few false negatives; if a simple four-cell test indicates that a household is food secure, chances are relatively low that such a household faces dietary inadequacy or that individual children are malnourished. Theoretically, under high prevalence conditions, the predictive value positive of the index would be more effective--that is, it would generate relatively few false positives. This suggests that this method is relatively accurate, and is a potentially important tool for applied work in food security monitoring or famine prediction: it can be used to sort out relatively accurately and quickly those households in which there may be a food security problem.

Data for two of the alternative indicators suggested by Haddad, Kennedy and Sullivan (1994) were also collected in the survey--household size and the dependency ratio. The dependency ratio did not correlate significantly with any of the indicators depicted in Table 3. Household size correlated significantly with the dietary adequacy measure ($r=0.23$ and 0.22 in rounds one and two respectively), but results were completely altered when controlling for a single third factor (semi-subsistence farming). Neither household size nor the dependency ratio lend themselves to the four-cell analysis in Table 3 because there is no implied cutoff point in either as there is in some measures of food consumption or nutritional status, although a percentile cutoff could be determined from a given data set.

Generalizing the Use of the Index

This approach to measuring food insecurity has potential that other measures do not. Perhaps the most important goes back to points noted earlier by de Garine (1972) and by Maxwell and Frankenberger (1992) about human intentionality and the subjective judgement of food sufficiency. This indicator is a direct measure of intentional responses based on decisions about the sufficiency of food. An important point about this method is not simply to measure gross consumption, but to shed some light on what people actually do when faced with food

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insufficiency. This method is based on food preparation and distribution, not on production and purchase alone. It thus captures elements of "sufficiency" and "security" in the judgement of the person responsible for food preparation and provision within the household. Furthermore, women are often solely responsible for food preparation, whereas both men and women may, to some extent, be jointly responsible for production and purchase. In this particular study, that made measurement of production and purchase extremely difficult because both were the subject of intense intra-household competition over control of resources; food preparation, on the other hand, was not. Women who were extremely reluctant to divulge their income, even when their husbands or other adult members of the household were not within hearing range, spoke openly about their means of coping with food insufficiency.

This method may have several other potential advantages. First, this method requires neither highly trained enumerators nor complex analytical procedures, and is readily understandable by both food policy makers and non-specialists. Second, this method can be used in conjunction with rapid rural appraisal, anthropometric surveys, or other relatively quick methods of data gathering. It can also be used in conjunction with more traditional means of famine monitoring. Third, this method has a somewhat longer and more representative recall period, although this inevitably involves trade-offs regarding the reliability of the data. Last, and perhaps most important, this method begins to capture some element of vulnerability--the most elusive but most important element of the definition of food security. A fully developed indicator of vulnerability would have to take into account various means of food access and adaptive strategies to expand or diversify access, and it would have to include an evaluation of external threats to access. However, by quantifying a variety of short-term responses over a specified recall period, this method gives an indication of the likelihood or risk of food insufficiency and the potentially severe cumulative consequences of frequently-repeated coping strategies. All these points suggest that this method could potentially serve as a food security indicator in a variety of monitoring and research applications.

However, there are also several potential shortcomings with this indicator as it was developed for this particular study. These include the obvious problem of assigning cardinal values to ordinal rankings for severity, and the

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problem of interpreting the meaning of words like "frequently," "rarely," etc. in different languages. The latter problem was addressed in this study by assigning some rough guidelines for actual numeric frequencies as shown in the notes for Table 1, but respondents were not asked to give precise answers--answers sought were deliberately impressionistic. Steps could be taken to correct for this by tinkering with the weighting factors for severity (i.e. assigning a higher weighting factor than 3 for going whole days without eating, etc.); by asking respondents to assign weighting factors to strategies rather than simply asking them to rank them; or by asking for actual frequency counts, rather than the impressionistic relative frequencies reported here.[4]

Because this indicator relies solely on food-related practices, it does not address competing minimum basic needs and the way in which competing needs affect food consumption. Likewise, by measuring short-term strategies, this indicator reflects current food security status, but results cannot be interpreted for predictive value of future food security. Non-food practices and longer-term adaptive strategies could be measured by parallel indicators to address these shortcomings, but probably only at the expense of the simplicity of this method.

Another potential problem is related to the use of recall methods in determining eligibility for any type of assistance. If frequency of coping strategies is known by respondents to be a criterion for receiving food aid for other assistance, results of this method would clearly need to be confirmed by other, less subjective means. A major improvement to this indicator would involve adding some further questions to understand the basis of which decisions about coping with short-term food insufficiency. Some indication of why certain strategies are selected over others may provide insights into the perceived severity and longevity of food insecurity and enhance an understanding of vulnerability. The intent of publishing a less-than-perfect methodology is the hope that broader experimentation with similar kinds of methods will overcome some of these shortcomings.

In order to adapt this method for general applicability in any given location, care would have to be taken to first understand and describe local people's strategies for coping with short-term food insufficiency. A suggestive list was gleaned from the literature and presented in the introduction to this paper. Some of these were not applicable in the particular study for which the cumulative food security index described here was developed, but would be

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of greater importance in a rural context where subsistence production is the primary source of food, not a secondary strategy. Establishing an appropriate list of questions related to locally practiced strategies would require some initial field work, but could very easily be accomplished through such means as ethnographic interviewing or rapid rural appraisal.

Care must be taken to differentiate between measures to deal with short-term food insufficiency and longer-term adaptations to changed economic, legal or environmental circumstances--the differences described by Davies (1993) between coping strategies and adaptive strategies. Examples of both have been presented in this paper. "Coping strategies" as used here refer to short-term means of dealing with food insufficiency within the current entitlements of the household or relevant consumption unit. The emphasis here has been on changes in means of immediate procurement, changes in diet and changes in distribution and consumption within the household. "Adaptive strategies," on the other hand, may be characterized as risk-minimization, or food- and income-diversification mechanisms aimed at altering entitlements over the longer term. Similar indicators could be developed aimed at capturing adaptive strategies, but it important that separate indicators be utilized to differentiate current food sufficiency from other conceptual components of a complete analysis of food security.

Ultimately, of course, an indicator such as this must be tested against the two standard measures of food consumption, "disappearance" methods and 24-hour recalls. However, results presented here suggest that this method is a low-cost technique which does not require highly trained enumerators or sophisticated analytical procedures, and provides relatively accurate results for identifying potentially at-risk households and individuals. In other words, this may be the kind of tool that a review of recent literature on food security monitoring suggests should be further developed (Davies, 1993; Eele, 1994; Babu and Pinstrup-Andersen, 1994).

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Table 1: *Individual Coping Strategies and the Cumulative Food Security Index by Income Group*

Income Group[a]	Round[b]	Eating less preferred foods (1-4)*1[c]	Limiting portion size (1-4)*1[c]	Borrowing food or money (1-4)*2[c]	Maternal buffering (1-4)*2[c]	Skipping meals (1-4)*2[c]	Skipping days (1-4)*3[c]	Cumulative Index (11-44)[d]
VL	1	1.6	2.4	5.1	5.2	4.9	9.8	29.8
	2	2.4	3.0	6.2	6.6	5.6	11.2	35.6
L	1	2.5	3.1	6.4	6.3	6.5	11.4	36.3
	2	2.8	3.5	6.7	7.0	6.6	11.8	39.1
LM	1	2.6	3.3	6.7	7.0	7.3	11.8	38.7
	2	2.9	3.7	7.4	7.6	7.3	11.8	41.1
UM/H	1	3.3	3.6	7.3	6.9	7.9	12.0	41.1
	2	3.3	3.6	7.4	7.3	7.5	12.0	41.4
All Groups	1	2.5	3.1	6.2	6.3	6.5	11.3	35.9
	2	2.8	3.4	6.8	7.1	6.6	11.7	39.0

[a]Income Groups:
- VL Very Low Income
- L Low Income
- LM Lower-Middle Income
- UMH Upper-Middle/High Income

[b]Round of Survey:
- 1 = rainy season (N=328)
- 2 = dry season (N=304)

[c]Frequency Scoring:
- 4 = Never (zero times per week)
- 3 = Rarely (once or fewer times per week)
- 2 = Sometimes (2-5 times per week)
- 1 = Frequently (almost every day)

Frequency scoring (in parentheses) times severity weighting based on ordinal ranking by focus group respondents gives range of possible means listed for each category.

[d]Cumulative Index is the sum of scores for the six individual coping strategies

Source: Author's Survey, 1993.

Table 2: *Cumulative Food Security Index by Farming and Income Group*

Income Group	Round	Cumulative Index Score		Difference
		Farming	Non-Farming	
VL	1	33.0	27.6	5.4**
	2	37.4	34.1	3.7*
L	1	35.3	36.7	-1.3
	2	39.5	38.2	0.8
LM	1	40.7	37.5	3.3
	2	40.5	41.5	-1.0
UMH	1	40.4	41.6	-1.2
	2	42.2	40.8	1.4
All Groups	1	36.3	35.8	0.5
	2	39.6	38.6	1.0
ANOVA	1	F=5.39**	F=18.99**	
	2	F=1.98	F= 7.22**	

* $p < 0.10$
** $p < 0.05$

Source: Author's Survey, 1993.

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Table 3: *Association of the Cumulative Food Security Index with Other Measures*

Other Indicator	Cumulative Food Security ("Coping Strategies") Index					
	RD[a]	r	Sens[b]	Spec[c]	PVP[d]	PVN[e]
HAZ[f]	1	0.13*	0.37	0.42	0.15	0.89
	2	0.17*	0.45	0.30	0.18	0.90
WAZ[g]	1	0.12*	0.38	0.29	0.13	0.91
	2	0.15*	0.55	0.29	0.21	0.91
WHZ[h]	1	0.00	0.27	0.33	0.19	0.76
	2	-0.03	0.56	0.31	0.41	0.79
Dietary Adequacy[i]	1	0.40*	0.55	0.30	0.46	0.83
	2	0.17*	0.59	0.32	0.38	0.84

[a]Round of survey: 1=rainy season; 2=dry season

[b]Sensitivity

[c]Specificity

[d]Predictive Value Positive (Rate of predicting true positives)

[e]Predictive Value Negative (Rate of predicting true negatives)

[f]Height for Age Z-score (Individual measure, children < 5 yrs.)

[g]Weight for Age Z-score (Individual measure, children < 5 yrs.)

[h]Weight for Height Z-score (Individual measure, children < 5 yrs.)

[i]Based on major food groups (Household measure, cut-off point = 25%ile in data for round one; same absolute value for round two)

*Statistically significant, $p < 0.05$

Source: Author's Survey, 1993.

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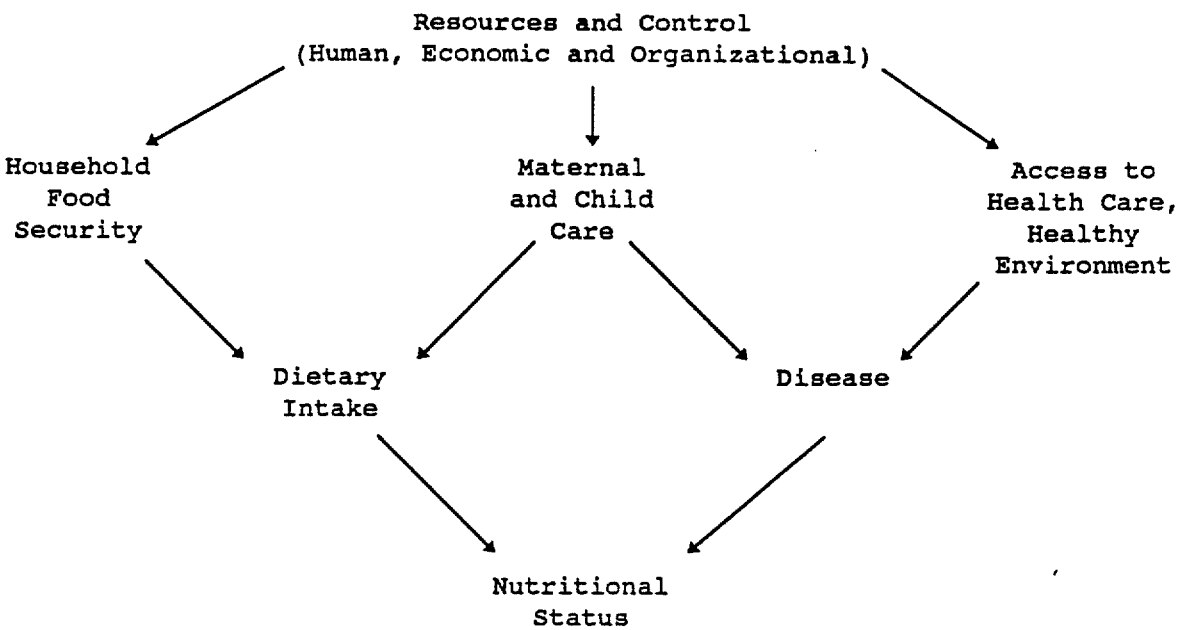
Figure 1: *Relationship of Food Security, Dietary Intake and Nutritional Status*



Source: Adapted from UNICEF (1990).

Notes

1. For both methods, conversion of gross household food consumption into calories, and dividing the calories figure by the number of adult equivalents in the household and the number of days in the recall period results in a concise figure for average calories consumed per adult equivalent per day, which is then compared with an estimate of caloric requirements. A frequently used cutoff point for analytical purposes is to consider a household that provides less than 80% of the caloric requirements for its total number of adult equivalents as food insecure for the recall period. See, for example, Haddad et al., (1994), Tshirley and Weber (1992), or Reardon and Matlon (1989).

2. The full study is the author's Ph.D. dissertation, entitled "Labor, Land, Food, and Farming: A Household Analysis of Urban Agriculture in Kampala, Uganda" (Maxwell, 1995).

3. These income groups were constructed on the basis of both quantitative and qualitative data, and hence must be interpreted as categories, not as percentile divisions in continuous data. It was, in fact, the difficulty of obtaining valid and reliable data on household income that suggested the difficulties of using household food procurement data for food security.

4. Experimental tinkering with the severity weighting, and with numbers that more closely approximated the actual frequency of occurrence rather than the relative frequencies used in the survey (and noted in Table 1), make the individual and cumulative scores in each category higher, but make virtually no difference at all in relative differences among categories in Table 1.

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Nutritional Surveillance Project

Helen Keller International, Bangladesh

Nutritional and Socioeconomic Implications of Low Rainfall in the Northwest Region: Pirganj and Chilmari

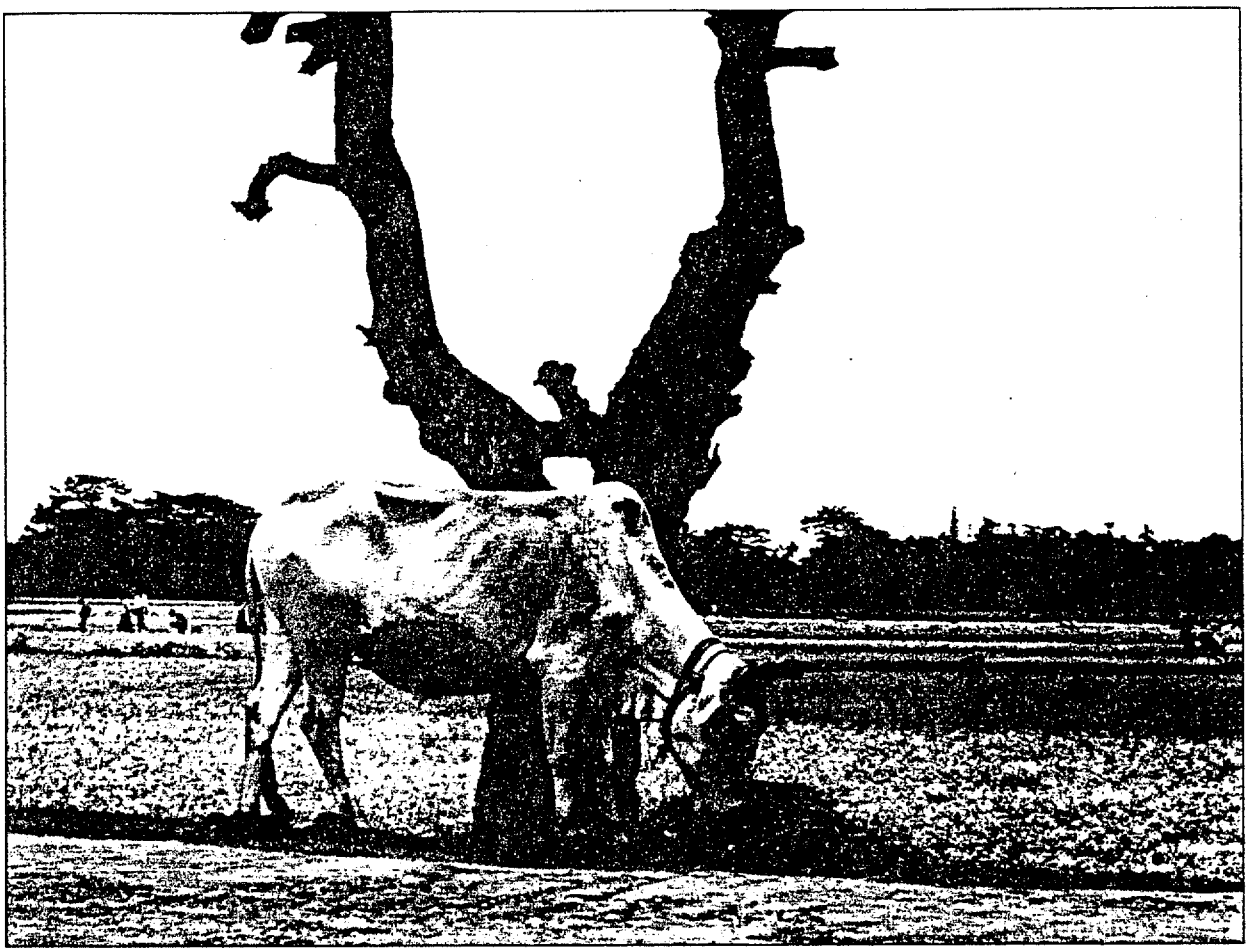

Photo - M. Main Uddin

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This report is compiled from information collected by Rangpur Dinajpur Rural Service (RDRS) since 1990.
This project is funded by the United States Agency for International Development.

