PROCEEDINGS
OF THE USAID WORKSHOP ON
PERFORMANCE MEASUREMENT FOR FOOD SECURITY

MAY 1997

Submitted to: PPC/CDIE/PME

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AGENDA
USAID Workshop on Performance Measurement for Food Security

December 11th

8:30-9:00 *Registration*

Morning Plenary Sessions:

9:00-9:30 *Welcome Address*
Janet Ballantyne (PPC/CDIE)

Workshop Goals
Scott Smith (PPC/CDIE)

9:30-9:50 *The Importance of Food Security to USAID*
Nils Daulaire (PPC/PHD)

9:50-10:10 *Food Aid in the Context of Food Security*
Robert Kramer (BHR/FFP)

10:10-10:30 *Overview of Management for Results and Performance Measurement Indicators Bearing on Food Security*
Gerry Britan (CDIE/PME)

10:30-10:45 Coffee Break

10:45-11:30 *Panel Presentation and Discussion: Issues in Performance Measurement of Food Security - An Overview*
Drs. Luther Tweeten, Ohio State University; Bea Rogers, Tufts University; and Mike Weber, Michigan State University

11:30-12:30 *Panel Presentation: Perspectives on Food Security at the Operational Level - USAID and Implementing Partners*
(Facilitator - Bobbie van Haeften, LAC/DR)

- *USAID Mission Perspective: Peru* - Bobbie Van Haeften
  India - Heather Goldman

- *CARE: Food Security Targeting, Monitoring and Evaluation: The Issues and the Indicators* Tim Frankenberger

- *IMPACT Project: PVO Case Study - Developing Monitoring and Evaluation Systems for Food Security* Bruce Cogill

12:30-1:00 *General Discussion*

1:00-2:00 Lunch

2:00-2:10	*Proposed Analytical Framework and Indicators for Food Security* Margie Ferris-Morris (PRISM Project)
2:10-2:20	*Breakout Group Instructions* Mike Hendricks (MSI)
2:20-4:30	*Breakout Groups:* *1) Food Availability* Facilitator - Hap Carr (MSI) *2) Food Access* Facilitator - Sam Taddesse (MSI) *3) Food Utilization* Facilitator - Mike Hendricks
4:30-5:00	*Plenary Session: Précis and Housekeeping* Facilitator - Mike Hendricks

December 12

8:30-8:45	*Plenary Session: Agenda Review and Logistics* Facilitator - Mike Hendricks
8:45-9:30	*Plenary Session: Agency-Wide Indicators Task Force Report and Discussion* Carl Mabbs-Zeno (PC/ECON)
9:30-11:30	*Breakout Groups:* Continuation
11:30-12:00	*Plenary Session: Précis and Housekeeping* Facilitator - Mike Hendricks
12:00-1:00	Lunch
1:00-3:00	*Breakout Groups:* Continuation
3:00-3:45	*Plenary Session: Breakout Groups - Report Back* Facilitator - Mike Hendricks
3:45-4:15	*Discussion*
4:15-4:45	*Panel Discussion: Panel Response and General Discussion* Scott Smith (PPC/CDIE), John Lewis (G/EG/AFS), Nils Daulaire (PPC/PHD), Bob Kramer (BHR/FFP), Robert Clay (G/PHN/HN)
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Forward

On December 11th and 12th, 1995, USAID sponsored a workshop in Arlington, Virginia, on "Performance Measurement for Food Security" to discuss performance measurement issues and define a common set of indicators for food security. The workshop was facilitated by the PRISM Project.

The workshop had three primary purposes:

1) to share information on and experiences of performance measurement of food security at the operational level, taking stock of how USAID and its implementing partners currently measure the performance of their food security programs;

2) to review candidate operational level indicators as to their utility and appropriateness and to make recommendations on a core set of performance indicators that would help demonstrate the impact of non-emergency aid; and

3) to obtain feedback and reactions to a draft list of Agency-level indicators for tracking the status of food security country by country.

Expected workshop products included:

1) A review of an inventory of food security indicators currently used by USAID and its partners and assessment of that list in terms of their coverage, appropriateness, reliability, credibility and cost;

2) A recommended short list of the most promising operational-level indicators accounting for a variety of circumstances, including assessing the impact of food aid on food security as defined in the Agency *Food Aid and Food Security Policy* paper (i.e., increasing agricultural productivity and increasing household nutrition). To the extent possible, this set of indicators would be consistent across geographical regions. (Refer to Annex I)

Participants at the workshop included USAID policy makers from all the bureaus, as well as technical experts from USAID/Washington, USAID Missions and USAID-funded projects; representatives of U.S. private voluntary organizations; the World Food Programme (WFP) and the United Nations' Food and Agricultural Organization (FAO); international aid donors (the European Union, the Canadian International Development Agency [CIDA] and Australia); university experts and researchers. A detailed list of participants may be found in Annex IV.