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February 1995

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Nutritional Surveillance Project

Special Report on the Status of Low Rainfall in Northern Areas

SUMMARY

Increased attention has been focused on the north-western region of the country because of low rainfall during 1994. Looking at longitudinal data collected since April 1990, in the two northern thanas of Chilmari and Pirganj, the NSP found that by October and December there was a return to levels of nutritional status expected as measured by prevalences of MUAC, wasting and underweight. Seasonal increases in malnutrition continue to be a problem in this area between March and August: low rainfall serves to amplify these seasonally worsening rates of undernutrition.

INTRODUCTION

There has been increased attention on the status of the northern areas due to a period of low rainfall in 1994. The Nutritional Surveillance Project (NSP) has been collecting data on nutritional and socioeconomic status throughout the country since its inception in April 1990. Of the 32 sentinel thanas from which data is collected, Chilmari and Pirganj lie in the geographical region of concern. This longitudinal data therefore serves as a reference for the results that are being obtained in this year's regular rounds of data collection. The data contained in this report comes from the normally occurring bimonthly data collection. The methodology of the NSP has been detailed elsewhere (1)

NUTRITIONAL FINDINGS

The three nutritional indicators used in this report, mid-upper arm circumference (MUAC), wasting and underweight are relevant for assessing the consequences of short term inadequate food intake (as opposed to long term insufficiency). MUAC, (a known indicator of predicted mortality in Bangladesh) is a direct measure of muscle mass, while wasting and underweight look at a child's weight compared with the height and age respectively.

February - August

It should be noted that levels of nutritional distress in the northern areas consistently start getting worse following February's round of data collection, especially by wasting. This is corroborated by villagers who traditionally describe mid-March (*Chaitra* in the Bengali calendar) as one of the times when hunger is common.

The August NSP round 27 report discussed some preliminary findings on the drought prone region. Overall levels of MUAC, wasting and underweight had risen in Pirganj and Chilmari. The rise was especially acute in Pirganj: MUAC was at the highest levels recorded for any August (Figure 1). Wasting exhibited the highest levels found since the NSP started and underweight had risen to the highest level found in the previous two years. Chilmari also recorded rises in wasting and underweight indicators; but these did not exceed levels found in previous years. MUAC, however, reached the highest level in two years. As noted in the report from round 27, the rural thanas as a whole experienced increasing distress by these indicators; the months between February and August often being a period of worsening nutritional status.

October - December

The October and December rounds of the NSP show that levels of nutritional stress have returned to rates that, although high, are typical for this time of year (Figures 2 and 3). For example, in Chilmari, the level of wasting at 9% is not dramatically different from wasting levels found during previous Decembers. Both MUAC at 8.3% and underweight at 65.4% exhibit prevalences that fall mid-range for levels found at this time of year. However, in

Figure 1: MUAC
Percentage of Children 12 - 59 months old, who are undernourished by MUAC<125mm
December 1990 - December 1994

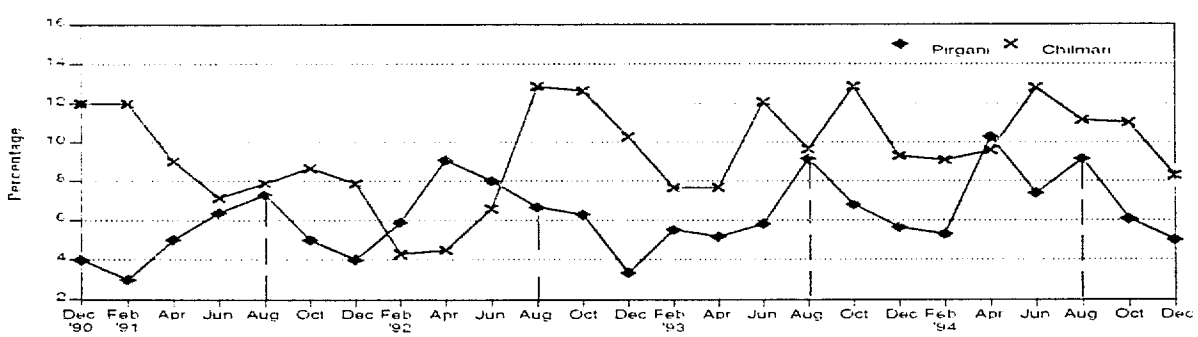
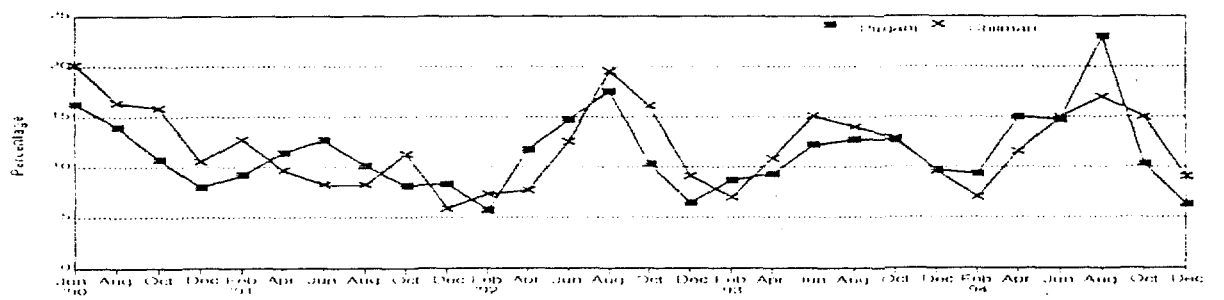


Figure 2: WASTING
Percentage of children 6 - 59 months old, who are undernourished by Wt/Ht<-2Z Scores
June 1990 - December 1994



Pirganj, for both wasting and underweight the prevalences at 6.3% and 52.7% are the lowest figures for any December recorded by the NSP. Of particular concern in both thanas, is the overall increasing trend displayed in the rates of undernutrition by MUAC, despite the seasonal fluctuations.

Market Information - Prices of Essentials

Rice prices usually peak in March-April and September-October, representing the traditional pre-harvesting periods. However, in 1994, rice prices have continued to rise since June. For instance, rice prices in Chilmari and Pirganj have risen from Tk 12.10 and Tk 11.60 per kilogram in October, to Tk 12.75 and Tk 12.00 per kilogram in December. In December 1993, rice prices in Chilmari and Pirganj were at Tk 8.50 and Tk 8.10 per kilogram respectively. Prices of other essential commodities such as flour and dal also show moderate price increases in the December round of data collection.

SOCIOECONOMIC INDICATORS

Indicators of distress, defined by the percentage of families taking loans for food and the percentage of families who have made a distress sale in the last two months, were high in October but dropped in the December round of data collection in Pirganj and Chilmari. However, there appears to be a considerable level of difference between the two thanas. In the October 1994 round of data collection, 28.7% of respondents in Pirganj indicated that they had taken a loan for food in the previous month compared to 21.5% in October 1993 and 25% in October 1992. In Chilmari, 32.5% of families reported a distress sale which is almost twice as high as the previous two October rounds but lower than the rate reported during 1991 (period of drought followed by flooding) (Figure 4). By the December round of data collection, 24.2% of respondents in Chilmari indicated that they had taken a loan for food in the last month and 26.9% of families reported distress sales. However, in Pirganj, 2.4% of the families reported distress sales and 1.4% of respondents took out a loan for food (Figure 5).

Special analysis was undertaken to determine how the drought affected children from families with different size land holdings. Not surprisingly, children from families with under .5 acres of land were nutritionally more compromised than children from families with larger land holdings. However, children from families with larger holdings (greater than 2.5 acres) also experienced a sharper deterioration, especially in underweight status starting in February than has occurred in the last three years. Again, the increase was on a smaller scale than occurred in 1991.

Absence of employment before the Aman harvest makes the second lean season (September - October) especially acute particularly for the landless, who depend on wage

Figure 3: UNDERWEIGHT
Percentage of children 6 - 59 months old, who are undernourished by Wt/Age<-2Z Scores
June 1990 - December 1994

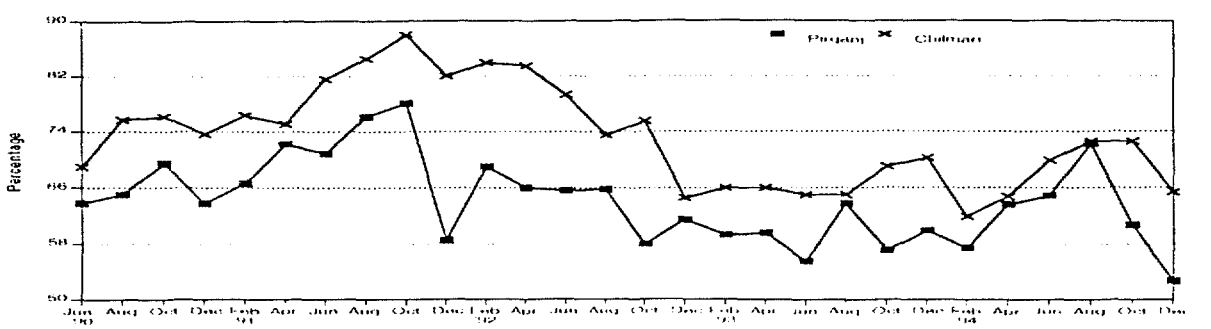
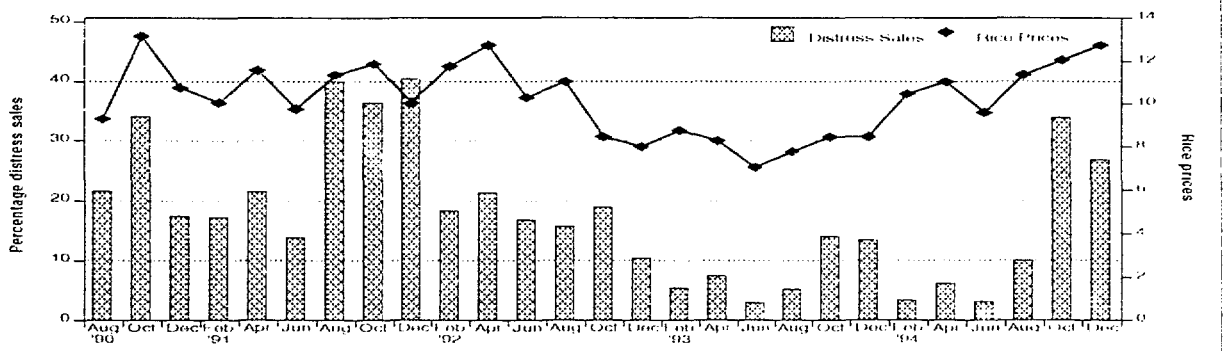


Figure 4: DISTRESS SALES

Percentage of households reporting distress sales in Chilmari thana during the period August 1990 - December 1994



labor for their income. Children from households where the principal wage earner is dependent on casual or short-term labor were also, as expected, more nutritionally distressed than in households where the primary wage earner is either self-employed or has some form of permanent wage income. However, indications from the December round are that nutritional levels have returned to seasonally expected rates which may be in part due to efforts to respond to the low rainfall situation. For the longer term perspective, data from upcoming rounds requires continued monitoring.

In conclusion, it appears that the period of increased rates of malnutrition has now lessened in the northern areas as represented by the two thanas included in the NSP. Of special note is the seasonality of nutritional distress: this generally starts before the yearly rains. Low rainfall serves to exacerbate already existing conditions. Programs to address the chronic seasonal deterioration of nutritional status, and mitigate the impact of low rainfall, need to be discussed. The strategies being adopted by households to cope may have a delaying effect on seeing increased malnutrition. Further, the thana specific socioeconomic behaviors in response to market prices will be addressed in detail in upcoming reports. December's data has clearly shown that distress has indeed returned to "typical" levels. Obviously, as often reported by the NSP, these levels are far beyond acceptable levels even if they are "normal".

(1) See Methodology section in Helen Keller International. Nutritional Surveillance Project for Disaster Preparedness and the Prevention of Nutritional Blindness. Handbook 1992.

Mid-upper Arm Circumference : A child 12-59 months with a MUAC < 125 mm is considered malnourished.

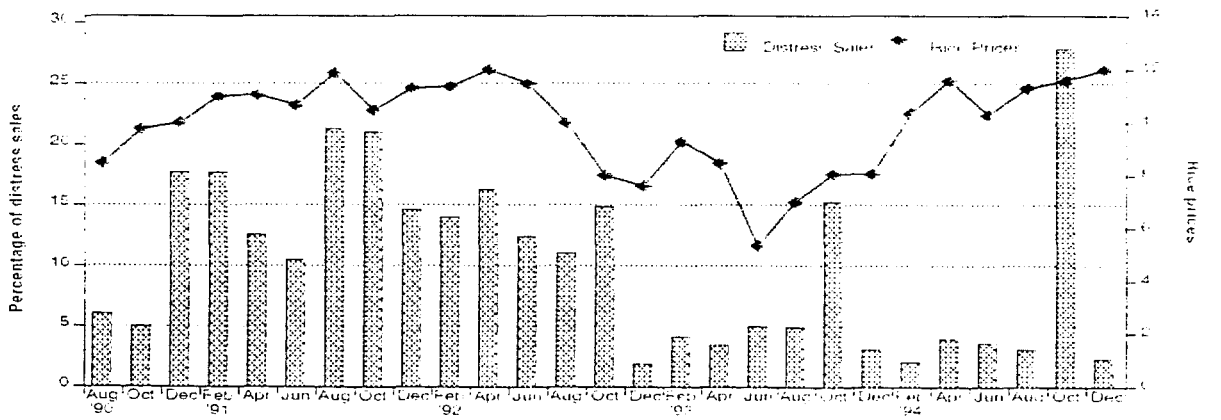
Wasting : The percentage of children 6-59 months with weight-for-height < -2 Z scores, acute malnutrition.

Underweight : The percentage of children 6-59 months with weight-for-age < -2 Z scores.

Standard deviation scores : Measure of how far a child's nutritional status deviates from the internationally accepted reference population (NCHS). Malnutrition is defined as less than -2 standard deviations from the reference mean (< -2 Z scores).

Figure 5: DISTRESS SALES

Percentage of households reporting distress sales in Pirganj thana during the period August 1990 - December 1994



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Nutritional Surveillance Project

Helen Keller International, Bangladesh

Nutritional and Socioeconomic Implications of Low Rainfall in the Northwest Region: Pirganj and Chilmari

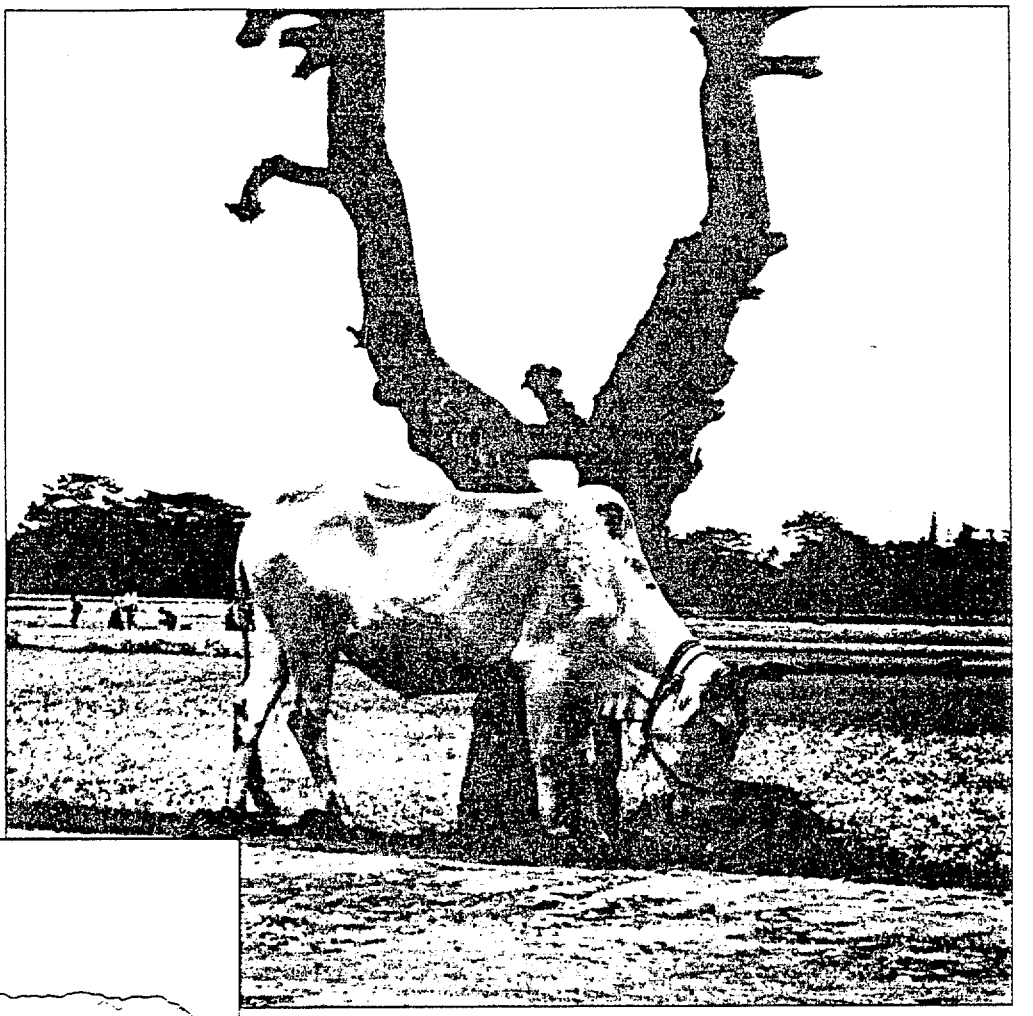
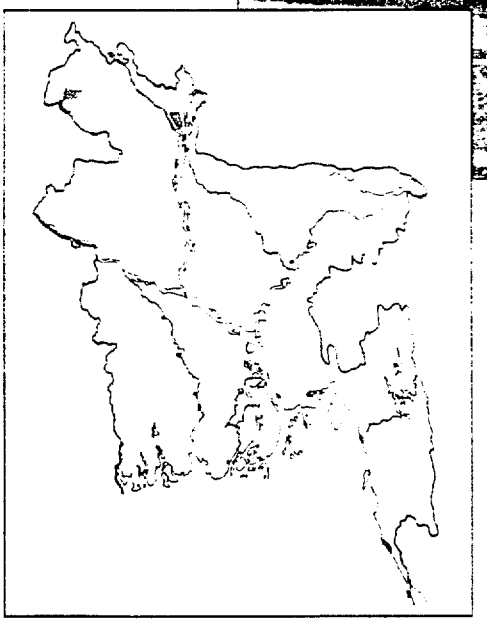


Photo - M. Main Uddin



Part II
Socioeconomic Analysis

March 1995

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Nutritional Surveillance Project

Special Report on the Status of Low Rainfall in Northern Areas

SUMMARY

Increased attention has been focused on the northwest region of Bangladesh because of a low level of rainfall during 1994. Meteorological stations in Rangpur and Dinajpur report 60% and 53% reduction in rainfall from the previous year. This report follows an earlier special report titled 'Nutritional and Socioeconomic Implications of Low Rainfall in the Northwest Region' which looked at the nutritional and socioeconomic status of two northwest thanas, Chilmari and Pirganj, using NSP data collected since June 1990. The NSP December round showed expected seasonal levels of nutritional status as measured by the prevalences of MUAC <125mm, wasting and underweight. Distress sales and loans for food consumption dropped from high levels in October to lower levels in December. However, there was a significant difference between the thanas. Pirganj showed some of the lowest figures for these indicators in any December recorded by the NSP. In contrast, Chilmari showed relative improvement of these indicators from the October round. This second special report assesses these differences by first, identifying vulnerable groups' coping strategies. Secondly, the report studies thana specific socioeconomic responses to the low rainfall, in particular, low production of food grains and the continued rise in market prices of essentials. Finally, the report assesses the impact of relief programs conducted by the government and Rangpur Dinajpur Rural Service (RDRS).

NUTRITIONAL AND SOCIOECONOMIC FINDINGS - December 1994

Seasonal variation in food intake is indicated by changes in wasting rates only (Hassan 1992). The NSP has shown wasting rates to be higher in the agriculturally lean seasons than in peak ones throughout the thanas covered. Wasting appears to be most prevalent in June-October, corresponding to the time of the year after the floods and before the largest of the three rice harvest (Aman). Wasting is lowest in December-February coinciding with the highest level of food intake in the post-Aman harvest. This trend occurs in both Pirganj and Chilmari. However, in December 1994, Pirganj showed significant improvement in this area; whereas Chilmari showed only relative improvement from October indicators.

By December, nutritional indicators of both the thanas returned to seasonally expected levels. For Chilmari, wasting at 9% and underweight at 65.4% represented levels typical of this season. Other indicators of distress were high in October but dropped in December. Chilmari showing distress sales at 26.9% and 24.2% loans for food, represents this trend (Figure 1). However, Pirganj showed some of the lowest figures for nutritional and socioeconomic distress for any December yet recorded by NSP, with wasting at 6.3% and underweight at 52.7% and distress sales and loans for food consumption at 2.4% and 1.4% respectively (Figure 2).

These different levels of distress between the thanas was also captured in the Emergency Nutrition Survey RDRS conducted in late January/early February 1995. The survey covered two zones (East and West) both in the extreme Northwest region of the country. By all the nutritional and socioeconomic indicators used in this survey the East zone, which corresponds to Chilmari thana, displayed overall higher levels of distress than found in the West Zone, which corresponds to Pirganj thana in the NSP data.

Figure 1:
Rice Prices and Loans for Food in Chilmari thana
August 1991 - December 1994

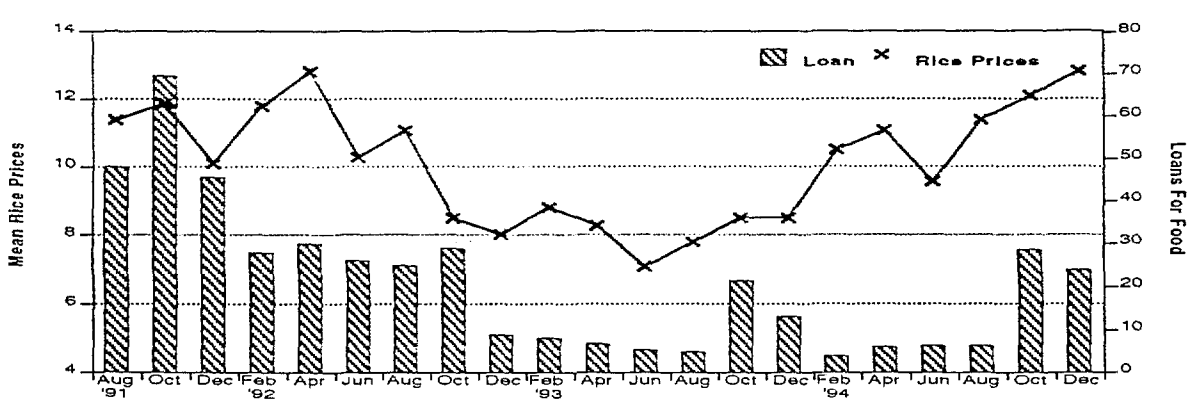

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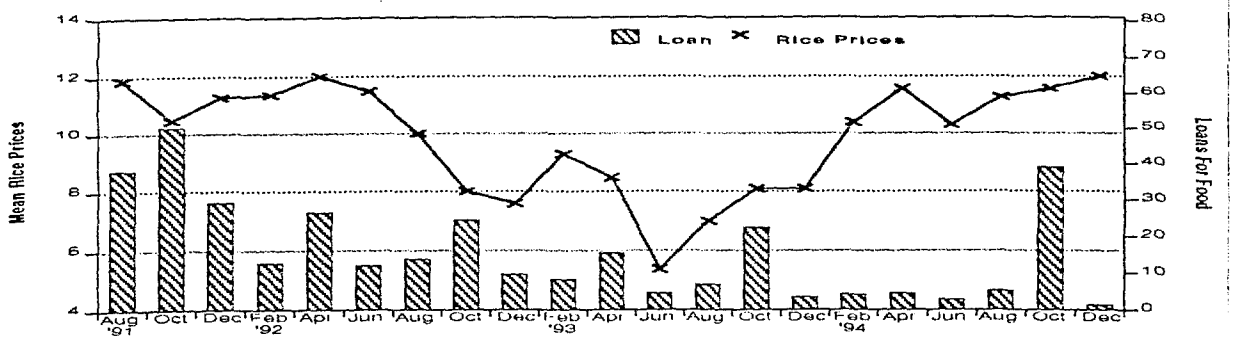
Figure 2:
Rice Prices and Loans for Food in Pirganj thana
August 1991 - December 1994



Vulnerable Groups

Throughout the NSP longitudinal data, children from (a) families with no agricultural land and (b) families whose principal wage earner is dependent on casual or short term labor are nutritionally more distressed than those with land or permanent wage income. These vulnerable groups returned to seasonally expected levels in the December round for both Chilmari and Pirganj. However, nutritional status of children belonging to vulnerable groups showed greater improvements in Pirganj.

Socioeconomic status of vulnerable groups also moved in similar fashion. For instance, indicators of distress, defined by the percentage of families taking loans for food and the percentage of families who have made a distress sale, measured by the sale of livestock, in the last two months was high in October but dropped in December. Since the low rainfall has coincided with the traditional lean season, the landless have been most affected. Once again, there was a significant level of difference between the two thanas. In Chilmari, loans for food consumption by landless households was 41.3% in October and 32.1% in December. Whereas in Pirganj, it dropped from 60.0% in October to 3.3% in December. In Chilmari, sales of livestock by landless households was 29.3% in October and 22.5% in December. Comparatively, distress sales in Pirganj dropped from 35.8% in October to 2.4% in December (Figure 3). Further, sales of livestock and loans for food consumption by casual or short term laborers also moved in similar fashion with Pirganj having vastly lower percentages of distress sales (sale of livestock) and loans for food consumption. Pirganj showed remarkable improvement in nutrition and socioeconomic distress levels compared to seasonal norms. Chilmari improved, but still lagged behind Pirganj.

Market Prices and Labor Market

A factor that may partly explain the difference in socioeconomic and nutritional status is the continued rise in rice prices. September through mid-November is the worst season in the year in terms of food security. This condition is further exacerbated for the rural landless, as there is less opportunity for employment before the Aman harvest. In Chilmari, there is a higher concentration of landless households, most of whom lost their land to river erosion (Ahmed 1994). Since the low rainfall in 1994 has coincided with the traditional lean period, (March-April and September October) employment is even more scarce for the landless (RDRS/ODA 1994). During these periods, food grain prices are typically high. In normal years, the period of December through March represents the peak season where food grain prices usually fall. Employment opportunities

Figure 3:
Percentage of Sale of Livestock by Landless Households in Pirganj and Chilmari thanas
August 1991 - December 1994

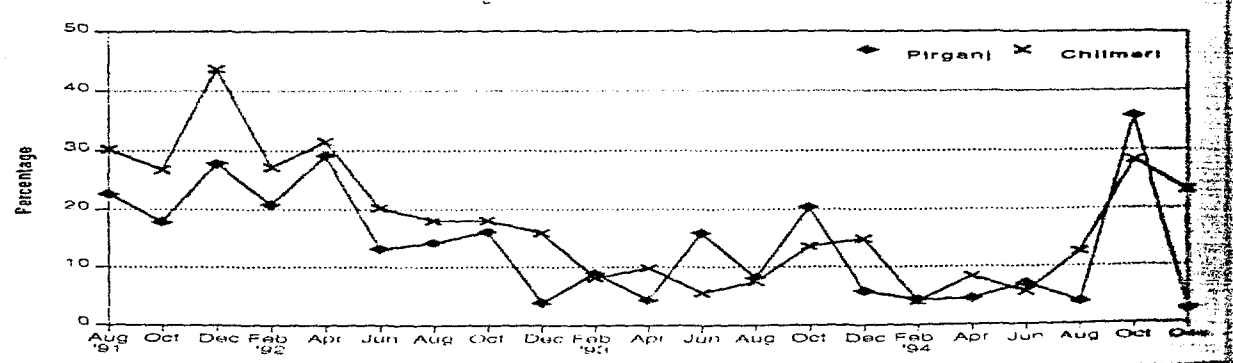
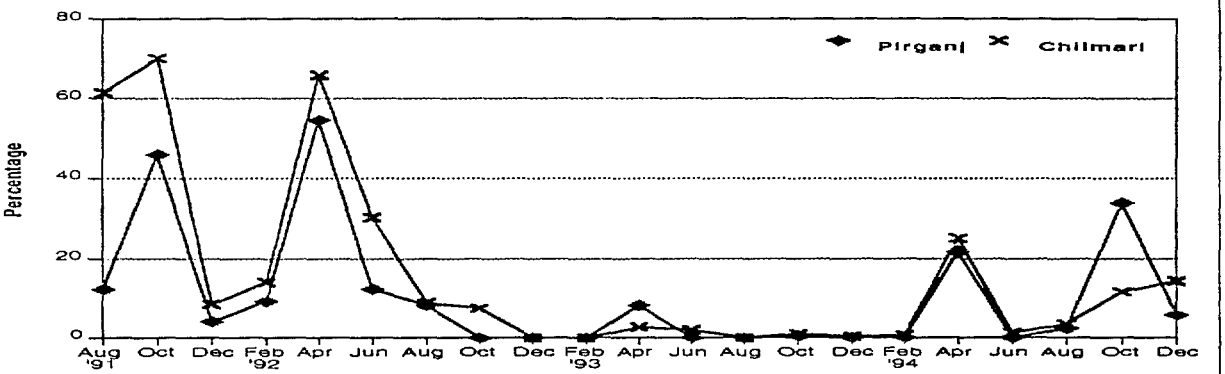


Figure 4:
Percentage of Wheat Consumption by Landless Households in Pirganj and Chilmari thanas
August 1991 - December 1994



for the rural landless increase with the harvest of Aman rice and the planting of Boro rice, wheat and other winter crops. However, in 1994, rice prices have continued to rise since June. For instance, rice prices in Chilmari and Pirganj have risen from Tk 12.10 and Tk 11.60 per kg in October, to Tk 12.75 and Tk 12.00 per kg in December. This is corroborated by district level rice prices monitored by the Food Planning and Monitoring Unit (FPMU), Ministry of Food. The implication of higher rice prices for households is reduced consumption.