The proceedings include the major speeches and supporting papers (Annex II), discussions and recommendations of the workshop, a bibliography (Annex III) as well as the refined list of indicators for food security. The refinement of the performance measurement indicators took place during the six months following the workshop. Two levels of review groups met to refine the indicators proposed at the workshop. Input from USAID field Missions and other food security experts was incorporated into the final common set of indicators developed. These two documents, *USAID Performance Indicators for Food Security* and *Final Agency-level Food Security Indicators*, may be found in Annex I.

Acknowledgements

The editors are grateful to a number of people who provided important information, support and comments during the process of compiling this document. Mike Rechcigl of the USAID Center for Development Information and Evaluation (CDIE) was instrumental in organizing the USAID Performance Measurement Workshop for Food Security. He coordinated the ensuing activities with the Agency Level Task Force and provided input into the Workshop Proceedings. All of the members of the working groups to refine food security indicators are to be thanked, their numbers too great to acknowledge individually here. The support of the PRISM project staff, most notably of Carla Barahona and Karen Lopez, is greatly appreciated.

List of Committee Members

Working Group - Food Security Performance Measurement Workshop

Coordinators:

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List of Committee Members

Task Force on Agency-Level Indicators

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I. Opening Addresses

Welcome

Janet Ballantyne

At the time of the workshop, Janet Ballantyne was the Senior Deputy Assistant Administrator of the Bureau for Policy and Program Coordination (PPC).

I want to welcome everyone to this two-day workshop. This is the last of five workshops looking at indicators for the Agency. I recall the first workshop, where the technical people said, "it can't be done." Two days later a series of candidate indicators emerged. This has been the pattern in subsequent workshops. We're not looking for something cast in concrete or eternal, but for a way in which we can really measure what we do in the Agency.

The importance of performance indicators

Performance indicators are very important. They help us determine what we want to achieve and how we will measure progress. They are really at the core of USAID's commitment to managing for results. Performance indicators are a key part of each operation's re-engineering, of the management systems and Agency strategic framework, of the Vice President's broader reinventing government effort, as well as a requirement of the Government Performance Results Act of 1993.

Why food security?

Last spring and summer, USAID's Center for Development Information and Evaluation (CDIE) convened a successful series of workshops covering four primary goals. These workshops identified core Agency-wide indicators and provided substantial feedback on the pros and cons of various performance indicators at the operational level. The results of these workshops were reflected in Agency and bureau program reviews and led directly to the Agency strategic framework approved by the Administrator in September 1995. The workshops did not, however, discuss how USAID would measure country progress in improving food security, or how we would assess the impact of our own food security programs. Food security is a significant concern of many of our sustainable development programs. Food aid, which is Congressionally mandated, enhances food security and represents nearly one-third of our development assistance resources. The Government Accounting Office (GAO) has specifically critiqued USAID's ability to assess impact on food security, and underlined the need for better food security performance indicators. Luckily, in this workshop we are not starting from scratch. The workshop brings together a variety of participants from the Bureau for Humanitarian Response, the Global Bureau Centers, our regional bureaus and field Missions, as well as private voluntary organization (PVO) and non-governmental organization (NGO) partners working with us in food aid programs abroad. All of you have struggled to make a difference for

food security; all of you have experienced and shared in measuring the results of food security efforts. This workshop has brought you together in a forum where you can exchange information and experience, and learn from each other about measuring food security program performance.

Workshop objectives

Our objectives are to assess which food security indicators work better or worse, and under what circumstances; to reach consensus on a set of indicators for measuring food security at the operational level; and to begin further refining these indicators by opening continuing dialogues with colleagues in the field. In closing, I wish you well in a difficult task. I will try to come back tomorrow as the workshop winds up to see how far you have come. I think that you will surprise yourselves and that what you will be doing here will be very important for the Agency in future years.

Workshop Goals

Scott Smith

At the time of the workshop, Scott Smith was the Director of USAID's Center for Development Information and Evaluation (CDIE).

Why are you here? As Janet [Ballantyne] mentioned, this is the fifth in a series of workshops on performance indicators for USAID programs. What we want to do here is to focus primarily on operational, field-level performance indicators of the food security impact of our programs, particularly the food aid programs which absorb a significant part of USAID program resources.

What has worked

This is not a blank slate. People are already carrying out programs that aim to achieve these food security objectives. Take stock of what we are doing, what has worked and what has not worked. What are some of the better indicators, the ones that worked better for operational level programs? From that analysis, from that sharing of information and experiences, hopefully we can begin to apply a smaller set of standard indicators that will enable us, as an Agency, to measure similar things across programs. One of the critiques that has been made of USAID's performance measurement system is that it is a mixture of apples, oranges, peaches and pears, and we are not able to say anything more than what is relevant at the operational level. To some extent I think that is inherent in our business, but what we are trying to do with these workshops is to see if there are some performance indicators that seem to work across different contexts in different countries, that we can use as the basis for saying something more significant about USAID's programs in this area.