Rice is the preferred cereal among the rural poor (Ahmed 1994). With rising rice prices, the rural poor reduce rice consumption and shift to wheat. Studies of food consumption patterns across different income groups in rural areas show that consumption of wheat declines as income rises, suggesting wheat is perceived as an inferior commodity (Ahmed 1994). Analysis of NSP data shows that wheat consumption, measured by purchase of wheat in the market in the last seven days, was the highest in October for Pirganj. In this particular thana, 33.9% of the landless purchased wheat in October compared to 6.1% in December. In Chilmari, 11.4% of the landless purchased wheat in October, 14.5% in December; an indirect measure of relative improvement in income levels in Pirganj. (Figure 4)

Geographical Location and Distress Levels

The World Food Program (WFP) in 1986 classified all 460 thanas of the country by distress levels as determined by factors such as food grain surplus or deficit, agriculture density, landless households, employment opportunities, incidence of natural disasters, agriculture technology, infrastructure development, disease, sanitation and food prices. According to these criteria, Chilmari thana is one of the most distressed areas in Bangladesh. Severe land erosion caused by the Tista river is the primary cause of distress in the thana (Karim 1994). As a result, Chilmari thana has a very high concentration of landless households (Ahmed 1994). Cultivated land in this thana is mostly unirrigated. The soil is of sandy and silky texture, has low organic matter content and low to medium fertility (Karim 1994).

In contrast, WFP classifies Pirganj as normal-an area of no distress (WFP distress map 1986). The infrastructure is superior to that of Chilmari thana and cultivated land is mostly irrigated in the dry season. The soil texture is loamy with strong acidic top soil (Karim 1994). Organic matter content is higher than other flood plains (Karim 1994).

Analysis of NSP data shows that an average of 46% of the households are landless in Chilmari to 37% in Pirganj. This is corroborated by WFP classification. Average land size in Chilmari is 200 decimals and 300 decimals in Pirganj. In Chilmari, 44% of main income earners in the household receive permanent wages. Comparatively, 58% receive permanent wages in Pirganj. In Chilmari, 49% of the households can be classified as "marginal", having no land and only casual wages; whereas in Pirganj, 40% live a marginal existence. In Chilmari 31% of main income earners are farmers. Comparatively 42% are farmers in Pirganj. In Chilmari, 32% of the main income earners are laborers. In Pirganj, 26% are laborers.

TARGETED INTERVENTION - Government/ RDRS

In October 1994, there were a number of Government and NGO led intervention programs in the northwest region of Bangladesh. The government delivered wheat in both Chilmari and Pirganj through its Food For Work Program. Food For Work (FFW) is Bangladesh's dominant targeted income transfer program (IFPRI 1994). FFW distributes wheat as wage payment to workers in labor intensive public works programs. Varying amounts of wheat were delivered through Test Relief, General Relief, and Vulnerable Group Development programs.

The RDRS/ODA Drought Response Project began

implementation in October and most of the components were completed by December 1994 in all six RDRS working districts in northern Bangladesh. The Drought Response Project contained five components: cash for survival education, cash for work, survival credit, home gardening, and fish pond excavation. In the selection process, vulnerable groups such as female heads of household, women with disabled male family members, the elderly, and families affected by river erosion were given priority (RDRS/ODA 1994).

The cash for survival education component targeted mainly landless women. Participants attended a standardized survival education session which contained information on disease prevention, gardening, livestock maintenance and related disaster preparedness information. At the completion of the session, each participant received Tk 200. In Chilmari and Pirganj, the program had 800 and 930 participants respectively. The cash for work component of the project included work in ground raising, road repair, and ditch filling. Once again, the larger portion of the participants were women. Tk 30 was paid for a day of work and a limit of Tk 240 was set for each participant. In Chilmari, 3,668 people participated in the program whereas Pirganj had 1,445 participants. The survival credit component involved disbursement of Tk 2,000 for the purchase (by groups) of shallow tubewells, for agriculture inputs such as seeds and fertilizer and for livestock.

The participants included RDRS members and non-members. In Chilmari, 1,500 participated in the program and in Pirganj 342 took part. In the home gardening component of the project, 80% of the participants were women. This component involved provision of support in the form of Tk 1,900 (as part-grant and part-loan) per selected family in Chilmari and Tk 1,750 in Pirganj. This amount is for seed and irrigation. The final component of the project, fish pond excavation, was initiated in late December and thus is not relevant for the period of this report.

Conclusion

A number of factors played a role in the different nutritional and socioeconomic status of the two thanas. The overall condition of the thanas as measured by the Distress Factor System of the World Food Program (WFP) shows that Pirganj was in a better condition to benefit from relief. Further, the socioeconomic characteristics of Chilmari thana, that is the higher concentration of landless, further attributed to the difference in status.

As wheat is the cheapest source of calories and protein among the foods consumed in the rural areas, the government wheat distribution program is an effective measure to alleviate nutritional deficiencies and provide short term relief.

The RDRS/ODA targeted intervention program provides short term relief for the vulnerable groups in terms of cash for education and cash for work components. The program will also provide long term benefits through its survival credit, home gardening and fish pond excavation components.

The vast improvement of Pirganj and relative improvement of Chilmari from October to December are the result of a number of factors. Most importantly, the timely intervention by the government and RDRS played a key role in bringing about general nutritional and socioeconomic improvement in these two thanas.

Wasting : The percentage of children 6-59 months with weight-for-height < -2 Z scores, acute malnutrition.

Underweight : The percentage of children 6-59 months with weight-for-age < -2 Z scores.

Mid-upper Arm Circumference : A child 12-59 months with a MUAC < 125 mm is considered malnourished.

Standard deviation scores: Measure how far a child's nutritional status deviates from the internationally accepted reference population (NCHS). Malnutrition is defined as less than -2 standard deviations from the mean (< -2 Z scores).

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This report is compiled from information collected by Rangpur Dinajpur Rural Service (RDRS) since 1990
This project is funded by the United States Agency for International Development.

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Nutritional Surveillance Project

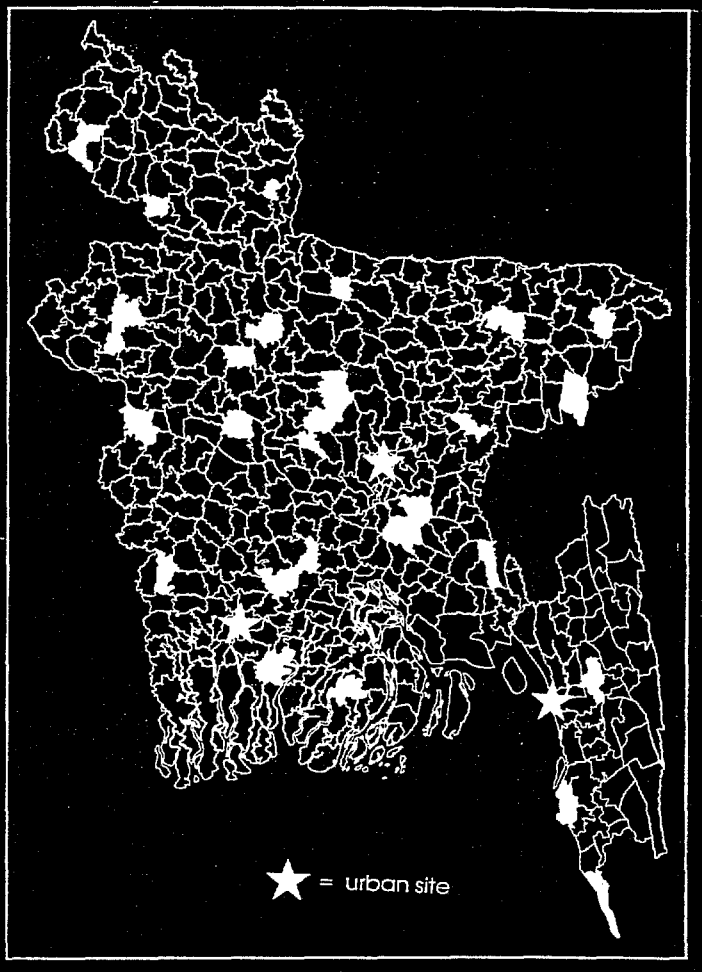
Helen Keller International

Report of Round 31

April 1995 Data Collection

Cooperating Organizations

- Bangladesh Rural Advancement Committee (BRAC)
- Comilla PROSHIKA
- CONCERN
- Christian Commission for Development in Bangladesh (CCDB)
- Dhaka Urban Community Health Project (DUCHP)
- Family Planning Association of Bangladesh (FPAB)
- Gono Unnayan Prochesta (GUP)
- Grameen Jano Kallyan Sangsad (GJKS)
- International Center for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)
- Institute of Public Health Nutrition (IPHN)
- PROSHIKA
- Rangpur Dinajpur Rural Services (RDRS)
- Society for Health Extension and Development (SHED)
- United Nations Children's Fund (UNICEF)



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Nutritional Surveillance Project - Report of April 1995 data collection

In the 31st round of the NSP in April 1995, nutritional and health data were collected from 15,340 children 6-59 months old and socioeconomic data was collected from 11,585 households. The sample covered 28 rural thanas and 4 urban slums as per the map on the cover.

The April round of data collection falls within the first (March - April) of two recognised lean periods in Bangladesh. Employment opportunities for the rural landless decline and food grain prices, particularly rice, increase. In some parts of the country April is the time of the wheat harvest; the Boro rice crop has yet to be harvested. Consistent with the recognised lean period at this time of year, the April nutritional indicators reflect increased levels of distress with prevalences of undernutrition by wasting, underweight, and MUAC <125mm all increasing.

RURAL BANGLADESH

Market Information - Rice prices have continued their upward trend to Tk 14.3 per kg in this round; the highest price recorded by the NSP since its inception in June 1990. The price of other essentials such as ata (flour) decreased from a February price of Tk 10.8 per kg to Tk 9.8 per kg in April and dal prices remained the same at Tk 29.5 per kg.

Socioeconomic Indicators - Socioeconomic status of households in rural thanas deteriorated in this round. Measures of distress, defined by the percentage of families taking loans for food and making distress sales increased. Loans for food increased from a February rate of 16.3% of households to 19.6% in April. Distress sales also increased from a February rate of 2.2% to 3.9% in April.

NSP data shows children from (a) families with no land and (b) families whose principal wage earner is dependent on casual or short term labor are nutritionally more distressed than those with land or permanent wage income. Analysis was undertaken to determine the status of these vulnerable groups. Distress sales measured by the sale of livestock, for both the landless and casual laborers increased from a February rate of 1.8% to 3.1% in April. Loans for food consumption for the same group also increased from 21.9% in February to 25.3% in April. These are the highest levels recorded at this time of the year for these groups since April 1992.

Table 1: Per capita mean rice/wheat intake in the previous week for vulnerable groups in the rural thanas.

Indicator	April 1992	April 1993	April 1994	April 1995
Mean per capita rice intake	2641 gm	2893 gm	2808 gm	2553 gm
Mean per capita wheat intake	618 gm	241 gm	467 gm	652 gm
Mean per capita grain intake	3259 gm	3134 gm	3275 gm	3206 gm

Consumption patterns for the vulnerable groups were also analyzed. Wheat consumption, measured by wheat purchased in the market for consumption, increased from 8% of households reporting in February to 30.8% in April. This is the highest level of households reporting wheat consumption since April 1992 for these groups.

Household food availability was assessed for the vulnerable groups and the rest of the sample by household rice and wheat intake on a per capita basis in the previous week. Mean per capita rice intake for the vulnerable groups fell from 2972 gm in February to 2553 gm in April 1995; the lowest intake level since April 1992. Rice intake for the rest of the sample also declined from 3206 gm in February to 2774 gm in April. However, mean per capita wheat intake for the vulnerable groups rose significantly from 125 gm in February to 653 gm in April 1995; the highest intake levels since April 1992. Wheat intake for the rest of the sample also increased from 53 gm February to 627 gm in April. Overall mean per capita grain intake for the vulnerable groups increased from 3098 gm in February to 3206 gm in April (Table 1). Mean per capita grain intake for the rest of the sample also increased from 3256 gm in February to 3401 gm in April. The decrease in rice consumption is more than offset by the large increase in wheat consumption, and the net effect was an increase in total grain consumption.

The trends identified in both wheat consumption patterns and household food availability issues are partly explained by the continued rise in rice prices and wheat being the alternative grain source for the rural poor. The month of April is also the harvest period for wheat and thus contributes to increased seasonal intake of wheat.

Nutritional Indicators - Consistent with previous years' findings, most nutritional indicators deteriorated for the period between February and April. Overall prevalences have returned to previously documented levels for this time of year.

Levels of current distress were clearly reflected in the prevalence of wasting which rose sharply from 10.6% in February to 16.1% for this round. While this increase is within expected ranges documented at this time of year, the magnitude of the increase is higher than has been seen in the previous two years. Of concern are the thanas of Golapganj, Shakipur, Nakla, Chouddagram, and Rangunia which all exhibit wasting levels over 20% (Figure 1).

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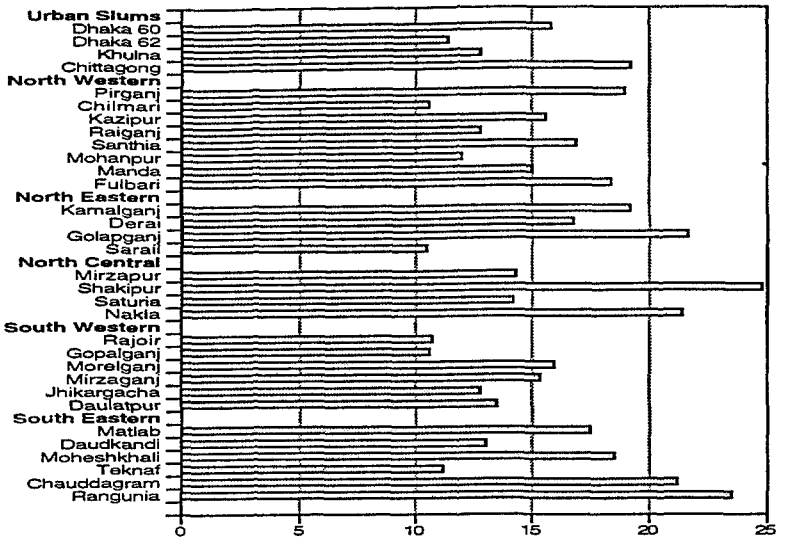
Figure 1: Percentage of children 6-59 months old, who are undernourished by Wt/Ht <-2z scores in 4 urban slums and 28 rural sentinel thanas in Bangladesh, April 1995.



Prevalence of underweight increased in 23 of the 28 rural sentinel thanas. Overall levels rose from 63.9% in the last round to 67.7% for April 1995. This is consistent with NSP findings from previous years, though the magnitude of the increase is more pronounced than in the last two years (Figure 2). MUAC < 125mm, which increased in two thirds of the sentinel thanas, rose from 6.1% in February to 6.9% for this round.

Of the other health indicators, the point prevalence of diarrhea rose from 9.9% in February to 12.7% in this round. Sentinel thanas at risk with prevalence rates reported at over 15% were Kazipur, Santhia, Sarail, Mirzapur, Rajoir, Morelganj, Moheshkhali, Teknaf, Chouddagram and Rangunia (Figure 3). Night blindness among children 6-59 months remained consistent with February at 0.8%. The figure among children 12-71 months is also stable at 1.1%, down slightly from 1.2% in February 1995.

In March the Government of Bangladesh launched a special program to boost immunization against polio, National Immunization Day (NID). On April 16, in conjunction with the polio campaign, a special effort was made to distribute vitamin A capsules (VAC) to all children under 5 years. This national VAC distribution initiative occurred during the April round of data collection, dividing areas into those that were asked about coverage before and after the special distribution day. Nonetheless, in this round overall VAC coverage among children 6-71 in the last 6 months was 72.6%. Separating out the respondents who were asked the question after April 16, the figure climbs higher to 87.6%. VAC coverage rates will be explored more fully in an upcoming report.

URBAN BANGLADESH

Market Information - Rice prices in urban areas continued their upward trend to Tk 15.0 in April, the highest rice prices documented by the NSP at any time of the year. Prices of other essential goods such as ata (flour) decreased to Tk 11.4 per kg and price of dal decreased to Tk 29.4 per kg.

Socioeconomic Indicators - Measures of distress, defined by the percentage of families taking loans for food and making distress sales decreased in slum wards. Loans for food decreased from 17.2% in February 12.3% in April. Distress sales declined from 1.3% in February to 1.0% in April.

Analysis was undertaken to determine the status of vulnerable groups (casual or short term labor) in slum wards. Distress sales for the vulnerable groups declined from 1.8% in February to 1.3% in April. Loans for food consumption for the same groups decreased from 31.5% in February to 24.4% in April. However, this is the highest rate for any April for these groups recorded by NSP. Consumption of wheat, measured by wheat purchased in the market for consumption, increased for the vulnerable groups from 14.6% of households reporting in February to 15.9% in this round.

For the vulnerable groups, mean per capita rice intake increased from 2351 gm in February to 2377 gm in April. Rice intake for the rest of the sample increased from 2520 gm in February to 2525 gm in April. Mean per capita wheat intake for the above groups increased from 164 gm in February to

Figure 2: Percentage of children 6-59 months old, who are undernourished by Wt/Age <-2z scores in 28 rural thanas in Bangladesh, June 1990 - April 1995

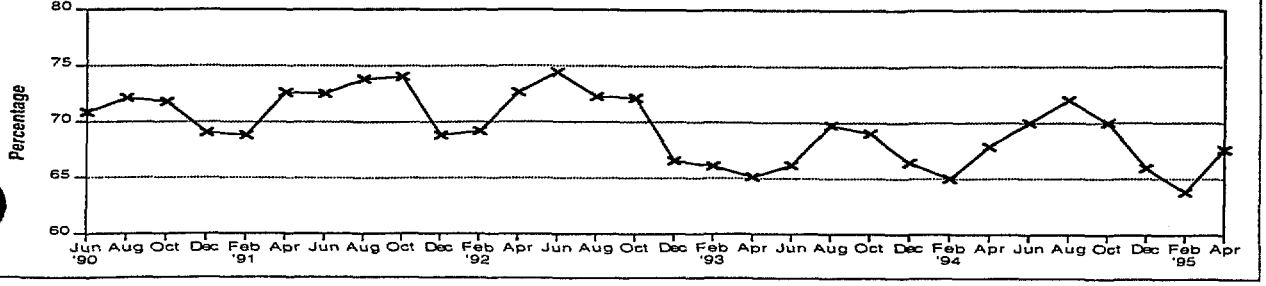


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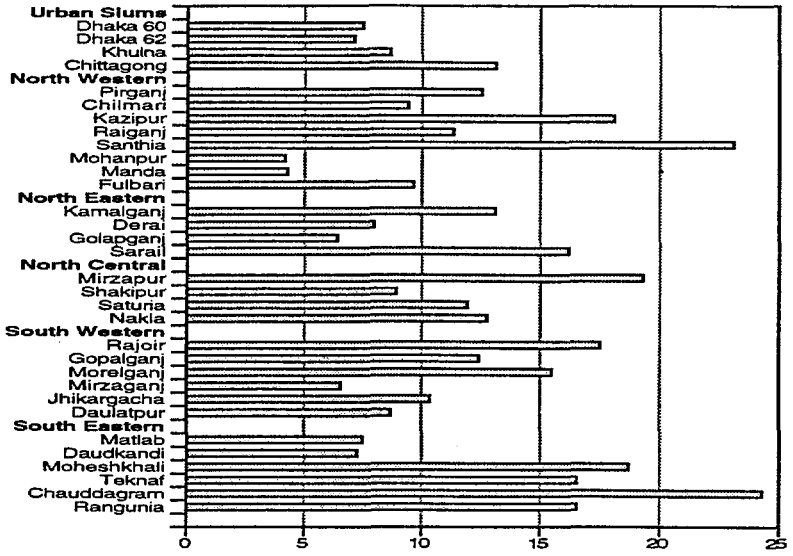
Figure 3: Diarrhea - Point prevalence of diarrhea among children 6-59 months old, in 4 urban slums and 28 rural sentinel thanas in Bangladesh. April 1995.



191 gm in April. Wheat intake for the rest of the sample also increased from 114 gm in February to 160 gm in April. Overall mean grain intake per capita for the last seven days increased from 2515 gm in February to 2568 gm in April for these vulnerable groups. However, this grain intake level in the slum areas is significantly below the levels of grain intake in the rural areas (Table 2).

Nutritional Indicators - The overall nutritional patterns for April are similar to the rural picture with undernutrition by wasting, underweight and MUAC increasing in this round.

Wasting which increased in all 4 of the slum wards, has jumped from 8.3% in February 1995 to 15% in this round. Although 15% falls within the range documented for previous April rounds, the magnitude of increase is significantly higher than has been seen in the previous two years.

Similarly, underweight also rose in all the slum wards and the extent of the increase is again higher than has been seen in the last two years. The overall April 1995 prevalence at 68.7% is up from the February 1995 figure of 64.3%.

Rates of undernutrition by MUAC <125mm showed an increase in all the slum wards with an overall prevalence of 6.8%, up from this February rate of 6.3%. The point prevalence of diarrhea rose as expected for the time of year, from 8.9% in February to 9.1% in this round. Of concern in Chittagong and Khulna are the high levels of children with diarrhea of duration greater than 7 days; over 30%.

The almost total absence of night blindness in the slum wards, which are NGO working areas, continues to reflect the high VAC distribution levels. Over 96% of children in the slum wards received a VAC capsule in the last 6 months.

Table 2: Per capita mean grain intake for the previous week for rural and urban slum households

Indicator	April 1992	April 1993	April 1994	April 1995
rural households	3260 gm	3134 gm	3299 gm	3207 gm
urban slum households	2621 gm	2619 gm	2656 gm	2568 gm

From the data collected in both the rural sentinel thanas and the urban slum wards there appears to be a shift nutritionally towards levels of distress not seen since the same period in 1992. This picture is also reflected by the socioeconomic indicators in the rural sentinel thanas. In the urban slum wards there is a more mixed picture with distress sales returning to seasonal norms, but loans for food remaining high for this time of year.

Tidal Surges - This year's April round of data collection was taken prior to the May 15/16 and June 13 tidal surges that affected the coastal regions of Bangladesh. A special report is being prepared on the effects of the surges in the Southwest regions of the country.

Flooding in the North - Extensive flooding occurred in May and continues to cause serious problems in the northern and coastal areas of Bangladesh. Twelve out of 28 rural sentinel thanas have been affected by flooding. Information from these thanas will be separately analysed during the coming rounds.

Stunting : The percentage of children 6-59 months with height-for-age < -2 Z scores, chronic malnutrition.

Wasting : The percentage of children 6-59 months with weight-for-height < -2 Z scores, acute malnutrition.

Underweight : The percentage of children 6-59 months with weight-for-age < -2 Z scores.

Mid-upper Arm Circumference : A child 12-59 months with a MUAC < 125 mm is considered malnourished.

Standard deviation scores : Measure how far a child's nutritional status deviates from the internationally accepted reference population (NCHS). Malnutrition is defined as less than -2 standard deviations from the mean (< -2 z scores).

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Nutritional Surveillance Project

Helen Keller International

Report of Round 32

June 1995 Data Collection

Cooperating Organizations

- Bangladesh Rural Advancement Committee (BRAC)
- Comilla PROSHIKA
- CONCERN
- Christian Commission for Development in Bangladesh (CCDB)
- Dhaka Urban Community Health Project (DUCHP)
- Family Planning Association of Bangladesh (FPAB)
- Gono Unnayan Prochesta (GUP)
- Grameen Jano Kallyan Sangsad (GJKS)
- International Center for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)
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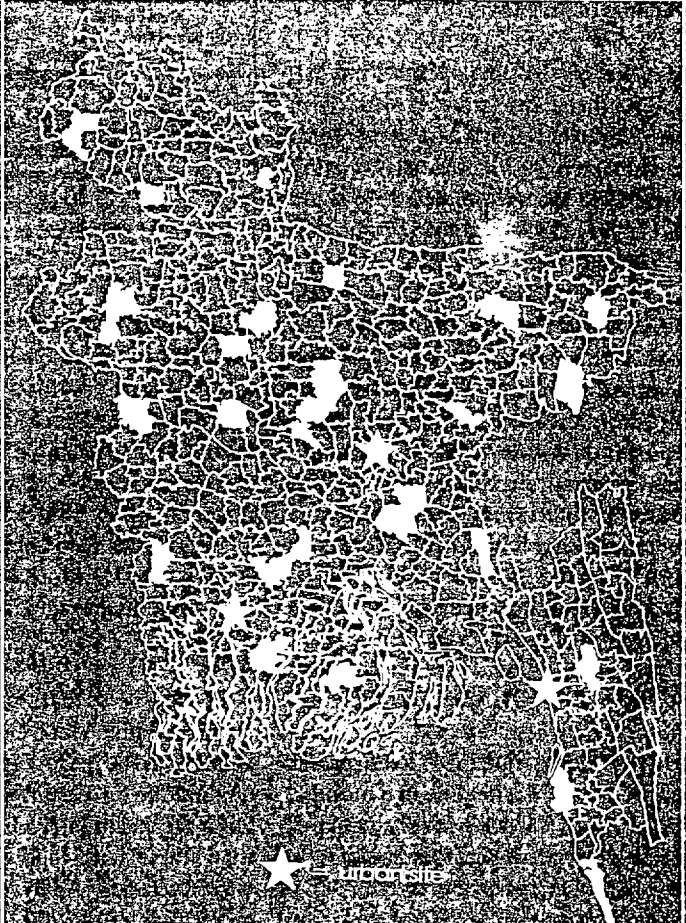

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This project is funded by the United States Agency for International Development (USAID).

REVIEW

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Nutritional Surveillance Project - Report of June 1995 data collection

In the 32nd round of the NSP in June 1995, nutritional and health data wes collected from 13,360 children 6-59 months old and socioeconomic data was collected from 10,083 households. The sample covered 28 rural thanas and 4 urban slums as per the map on the cover.

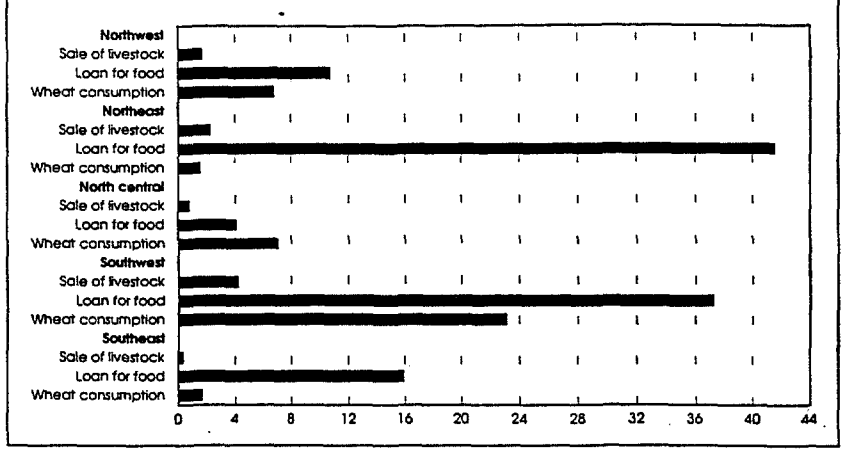
May/June is the time of Boro harvest, one of the major sources of rice in Bangladesh. Boro share of total production of rice has been increasing since 1973 to an estimated 35% share in 1989 *(1)*. This change in production is reflected in a change in price seasonality characterized by two main peaks within the year, before the Boro and Aman harvests. Boro induced seasonal price reduction allows low income households, particularly those households who depend on wage income, to increase consumption. Boro rice harvest also increases wage income during this period. However, 1995 Boro yield is estimated to decline from last year's production due to insufficient fertilizer *(2)*.

RURAL BANGLADESH

Market Information - Rice prices showed their first decline in 8 months, falling from Tk 14.3 per kg in April to Tk 12.5 per kg in this round; the lowest price recorded by the NSP since October 1994. However, rice prices varied by region with sentinel thanas in the Southwest and Southeast reporting rice prices over Tk 13 per kg and thanas in the Northwest, Northeast and North central regions reporting rice prices below Tk 12.5 per kg. All regions reported rice prices below April levels. The price of other essentials such as ata (flour) decreased from an April price of Tk 9.8 per kg to a June price of Tk 9.6 per kg and dal prices increased from Tk 29.5 per kg in April to Tk 32.4 per kg in June.

Socioeconomic Indicators - There was general improvement in socio-economic status in rural thanas. The average of households reporting distress in all 28 rural sentinel thanas, defined by the percentage of families taking loans for food and making distress sales, decreased. Loans for food declined from an April rate of 19.6% to 16% in June with individual thanas ranging from 1.3% to 45.1%. Distress sales also declined from an April rate of 3.9% to 2.7% in June with individual thanas ranging from 0% to 15.6%

Figure 1: Percentage of vulnerable households selling livestock, taking loans for food, purchasing wheat for consumption in 28 rural seninel thanas in 5 regions of Bangladesh, June 1995



NSP data shows that children from (a) families with no land and (b) families whose principal wage earner is dependent on casual or short term labor are nutritionally more distressed than those with land or permanent wage income. Analysis was undertaken to determine the status of these vulnerable groups. Vulnerable groups make up 44.2% of the rural sample in this round. Distress sales measured by the sale of livestock, for both the landless and casual laborers declined from 3.1% in April to 2.1% in June. Loans for food consumption for the same groups also declined from 25.3% in April to 20.9% in June.

Southwest and Northeast sentinel thanas showed higher levels of distress as measured by both loans for food and sales of livestock; 37.2% and 4.2% respectively in the Southwest and 41.5% and 2.2% respectively in the Northeast region, a pattern consistent with the rest of the sample (Figure 1).

Consumption patterns by vulnerable groups were also analyzed. Wheat consumption, measured by wheat purchased for consumption, declined from 30.8% of households reporting in April to 8.2% in June. In the Southwest 23% of vulnerable households reported purchase of wheat for consumption, whereas in the Northwest and central regions levels are at 6.7% and 7% respectively (Figure 1).

Rice and wheat intake on a per capita basis in the previous week were assessed for the vulnerable groups and the rest of the sample. Mean per capita rice intake for the vulnerable groups increased from 2553 gm in April to 2908 gm in June; the lowest NSP recorded rice intake for June. Rice intake for the rest of the sample also increased from 2774 gm in April to

Table 1: Per capita mean rice, wheat and total grain intake in the previous week for vulnerable groups in rural thanas and urban slums

Indicator		April 1995	June 1995
Rice intake	Rural	2553 gm	2908 gm
	Urban	2377 gm	2357 gm
Wheat intake	Rural	653 gm	149 gm
	Urban	191 gm	377 gm
Total grain intake	Rural	3206 gm	3057 gm
	Urban	2568 gm	2734 gm

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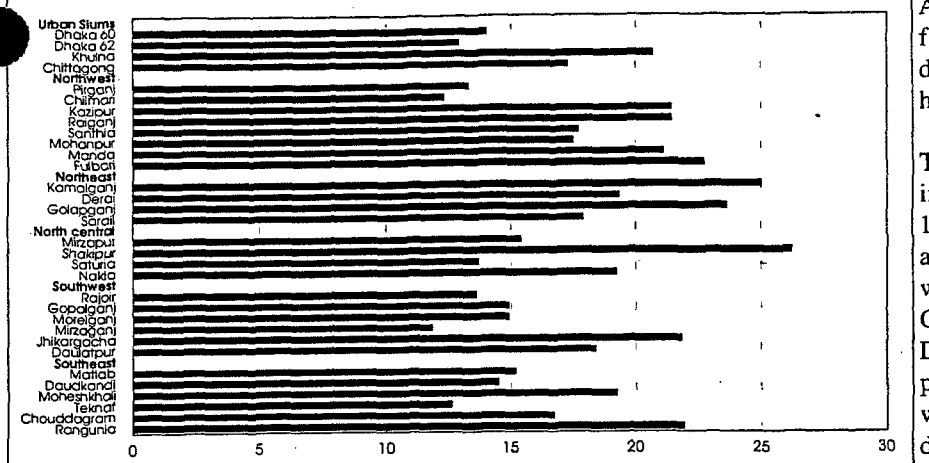
Figure 2: Percentage of children 6-59 months, who are undernourished by weight-for-height <-2Z scores in 28 rural sentinel thanas and 4 urban slums, in June 1995



MUAC <125mm also increased in ⅔ of the thanas from 6.9% in April to 8.4% in June. While this falls within the range documented by the NSP this is higher than in the last two years.