The second purpose of the workshop is to focus not only at the operational level, but at the Agency level. Some of you may be familiar with the Agency's strategic framework put together over the last

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several months, and I am sure that if you are not familiar with it now, you will be very soon. What we are looking at in the framework are the kinds of development changes that USAID is seeking to help bring about in the countries where we work. We are focusing here on indicators for tracking the status of food security on a country-level basis. With those we can make some comparisons for use as one basis for making decisions about our programs in the food security area. What we are attempting to do is to focus on operational-level indicators, best practices that have worked. We'll also take a look at Agency-level indicators, which are really focused on the country level. We'll have opportunities to discuss these and bring the conclusions of the small group discussions back to the plenary session in the afternoon, and then finish with the panel discussion of what we should do next.

The Importance of Food Security to USAID

Nils Daulaire

Nils Daulaire is the Deputy Assistant Administrator in USAID's Bureau for Policy and Program Coordination (PPC).

I have the distinct and sometimes dubious privilege of working at the interface of the programmatic world, where I've spent most of my career and most of my life, and the political world, which is what Washington is all about. This gives me the chance to look at what is seen as important, and to try to help move the process along.

The importance of food security

How important is this particular workshop? On the macro level, I can say from my position as a political appointee that the issue of food security has increasingly drawn the attention of USAID Administrator Brian Atwood, Under Secretary of State Timothy Worth, the Vice-President of the U.S., Al Gore, and of both the President and the First Lady. It is not an issue that has simply fallen off the table; it is becoming increasingly an issue of concern at the political level as people recognize that this is perhaps one of the great issues of our time, and one that really has not been resolved as many people had thought it was. Food security is an abstract term for most people. For most Americans, probably most people in the world, the words "food security" or "food insecurity" or even "malnutrition" do not have a gut ring; what has had a gut ring from time immemorial is the word "hunger." When you talk to people about what the basic value of U.S. foreign assistance is, why it is that we should be involved, why the U.S. taxpayer should be involved in work overseas dealing with hunger is because hunger is recognized as one of the predominant forces, one of the driving moral forces. It goes back to ancient Greek times: we are all aware of the horsemen of the apocalypse, and certainly famine was predominant as one of the root causes of human misery and death.

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Food insecurity, or hunger, is one of the most fundamental and basic of human needs. When we talk about sustainable development as the overall goal or the mission of USAID, food security dealing with the problems of hunger in the developing world is right at the heart of that concern. There cannot be sustainable development in the absence of food security, and similarly, food security is a fundamental contributor to sustainable development. Over the past three years, the Agency has worked to refocus its programs and approaches, and I'll get into one of the issues that we talked about a couple of minutes ago, which is the strategic framework. But let me paint a broader picture before I go into some of the details. In the *Strategies for Sustainable Development*, which was one of the very first documents to come out of USAID in this new administration, a broad set of overriding strategic goals was laid out for the Agency. A number of fundamental operating parameters were laid out as well.

Who are our customers?

The operating parameters define who USAID is meant to serve; in the new-speak of re-engineering, our **customers**. They are fundamentally the women and children of the developing world. This is not to say that we are not interested in men as well, but the real core of who it is that this Agency is intended to serve is the women and children of the developing world. There is a "how" in there as well. This has been worked through for several years. The "how" is a process of maximum participation. In one of his first major speeches the USAID Administrator laid out a framework for broad participation, not just here in the U.S. in terms of policy formulation, but at the program level itself, bringing in our customers, our beneficiaries, the people involved in the program itself, to help us define what it is that these programs would do and how they would do it. That whole process of participation is reflected in this working group with the very wide representation that you have seen this morning.

Strategies for sustainable development: goals

The five overriding Agency-wide goals that were laid out in the *Strategies for Sustainable Development* are notable both for what they say and for what they don't say. The five overriding goals are:

a) encouraging broad-based economic growth,
b) promoting democracy,
c) stabilizing global population and protecting human health,
d) protecting the environment, and
e) providing humanitarian assistance.

What is implicit in all of that, but explicit nowhere, is food security. What I'd like to do is to discuss our strategy framework, which has been developed over the last couple of years and was finalized this past year. We have a series of 19 objectives which are seen as the principal contributors to achieving those five goals. The strategic objectives that, to my mind, relate directly to food security, either as an underlying issue or as a supporting issue, are, starting with the objectives under the goal of achieving broad-based economic growth:

a) strengthened markets,
b) expanded access and opportunity for the poor, and
c) increased human productive capacity through basic education.