The point prevalence of diarrhea increased from 12.7% in April to 13.5% in June. Sentinel thanas at risk with levels of over 20% were Kazipur, Raigonj, Santhia, Gopalganj, Jhikargacha and Daulatpur. In these thanas prevalence rates of over 24% were reported for children with diarrhea lasting more than 7 days.

3164 gm in June. Mean per capita wheat intake for the vulnerable groups fell significantly from 653 gm in April to 149 gm in June; the lowest levels since June 1992. Wheat intake for the rest of the sample also fell from 627 gm in April to 107 gm in June. Overall grain intake for the vulnerable groups decreased from 3206 gm in April to 2057 gm in June. Mean per capita grain intake for the rest of the sample also decreased from 3401gm in April to 3272 gm in June (Table 1).

Sentinel thanas in the Southwest had the lowest intake of rice by vulnerable groups and the Northeast region had the highest. Conversely, wheat intake levels were the highest in the Southwest and lowest in the Northeast.

June wheat consumption patterns and household food availability show that with the harvest of Boro rice and the resulting relative reduction in rice prices, vulnerable households drastically reduced their wheat intake from April levels. Because rice is the preferred cereal, households respond to falling rice prices by shifting from wheat to rice. In June, the significant decrease in wheat intake from April levels was not offset by the increase in rice intake, and the net effect was a decrease in total grain intake in vulnerable rural households.

Nutritional Indicators - As expected for this time of year most nutritional indicators continued to deteriorate. Current levels of distress continue to be clearly reflected by the seasonal increase in the prevalence of wasting. Twenty of the 28 rural thanas, mostly in the North, recorded increases; 9 of these thanas reporting wasting levels above 20% (Figure 2). Nonetheless, the overall prevalence of 17.9% falls within the expected range for June

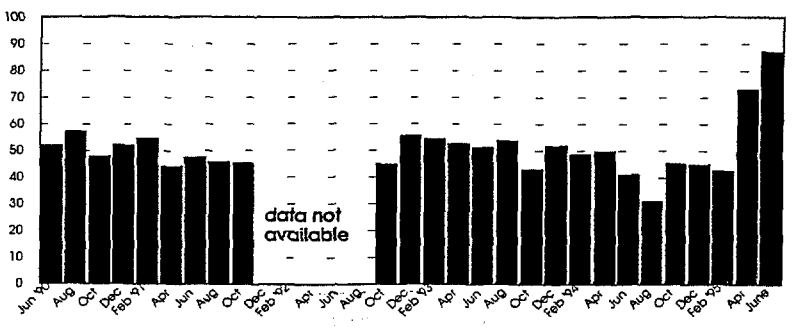
Underweight prevalences also rose in 22 of the 28 thanas with overall levels increasing from 67.7% in April to 69.7% for this round. Of concern are 13 thanas, mainly in the Southeast and Northwest, reporting prevalences over 70%. Following the socioeconomic breakdown defining vulnerable groups, it is evident that these groups exhibit more nutritional stress than the rest of the sample. The prevalence of underweight for the vulnerable groups is 71.9% in June and for the rest of the sample is 65.7%.

Night blindness, among children 6-59 months, remained consistent with the previous round and within the range expected for June at 0.7%. For children 24-71 months the prevalence is 1%. Vitamin A capsule (VAC) coverage in the last 6 months for children 6-59 months has reached the highest levels ever recorded by the NSP at 87.1%. This dramatic rise is due to the special VAC program held in conjunction with the National Immunization Day by the Government of Bangladesh in mid-April (Figure 3).

URBAN BANGLADESH

Market Information - Rice prices in urban areas declined from Tk 15.0 per kg in April to Tk 14.2 per kg in June, however, this is the highest rice price documented by the NSP for any June. The highest prices were reported in Dhaka slums at Tk 16.0 per kg. In Chittagong rice prices were TK 13.1

Figure 3: Percentage of vitamin A capsule coverage among children 6-59 months Rural sentinel thanas, June 1990 - June 1995



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per kg and in Khulna Tk 12.75 per kg. Prices of other essential goods such as ata (flour) decreased to Tk 11.3 per kg and prices of dal increased to an all time high of Tk 32.8 per kg.

Socioeconomic Indicators - The average of households reporting loans for food and making distress sales moved in different directions in slum wards. Loans for food increased from 12.3% in April to 14% in June, while distress sales declined from 1.0% in April to 0.8% in June. In Khulna and Chittagong over 20% of families reported loans for food while Dhaka reported levels were around 3%.

Distress sales for vulnerable groups (defined as casual or short term labor) remained relatively unchanged at 1.1% while loans for food consumption were up to 24.8%; the highest rate for any June. Vulnerable households having purchased wheat, remained consistent with the last round at 15.3%.

Mean per capita rice intake for vulnerable group decreased from 2377 gm in April to 2357 gm in June. Rice intake for the rest of the sample also decreased from 2535 gm in April to 2524 gm in June; the lowest NSP recorded levels for both groups. Mean per capita wheat intake for the vulnerable groups increased from 191 gm in April to 377 gm in June; the highest NSP recorded level. Wheat intake for the rest of the sample also increased from 160 gm in April to 184 gm in June. Mean grain intake per capita increased from 2568 gm in April to 2734 gm in June for the vulnerable groups. However, this level is significantly below levels of grain in rural areas (Table 1).

The seasonal transition from wheat to rice that took place with the Boro harvest in rural thanas, did not take place in the urban slums. Households in slums significantly increased wheat intake and reduced rice intake. The decrease in rice intake was more than offset by the significant increase in wheat intake with a net increase in total grain consumption. This can be partly explained by the continued high urban rice prices.

Nutritional Indicators - All malnutrition indicators rose in June. Prevalence of wasting increased with an overall level at 16.2% up from April at 15%, which is a less pronounced increase than usual for this time of year.

Underweight rose from 68.7% in April to 69.5% in June. As in the rural thanas there is a clear nutritional distinction between the vulnerable groups and the rest of the sample. Prevalence of underweight for the vulnerable groups was 78% in June; for the rest of the sample, 62.7% (Figure 4). Stunting also rose in this round to an overall level of 66%; of concern is Chittagong with an alarming rate of 80.4%. Rates of undernutrition by MUAC <125mm increased from 6.8% in April to 9.6% in this round. Of concern again are Khulna and Chittagong with rates at 14.1% and 15.1% respectively.

The overall prevalence of diarrhea remained consistent with the previous round at 9.1%. However, in Khulna and Chittagong prevalences of 35% and 29.1% respectively, of children reporting diarrhea lasting more than 7 days are particularly high.

The almost total absence of night blindness in the slum wards, which are NGO working areas, continues to reflect the high VAC distribution levels at over 96%.

FLOOD

By the June round, 8 rural sentinel thanas - Kamalganj, Golapganj, Derai, Nakla, Kazipur, Chilmari, Saturia and Rajoir - had experienced flood damage. Additional information was collected in these thanas to assess how many people had been affected by floods, the loss to livestock and the scope of destruction to crops and homes. Preliminary findings show significant damage. This damage is not yet reflected in a health and nutritional situation worse than in non flood thanas. However, it is expected that the health and nutritional impacts of the flood will start to appear in August data.

(1) Goletti, Francesco, 1994, The changing public role in a rice economy approaching self-sufficiency: The case of Bangladesh, Washington, D.C.; IFPRI.

(2) USAID, 1994/1995 Boro crop assessment update, June 5, 1995.

Stunting : The percentage of children 6-59 months with height-for-age < -2 Z scores, chronic malnutrition.

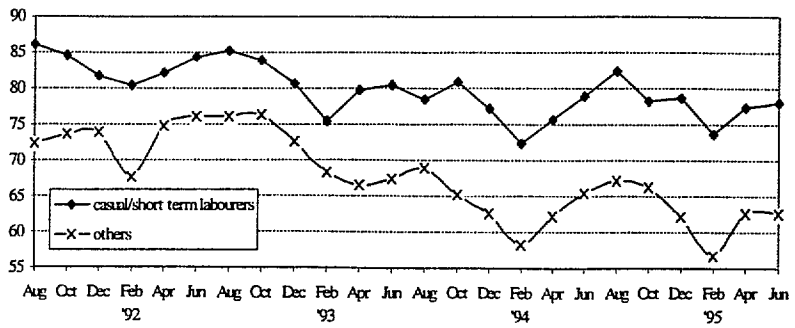
Wasting : The percentage of children 6-59 months with weight-for-height < -2 Z scores, acute malnutrition.

Underweight : The percentage of children 6-59 months with weight-for-age < -2 Z scores.

Mid-upper Arm Circumference : A child 12-59 months with a MUAC < 125 mm is considered malnourished.

Standard deviation scores : Measure how far a child's nutritional status deviates from the internationally accepted reference population (NCHS). Malnutrition is defined as less than -2 standard deviations from the mean (< -2 Z scores).

Figure 4: Percentage of underweight children 6-59 months by casual/short term labourers Urban slums, August 1991 - June 1995



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Overheads from: "M&E System Output Workshop on PVOs Operating in Ethiopia Using Title II Food Aid Resources." Addis Ababa: USIAID, 1995.

The Returns to Information

Access to information provides the ability to:

- understand problems at the program level and at the population level,
- define solutions to program specific or to population specific problems,
- influence decision-making to effect positive change in program implementation and intended program outcomes

Decision-makers/Stakeholders in Information Systems

- Government Official
- Donors
- PVO Administrators
- Program Managers
- Program Staff
- Program Beneficiaries

An effective information system supports decisions and actions made at all levels within the program.

Information Needs, Dissemination, and Use

Audience	Role **Role in evaluation and follow-up**	Which/Why **Which results they need to get and why**	How **How they can get the results**
Non-involved community	Small part (interviewed)	Summary of results to create support	Meetings, discussions, mass media.
Involved community	Planning, carrying out evaluation	Full results - to put recommendations into action	Participation, meetings, study of results, mass media
Program staff	Coordination, facilitation of decision-making and action	Full results - to put recommendations into action	Participation, meetings, study of report
District-level agencies	Receive info. Disseminate lessons, support action	Full results - or summary for lessons learned and decision-making	Full report, discussions w/ evaluators, mass media
Regional-level agencies	Receive info. Disseminate lessons, support action	Full results - or summary for lessons and decisions	Summary, discussions, meetings

Audience	Role **Role in evaluation and follow-up**	Which/Why **Which results they need to get and why**	How **How they can get the results**
National-level agencies	Receive info. disseminate, support action	Full results - or summary for lessons and decisions	Summary, discussions, meetings
External funding agencies	Receive info. disseminate, support action	Full results - or summary for lessons and decisions	Full report plus summary discussions
International-level agencies	Receive info. disseminate, support action	Full results - or summary for lessons and decisions	Summary, discussions, meetings

Key Questions Answered by M&E Systems

- Does the program...
  - increase access of the target population to program services?
  - improve community participation in the program?
  - improve the quality of care to clients?
  - deliver the expected volume of services?
  - achieve an acceptable ratio of cost per unit of output?
- Has the desired change occurred at household level?
- To what extent can observed changes be attributed to the program?
- Which program inputs and activities have the greatest impact on the population?

The Uses of M&E Systems

M&E systems support efforts to improve:

- management and administration
- the assessment of program changes
- delivery of services
- accountability
- program planning and policy development
- resource allocation decisions

Overheads from: USAID Ethiopia, et al. "M&E System Output Workshop on PVOs Operating in Ethiopia Using Title II Food Aid Resources." Addis Ababa: USAID, 1995.

Types of Evaluations

- Needs Assessments
- Conceptualizing
- Program Monitoring
- Impact Evaluations
- Efficiency (Cost) Evaluations

Program Components

INPUTS → **PROCESS** → **OUTPUTS** → **OUTCOMES**

System goals **Intermediate and final goals**

- Inputs refer to the set of resources that are the raw materials used in the program: finances, policies, personnel, facilities, equipment, and commodities

- Processes refer to the set of activities in which inputs are used in pursuit of the program objectives, including management and supervision, training, logistics and information systems

- Outputs refer to the results obtained at the program level regarding the quality and quantity of goods (commodities) and services (training, case management) delivered under the program

- Outcomes are the results of the program at the population level in terms of changes in behavior and well-being

Program Monitoring

- establishes that program inputs, activities and outputs have occurred
- tracks progress over time in the access to and quality of services by beneficiaries
- tracks progress in terms of expected impacts of the program on the behavior and well-being of beneficiaries
  - monitoring cannot attribute cause and effect, which is the role of impact evaluations
- useful for improved management, administration, accountability, and as an initial basis for assessing impacts

Questions Answered by Program Monitoring

- Were the scheduled activities carried out as planned?
- How well were they carried out?
- Did the expected changes occur at program level, in terms of:
  - improved access to service?
  - improved quality of service?
  - improved use of services by beneficiaries?

Overheads from: USAID Ethiopia, et al. "M&E System Output Workshop on PVOs Operating in Ethiopia Using Title II Food Aid Resources." Addis Ababa: USAID, 1995.

- Did the expected change occur at household and individual levels (again, monitoring cannot attribute these changes to the program)?

Impact Evaluations

- gauge the extent to which a program causes change in behavior and well-being at the population level
- the assessment of impact necessarily implies attribution of population impacts to program outputs
- impact evaluations are useful in assessing effectiveness of programs, their relevance to the issues of concern and in future program design

Questions Answered by Impact Evaluations

- Is the program effective in achieving its intended goals?
- Can the results be explained by some alternative process that does not include the program?
- Is there a link between impact at the population level and the activities of the program?

Types of Data Uses, and Collection Method for Different Evaluation Focuses

Focus	Data type	Use/purpose	Collection Method
Input	Financial, material, personnel	Delivered to the Project?	Administrative records
Output	Service provided and used	Reach target group?	Administrative records, RAP, surveys
Outcome/Impact	Change in beneficiary status	Attributable to the program?	Routine reports, RAP, surveys, informed people
Efficiency	Costs of inputs, outputs, impacts	Most effect for the cost?	Cost-effectiveness comparisons

Efficiency (Cost) Evaluations

Examine whether the best use is being made of available resources, whether costs can be reduced or benefits extended for the same cost and whether the program is financially viable and sustainable.

- Questions answered by efficiency evaluations:
  - What are the costs to deliver services to program participants?
  - Is the program an efficient use of resources as compared to alternative allocations?

Overheads from: USAID Ethiopia, et al. "M&E System Output Workshop on PVOs Operating in Ethiopia Using Title II Food Aid Resources." Addis Ababa: USAID, 1995.

Components of M&E Strategy

- Measurable program goals
- Clearly specified M&E objectives
- Program linked to conceptual framework
- Cost-effective information system
- Operational indicators
- Focused analysis plan
- Achievable implementation strategy

Complementarity between Monitoring and Evaluation

Item	Monitoring	Evaluation
Frequency	periodic, regular	episodic
Main action	keeping track/oversight	assessment
Basic purpose	improve efficiency, adjust work plan, accountability	improve effectiveness, impact, future programming
Focus	inputs, process outputs, work plans	effectiveness, relevance, impact, cost effectiveness
Information sources	routine or sentinel systems, field observation, progress reports, rapid assessments	same, plus surveys, studies
Undertaken by	program managers, community workers, community (beneficiaries), supervisors, funders	program managers, supervisors, funders, external evaluators, community (beneficiaries)
Reporting to	program managers, community workers, community (beneficiaries), supervisors, funders	program managers, supervisors, funders, policy makers, community (beneficiaries)

Overheads from: USAID Ethiopia, et al. "M&E System Output Workshop on PVOs Operating in Ethiopia Using Title II Food Aid Resources." Addis Ababa: USAID, 1995.

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SELECTIONS FROM THE FAM ANALYSIS OF FY96 DEVELOPMENT PROJECT PROPOSALS

- Objectives Statements by Topics
- Selected Indicators Related to USAID Strategic Objective 1
- Selected Indicators Related to USAID Strategic Objective 4, Intermediate Result 4.1: Improved health, Nutrition, Water and Sanitation Infrastructure and MCH Services and Practices.
- Selected Indicators Related to USAID Strategic Objective 4, Intermediate Result 4.2: Improved Natural Resource Management Practices in Marginal Areas
- Selected Indicators Related to USAID Strategic Objective 4, Intermediate Result 4.3: Improved Agricultural Infrastructure and Practices

FAM

Food Aid Management

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MALNUTRITION	**9**	**6**	**16**
Reduce infant malnutrition	8	6	14
Reduce student malnutrition	2	1	2
MATERNAL HEALTH	**6**	**4**	**8**
Reduce maternal mortality/morbidity	4	2	4
Delivery care	2	1	2
Immunization	3	3	3
Improve nutrition	1	1	1
NATURAL RESOURCE MANAGEMENT	**10**	**9**	**18**
Agro-forestry	4	5	8
Soil conservation	4	3	5
Irrigation	6	5	7
Training/extension	3	4	4
NUTRITION (Supplementation)	**7**	**5**	**11**
Increase nutrient consumption	4	5	7
Increase student consumption	4	1	4
Training incentive	1	1	1
NUTRITION EDUCATION	**9**	**7**	**14**
Appropriate practices	8	7	12
Preparation of donated commodities	2	1	2
POST-HARVEST PRACTICES	**9**	**11**	**13**
Training in marketing	2	2	2
Increase private sector participation	1	1	1
Processing	5	4	5
Storage	4	4	5
RELIEF	**6**	**9**	**18**
Institutional feeding	4	5	8
Reduce deficit for abandoned children	1	1	1
FFW for unemployed/underemployed	4	2	4
Lunches for itinerant workers	1	1	1
Disaster victims	2	2	2
Poor families	3	3	3
Returning refugees	1	1	1
SUSTAINABILITY	**5**	**9**	**16**
Community committees formed	3	4	4
Promote PTAs	1	2	2
Community implementation	5	8	11
Strengthening women	1	1	1
WATER & SANITATION	**8**	**8**	**11**
Increase potable water	7	7	10
Basic sanitation	4	4	4

MISCELLANEOUS	**4**	**3**	**4**
Day care for worker's children	1	1	1
Reduce women's work load	1	1	1
Rehabilitation of street children	1	1	1
Food deficit monitoring			
TOTALS	**17**	**16**	**94**

SELECTED INDICATORS FROM FY 1996 DPPS
PRELIMINARY SORTING BY FAM, 9/20/95

OBJECTIVES	INDICATORS
IR 4.1: Improved Health, Nutrition, Water, and Sanitation Infrastructure and MCH Services and Practices	
Improved Diet	
Increased Caloric Intake	-Percent increase in caloric intake -Adequate per capita calorie intake -Percent reduction in food deficit
Improved Sources of Vitamins and Minerals	-Percent of daily requirements provided to vulnerable family members -Percent of housholds consuming an increase in nutrient-rich foods
Reduced Prevalence of Malnutrition	-Decreased levels of malnutrition based on weight for age -Percent reduction of malnourishment in children under five
Provided School Feeding	-Percent reduction in malnutrition with students -Improved diets among targeted school children -Increase success in school among students
Improved Nutritional Practices	-Number of women trained in food preparation and nutrition -Better utilization of food and consumption of food among project beneficiaries
Improved Child Nutrition	-Percent reduction of malnourishment in children under 5 -Percentage of children growing normally -Prevalence of low height/age ration decreases
Improved Health: Increased Infrastructure and Training	
Improved Health Facilities	-Number of women who visit health centers -Percent of people with access to good health facility with access to basic drugs -Percent of people who are satisfied with health services
Improved Community Health Knowledge and Participation	-Number of women who improved knowledge and practice of preventative health -Percent of families with knowledge of basic personal and domestic hygiene practices
Improved Family Planning Strategies	-Percent of families using modern family planning services -Percent of families which know the importance of child spacing and reducing the number of pregnancies
Improved Sources of Potable Water	-Percent of families with access to safe drinking water -Number of wells built -Reduced number of water-borne diseases
Improved Sewage Systems	-Number of persons who have access to water and sewage facilities -Reduced water-borne diseases -Number of sewage systems developed

Improved Maternal/Child Care	
Improved Pre-Natal and Post-Natal Care	-Increased use of trained health workers during and after pregnancies -Number of high risk cases detected and reported -Number of women attending ANC, PNC, delivery care -Percent of health facilities providing maternal health service
Reduced Cases of Severe Diarrhea	-Percent reduction in severe cases of diarrhea -Percent of children treated with ORT -Percent of families adequately preventing and managing cases of diarrhea
Decreased Diseases	-Percent of community vaccinated against common diseases -Percent reduction of diseases -Percent of community that demonstrtates knowledge on HIV/AIDS prevention measures
Increased Exclusive Breast-Feeding	-Percent of mothers who exclusively breast feed children less than six months old. -Percent of mothers who breast-feed children within the first eight hours of birth
Reduced Maternal Mortality	-Percent reduction of maternal mortality

SELECTED INDICATORS FROM FY 1996 DPPS
PRELIMINARY SORTING BY FAM, 9/15/95

OBJECTIVES	INDICATORS
IR 4.2: Improved Natural Resource Management Practices in Marginal Areas	
Reduced Land Degradation	-Decreased erosion damage and gully formation -Increased soil fertility -Agricultural productivity on terraced arable land increased -Percent of families which adopted soil/energy conservation techniques and sustainable forestry/agricultural practices -Number of hectares protected
Increased Irrigation	-Increases in the number of hectares under irrigation -Number of irrigation systems built and maintained
Increased Rate of Reforrestation	-Increases in the number of hectares reforrested -Wood problem reduced in targeted communities -Percent of trees planted and surviving
Increased Awareness of Environmental Practices	-Increased number of farmers applying knowledge from extension services -Percent of farmers applying soil/energy conservation techniques and sustainable forestry/agricultural techniques

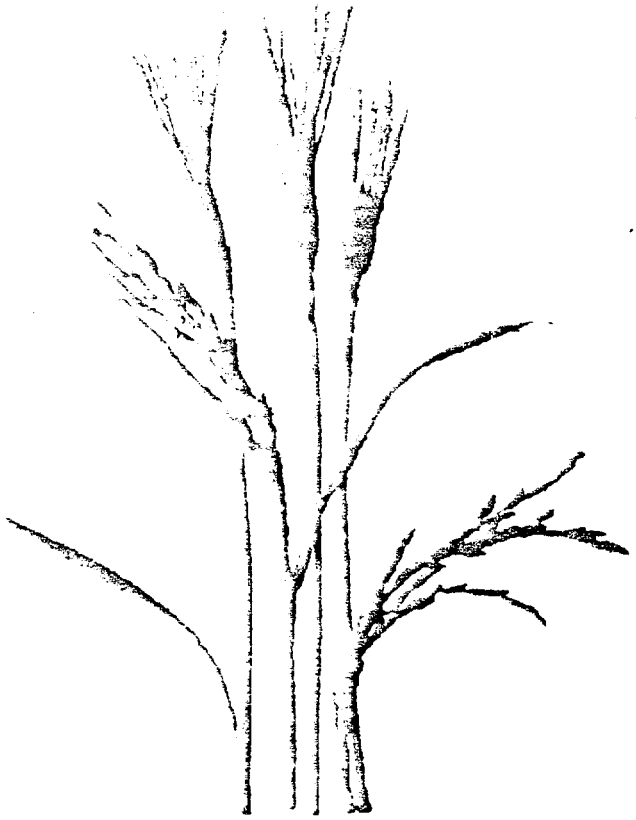
SELECTED INDICATORS FROM FY 1996 DPPS

OBJECTIVES	INDICATORS
IR 4.3: Improved Agricultural Infrastructure and Practices	
Increased Crop Production	
Increased Yields	-Percent increase in crop production (measure by volume) -Increased market availability of food -Additional annual production of crops by year 2000 -Increase sustainable productivity per area unit
Increased Crop Diversity	-Change in total number of different plants grown
Increased Home-Grown Garden Foods	-Volume of production available for home consumption and sale in garden grown foods -Number of families planting drought resistant and higher yielding crops to meet dietary needs
Improved Agro-Forestry Results	-Number of seedlings raised and sold/donated -Number of trees planted/surviving -Reports of increased food production, yields per acre, and farm production patterns
Increased cash crops	-Increase in market surplus by households
Increased Inputs and Training	
Increased Access to Inputs (seeds, tools, fertilizer)	-Availability of inputs on local markets -Percent of households that apply improved inputs
Increased Access to Credit Loans	-At least 200 community members in five SGAs receive loans -Number of village banks established with at least 25 member -Percent of village banks establishing necessary bank accounts in order to provide member services
Implemented Early Warning System	-Percent of commodities benefitting from early warning data
Improved Agricultural Techniques	-Number of farmers actually trained in natural resource management or other techniques; percent of farmers practicing the techniques at the end of one year
Provided Technological Assistance	-Number of new beneficiaries using improved agricultural technologies in open-field production -Percent increase in agricultural production of farmers supported by the project
Increased Livestock Management	
Increased Livestock Production	-Percent of households that achieve 25% increase in milk conumption after each year -Increase in the number of dairy farmers, dairy cows, and milk production per cow of farm families -Percent increase in the production of small animal species -Percent increase in farmers' livestock
Decreased Livestock Disease	-Percent decrease in disease
Improved Post-Harvest Practices	
Increased Agricultural Product Marketing	-Leaders, authorities, and subsistent farmers are trained in agricultural marketing -Increased, competitive private sector participation by enterprises in food marketing -Increased sales of processed and raw agricultural products at the end of five years. -Increased number of marketing channels

	-Kilometers of bridges and roads built/maintained
Increased Agriculture Prepared for Exports	-Amount of export quality agriculture produced -Increased volume of exported agriculture
Improved Crop Storage	-Improved levels of post-harvest losses -Increased number of crop storage facilities

Alan Shawn Feinstein World Hunger Program

Brown University



The Hunger Report: 1993

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correlations between the various indexes. In the UNDP data, the Philippines, for example, scores badly, with its Human Development Index 15 ranks below its GNP per capita.

Table 1.21. Ranking of Countries on Different Indicators [17]

	GNP rank	relative human development index rank	relative poverty index rank	relative PQLI rank	under-5 mortality gap	under-nourished pre-school children gap	relative military spending
sub-Saharan Africa							
Angola	50	-28	-17				
Benin	34	-22	-4	-19	-13		22
Botswana	74	-7	-13	-8	-26	0	16
Burkina Faso	17	-13	-15	-7	-12		100
Burundi	20	-1	-10	4	-2	-7	65
Cameroon	73	-30	5	-28	-47	7	44
Cape Verde	59	-2	17	6			
CAR	33	-16	-32	-12			39
Chad	4	7	36	6			150
Congo	69	-21	-51	-21		-7	51
Cote d'Ivoire	61	-23	27	-19	-32	8	12
Djibouti	41	-33	-10				
Eq. Guinea	36	-18	-13				125
Ethiopia	2	21	26	20	3	1	180
Gabon	106	-36	-5	-50			40
Gambia	16	-9	-9	-8			
Ghana	35	7	10	5	-37	-1	14
Guinea	43	-42	-21	-32			27
Guinea-Bissau	15	-6	2			15	
Kenya	30	17	16	20	69	14	42
Lesotho	40	14	11	9	-50	8	
Liberia	46	-16	47	-18	-93	5	24
Madagascar	14	32	36		4	-5	39
Malawi	8	12	-2	7	-57	11	41
Mali	18	-12	40	-9	-67	2	73
Mauritania	48	-35	-33	-27	-93	-25	154
Mauritius	97	13	13	-1	11	-9	4
Mozambique	1	14	25	7	-39		132
Niger	25	-20	52	-12	-167	-17	20
Nigeria	22	11	30	8	-36	-7	79
Rwanda	26	1	-23	-1	-60	-3	55
Senegal	57	-33	-32	-25	-58	3	51
Sierra Leona	24	-22	5	-19		9	15
Somalia	6	4	13	1			295
Swaziland	63	-5	-3	-9			13
Tanzania	5	30	30	29	50	-13	82
Togo	31	-2	49	0	-9	3	36
Uganda	21	7	-10	8	11	10	63
Zaire	7	27	5	32	-15		61
Zambia	23	21	-9	23	-71	1	92
Zimbabwe	56	-3	-13	3	15	9	91

	GNP rank	relative human development index rank	relative poverty index rank	relative PQLI rank	under-5 mortality gap	under-nourished pre-school children gap	relative military spending
Near East & North Africa							
Algeria	101	-35	-1	-19	-21	-1	22
Egypt	58	-7	32	-7	31	12	0
Iraq	80	-4	-31	-15	-94	0	0
Jordan	85	-10	19	-3	30	7	0
Lebanon	84	-12	24				
Morocco	64	-9	4	-12	2	5	70
Oman	112	-33	-16		-12		268
Sudan	47	-31	-38		-40	6	94
Syrian Arab Rep.	93	-4	-27	17	21		224
Tunisia	81	-7	26	-9	7	4	47
Turkey					-48		104
Latin America and the Caribbean							
Argentina	104	11	2	-1	8		78
Barbados	114	12	-1	0			
Belize	88	0	-40	9			
Bolivia	51	1	-38	1	-23	8	0
Brazil	100	0	-41	-15	-36	2	0
Chile	89	30	-27	11	18	11	67
Colombia	78	26	-3	7	35	4	29
Costa Rica	94	22	-3		26	9	6
Cuba	86	13	1		47		0
Domin. Rep.	60	18	10	15	20	7	0
Ecuador	76	8	-32	2	7	-1	0
El Salvador	70	-5	13	1	-2	3	0
Grenada	95	10	2				
Guatemala	68	-7	-41	-9	-6	-17	0
Guyana	39	30	-3	33			
Haiti	32	5	-16	3	1	-4	0
Honduras	67	-7	-14	5	48	-3	0
Jamaica	75	22	-55	24	37	6	0
Mexico	96	16	-22	-1	-4	-4	0
Nicaragua	65	-1	34	8	63	7	0
Panama	99	-1	-5	2	18	-5	0
Paraguay	77	6	-12	7	22	12	0
Peru	83	-3	-51	-7	-1		0
Trinidad Tobago	108	14	-13	-1	5	1	0
Uruguay	103	20	-5	4	10	3	48
Venezuela	107	7	-18	-9	9	2	0

Table 21 continued

	GNP rank	relative human development index rank	relative poverty index rank	relative PQLI rank	under-5 mortality gap	under-nourished pre-school children gap	relative military spending
East Asia							
China	27	55	78	41	95	8	0
Fiji	90	6	13				
Indonesia	44	19	23	16	-7	-16	0
Korea, Rep.	109	11	3	-4	9		0
Lao PDR	11	21	-3	13	23	-15	300
Malaysia	98	10	-12	-5	15		0
Myanmar	19	31	50	39	57	0	147
Papua New Guinea	62	-17	-41	-13	4	-16	15
Philippines	53	28	-15	24	29	-14	0
Solomon Islands	52	4	-11				
Thailand	72	19	9	15	12	-8	76
Viet Nam	10	49	27		116	-11	356
South Asia							
Afghanistan	3	0	36	-1			100
Bangladesh	9	17	-4	7	41	-33	0
Bhutan	13	1	-9		-17	-4	
India	28	12	26	8	20	-36	76
Iran	87	-16	-32	-18	-26	-33	147
Maldives	37	25	35				
Nepal	12	9	22	2	56		54
Pakistan	29	12	56	-1	-5	-14	227
Sri Lanka	38	47	25	42	97	-4	40

Source: UNDP, 1993; IFAD, 1992; Morris, 1992; own calculations.

In IFAD's first report on the state of rural poverty, the same country comes out very nicely, having a poverty index 28 points higher than its GNP rank. Brand new UNICEF data show that the Philippines has an under-5 mortality rate 29 points higher than expected at its GNP per capita, but a childhood malnutrition rate 14 points lower. The available data on the government's military spending show that it was high in 1975 (or alternatively, that social spending was very low). Yet, in the same sub-region, Myanmar, with higher military spending, scores better on the social indicators, while Indonesia, with lower military spending, scores worse. There is little to be learned from these indicators as they now stand.

For only 9 out of 84 countries did all five new composite indexes (human development, poverty, physical quality of life, under-five mortality and child malnutrition) have the same sign, meaning that all indexes point to the same progressive or regressive nature of policy outcomes. For 75 countries, signs differed, with as many as 28 cases ending in a 2-3 outcome. For these countries, then, it is very hard to form an opinion, based on these data, on the quality of their policy outcomes.

Moreover, the Poverty and the Human Development Indexes, which supposedly measure the same phenomenon and even share two constitutive indicators, are but moderately linked. In 58 cases, their signs were alike, while in 47 cases, they were opposite. Figure 6 represents graphically the relationship between both indicators: they are slightly linked as expected, but that relation is very weak (less than 10% of the variation in one is explained by the other).

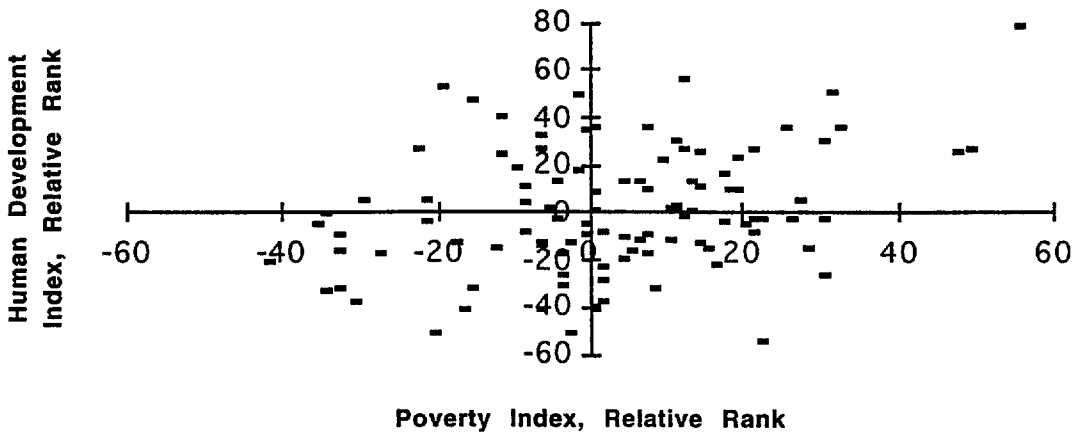

Figure 1.6. The Relation between Poverty and Human Development Index

The military expenditure indicator, which many consider causally linked with the quality of social outcomes, is totally uncorrelated with any of the indexes that measure social outcomes. In Figures 7 and 8, the relation between the Human Development Index and relative military spending is plotted. To avoid methodological bias, this was done for both absolute HDI ranks (Fig. 7) and relative HDI ranks, *i.e.*, compared to GNP (Fig. 8). In Figure 9, the relation between the same indicator of relative military spending is plotted against UNICEF's indicator of under-five mortality gaps. In each Figure, the arrow indicates the theoretically expected relationship: the more countries spend on the military (or the less they spend on health and education) the lower their level of human development should be. Yet, the data in Figures 7, 8 and 9 show the result is the same in all cases: there is no relation whatsoever between relative military spending and any of these indexes that measure social outcomes.

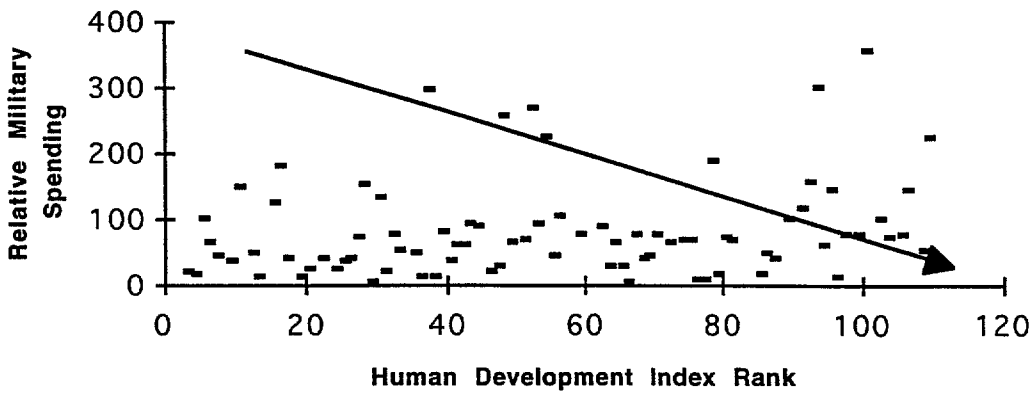

Figure 1.7. The Relation between Military Spending and the Human Development Rank

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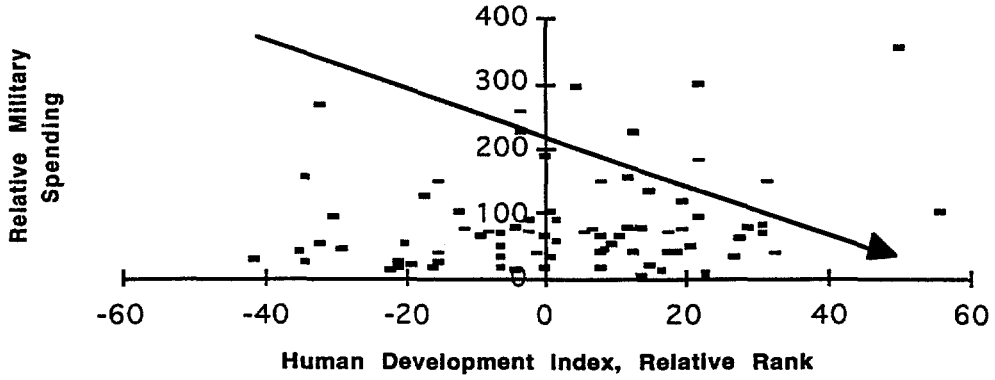

Figure 1.8. Relation between Military Spending and Relative Human Development Rank

These results are disappointing, considering that these data constitute the latest and best the international organizations have to offer. This absence of causality or correlation could mean either that the expected relations are wrong (*i.e.*, that there is no link between high military spending and regressive social outcomes) or that the indicators do not measure what they pretend to measure. The latter could be the case for a variety of reasons. Some are methodological, having to do with the selection of indicators and the method of aggregation (the use of averages or means, of logarithms, ceilings and ratios instead of absolute figures, and the like). Moreover, independent, third factors intervene: wars, the epidemiology of disease, the climate, social traditions, and many more. These factors might explain both indicators and resolve the apparent inconsistencies now observed.

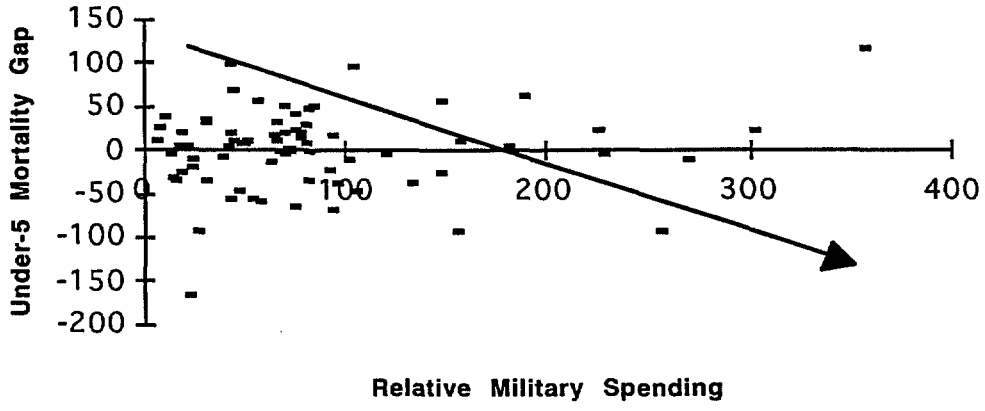

Figure 1.9. The Relation between Military Spending and the Under-5 Mortality Gap.

Another explanation for the apparent lack of consistency between these new indicators could simply be that the data on which they are based are unreliable. Bringing together three or more unreliable indicators in one composite index can work either way: it can balance out the inaccuracies in the individual indicators or reinforce them. In the latter case, the resulting index is even more off the mark than its constituent parts. Finally, specific problems are associated with the use of ranks instead of absolute data for comparison. On the one hand, as we explained above, the absolute data are quite meaningless by themselves. They acquire significance only when compared with other countries (*i.e.*, put into ranking) and even more when confronted with income levels (*i.e.*, compared with GNP per capita). On the other hand, this system penalizes countries with high GNPs, for it is impossible for them to rank much higher on their "new" indicator. If country "x" ranks 132nd on GNP, for example, and it has a fairly good social policy, it can easily improve its ranking on the other indexes by, say, 50 points. Country "y," in 23rd position, even if it has a very advanced social policy, could hardly move up more than 22 positions on the other indicator (this is why Figure 7 yields slightly better results than Figure 8).

Hence, in the final analysis, once the novelty wears off, these new indexes reveal very little. They amount to quite random aggregations of unreliable data, yielding very inconsistent results. At the most, they suggest that the explanation of social outcomes — among which the incidence of malnutrition — is an extremely complicated matter, not likely to be captured in one indicator. Each country's outcome is the result of a particular set of economic, political, historical, natural, epidemiological, religious and social factors, and meaningful comparison between countries is only possible by looking at data for all these factors (if they exist!).

Conclusion

The incidence and prevalence of hunger in the world are decreasing, although it is hard to be precise as to the exact numbers and proportions. National and international efforts to combat hunger are on the rise. These efforts are becoming increasingly comprehensive and complex, involving local communities and NGOs side by side with governments and donor agencies, and paying more attention to issues such as micronutrients and the health and sanitary environment. This should be cause for optimism: hunger can be combatted; the technical and political means to do so exist and can be mobilized.

On the methodological level, we possess a vast amount of data concerning food, hunger and malnutrition — without even looking at the data on agricultural production, food prices, yields, seeds, rural employment, population, or incomes (had we done so, this report could easily have become five times as long). Yet, notwithstanding the size of the "smorgasbord" of available data, it is very hard to form a clear or uncontested opinion on the precise state of hunger at any level. Most of these data measure slightly different things, at different levels of aggregation, or at different steps of the food chain. Other data, even if they measure the same phenomenon, are constructed in different manners (often unknown to the reader) by different institutions, using different time periods, different standards, or different geographical distributions. Finally, the reliability of the many data is low, as their methods of collection and aggregation are subject to serious methodological criticism and debate. As a result, there exist ample contradictions, both between data measuring different phenomena and those measuring the same.

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Notes

1. This conclusion is supported by looking at UNDP's "food import dependency ratio", defined as "the ratio of food imports to the food available for internal distribution: that is, the sum of food production, plus food imports, minus food exports:" UNDP, 1993: table 13 and page 224. The higher the level of human development of countries, the higher their food import dependency. In 1988/90, "high human development" countries had a 36.4% food import dependency ratio; "medium human development" countries 10.4%; and "low human development" ones 7.8%. In other words, and contrary to the spontaneous, almost emotional appeal of "food first" strategies, low food import dependency goes hand in hand with low quality of living.

2. An important illustration of the vulnerability that results from food import dependency is the case of Iraq. As John Field, 1993, has pointed out in a most interesting recent article, Iraq's food security, prior to the Gulf War, was very high, resulting from high imports of food and domestic subsidization for consumption. Due to the embargo, however, the system totally collapsed, and the incidence of undernutrition soared.

3. Subnational differences are extremely difficult to apprehend, and are rarely, if ever, represented in the available data. Yet, disaggregation on the subnational level can yield very different results, as the extreme cases of South Africa and the U.S. show. UNICEF, 1993b: 13 has an interesting piece on the hidden disparities behind national under-5 mortality rate data. UNDP, 1993: tables 9 and 10 attempts to address this problem, with indicators on female-male gaps and rural-urban gaps.

4. Data for 1981 from World Bank, 1984: table 24. Population data from World Bank, 1993: table 1. A similar table has been developed by IFAD, 1992: 32. It contains a table containing the 27 countries "with positive growth (1965-85) of per capita DES [but] failing to meet minimum caloric requirements in 1985." This list includes both India and Pakistan; the other countries are small to very small.

5. This methodological modification runs counter to the trend over the last decades. In the past, every time the FAO or the World Bank re-computed their data on global malnutrition, their cut-off points decreased. This process has *inter alia* been described by Millman & Chen, 1991: *passim*, Millman *et al.*, 1991: 3-4, Poleman, 1983: 42 ff. and Warnock, 1987: 5. From 1950 to 1985, the "reference person" (the ideal food consumer with whom a person is compared to establish if that person is undernourished) consumes 500 calories and 21 grams of protein less! According to data shown in Avery, 1991: 31, the decline since 1946 is around 1,000 cal/day.

6. According to the FAO, 1992a: 7, "Fifth World Food Survey approach of adopting the lower limit of the range of acceptable body-weight for height is considered as unduly conservative and in the current assessment this has been replaced by the median value." In other terms, in the new data, the cut-off point for children has been augmented further.

7. See too Webb & Von Braun, 1993: 10. This also holds for the United States. If one accepts Larry Brown's estimate that 13% of all Americans are hungry, this corresponds surprisingly well with the data calculated by the Bureau of the Census of the Department of Commerce, on the proportion of the U.S. population living below the poverty level, which is 13.4%. Bread for the World, 1991.

8. A United Nations term, referring to food-deficit countries with per capita income below the level used by the World Bank to determine eligibility for concessional assistance from the International Development Association (*i.e.* U.S. $ 1235 in 1991). All the countries in Table 11 are LIFDCs.

9. According to Ghai et.al., 1988: 18, for Africa there is only one country (Egypt) that has complete data on infant mortality for a recent year. For all other countries, UN data are estimates.

10. According to Svedberg, 1991: 128, "the FAO estimates of the availability of calories for human consumption in the African countries are built on shaky grounds and therefore very unreliable and there are at least three reasons to expect that there is a net downward bias in these estimates." According to Raikes, this downward bias is increasing over time: Raikes, 1988: 20, 62. See too Uvin,1994: 44.

11. This is the position adopted by the FAO, as described in the ACC/SCN, 1993: 94 ff. This leads to some problems, which can only with difficulty be assumed away, witness: "the interpretation of such a vastly different slope is that the underweight prevalence in South Asia (...) is much higher at a given level of kcals/caput/day [than elsewhere in the world — PU]." .. This meant that "certain undefined regional differences explain the differences in national prevalences" (p. 96).

12. Note that, in the past, data for India were calculated by comparing to a lower, Indian reference standard for children. Doing so brought world child malnutrition rates down by as much as 5%. See Millman and Chen, 1991: 11. The new data, presented in this text, use the same standard for India as for all other countries. The same holds within countries: using the WHO standard versus a local one, infant malnutrition in the Philippines is 34% versus 14%. See UNICEF, 1992 c: 46.

13. The results of a number of recent studies of children's stunting now point to micronutrient deficiencies, particularly vitamin A and iron, as factors. A long-term three country study (Egypt, Kenya, Mexico), for example, came to an unexpected conclusion that the overall stunting observed in all three countries was explicable to a large extent by inadequate micro-nutrient intakes. All the effects of micro-nutrient deficiencies detailed above were found in the three sites, including retardations in motor, psycho-social and cognitive development. Nutrition Collaborative Research Support Program, 1992: 119.

14. Africa in this table equals sub-Saharan Africa elsewhere (except inclusion of Algeria and non-inclusion of Somalia). Eastern Mediterranean includes all of Near East and North Africa (except Algeria) and countries such as Afghanistan, Iran, Pakistan and Somalia. Americas includes the U.S. and Canada. Asia includes all of Asia (except for some countries that are included in Eastern Mediterranean) as well as Australia, New Zealand and Japan.

15. Containing weighted data on GNP, GNP per capita, GNP per capita growth rate, percentage of rural population below poverty line, and life expectancy at birth. The Human Development Index also includes life expectancy at birth as well as per capita GDP. As a result, IFAD's poverty index includes two of the three indicators that constitute UNDP's Human Development Index. The method of constructing the index is different, however. UNDP uses a log of GDP per capita, up to an international poverty line, while IFAD uses an income-gap ratio, in which GNP per capita of a country is deduced from the GNP per capita of Cyprus. As to life expectancy at birth, UNDP uses absolute data, while IFAD employs a similar income-gap technique to calculate a ratio, this time with Cuba's life expectancy as the ceiling.

16. As UNICEF, 1993b: 10 explains: "an average-performing country with a per capita GNP of $ 400, for example, could be expected to have an under-five mortality rate of approximately 140; if the actual under-five mortality rate is 120, then that country's national performance gap is +20, meaning that its under-five mortality rate is 20 points better than expected for its GNP per capita."

17. Column 1 from World Bank, 1993: table 1. Columns 2 and 4 from IFAD, 1992: table 1, 2. Column 3 from UNDP, 1993: table 1. Columns 4-5 from UNICEF, 1993b: 50. Column 7 from UNDP, 1993: table 28.

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