Objectives which contribute to the goal of democracy include:
a) increased development of politically active civil society, and
b) more transparent and accountable government institutions.
These are fundamental to decision-making about food flows.

Under Agency goal three, "stabilizing global population and protecting human health," in which I have a certain proprietary interest in because that's been my main focus over the last four years, there are four objectives directly related to food security:
a) reduction of unintended pregnancies,
b) reduction in child mortality (relates strongly to childhood nutrition),
c) reduction in maternal mortality (is similarly very strongly related to household food security), and
d) a reduction in sexually transmitted infections and HIV transmission.
I've been questioned as to how a reduction in sexually transmitted infections and HIV transmission might be related to food security. In fact, as those of you working in sub-Saharan Africa are well aware, the impact of the AIDS epidemic in Africa is fundamentally changing agricultural practices for the worse, and is having a very significant potential impact on food security in those countries.

Moving on to the environment goal:
a) biological diversity,
b) global environment threats, and
c) decreased urban and industrial pollution, particularly with respect to water and sanitation systems are all directly related to food security, as is the fifth objective:
d) sustainable resource management.

Finally, under Agency goal five the objectives have potential impact on food security:
a) lives saved,
b) suffering reduced,
c) development potential re-enforced,
d) humanitarian crisis reduced (clearly directly at the heart of much of our emergency food aid),
e) urgent needs met in crisis situations (similarly) and finally,
f) security established and basic institutions functioning to meet critical needs and basic rights.

What is USAID doing to promote food security?

Even though we have not said "Agency goal one: food security," or "Agency goal six: food security," it is very strongly incorporated into all we do. The question is, is that enough? And that's

a question that we are very actively pursuing right now. As I said before, the Administrator, Brian Atwood, has become keenly aware of the critical importance of food security as a driving element in sustainable development. And he has taken a number of steps over the past six months in recognition of this important fact. He reconstituted the Board for International Food and Agricultural Development (BIFAD), which is a presidentially-appointed board with a mandate to advise the Administrator on very broad policy issues related to long-term food security issues. He sees this as a very important independent source of advice and information and one which, as a presidentially-appointed board, also has a direct influence on broader political constituencies as well as the White House. He has, as mentioned in terms of my role, recognized the importance in broad policy of food security and has asked me to serve as chief policy advisor on food security issues. I'm learning as I go along. I've worked as a doctor, not as a food specialist, but I certainly see this as probably the most interesting and challenging role that I have.

Global food security initiatives

The U.S. has started working with the European Union (EU), and I am very pleased to have one of our colleagues from the EU here in looking at issues of joint activities in food security. We have started looking at the possibility of joint activities under the U.S. - Japan Common Agenda. We will be active participants in the World Food Summit taking place next November in Rome. Undersecretary of State Tim Wirth, who has played a very prominent role in a number of high-profile issues, such as global population, and women's issues at the Women's Conference in Beijing is keenly interested and is becoming much more heavily involved in the policy issues related to food security, as well.

Three USAID food security activities

Three activities are being undertaken at USAID at this point, which are all interrelated and, as I described at a meeting last week, are something of a revolving wheel where we are trying to come in at as many places as we can, all at once, so that we can get a cohesive approach to the issue of food security. One activity is the broad policy approach. We do not, as an agency, have a broad uniform policy related to food security. We have a very good policy which was developed in the past year for food aid and food security, which is a subset of the broader food security policy, a very important subset, as Janet Ballantyne pointed out, given the large amount of resources that we have in food aid. But it certainly is not everything; we are also looking at issues relating to agricultural research, technical assistance to market reforms, and to the whole broad issue relating to food utilization, which largely falls under the health sector.

At this point it is uncertain what we can and will do in the short term, but I expect the second activity will have longer-term repercussions for some of our frameworks. We're looking into how we can more explicitly incorporate food security into the strategic objectives of the Agency, and we are frankly looking at whether it is necessary to revisit the whole structure and to make food security more explicit. That's not likely to happen in the next year. At least the end product is not likely to

be completed, as we are going through a period of considerable political turmoil, as those of you who have been following the Congress are aware. But it is something that is very much on our radar screen. And then, thirdly and certainly by no means lastly, we are looking at the nuts and bolts of food security, and this indicators workshop is a critical element of that. We are an agency that has defined itself over the last three years as being a results-oriented agency. We had been perceived (rightly or wrongly) for many years as being primarily interested in the inputs (How many tons of food can we ship? How many dollars have we put into country X?), with insufficient attention to what those food inputs and what those dollars are actually accomplishing, in terms of clear results, that reflected what our underlying goals and objectives were.

These indicators are critical tools for measuring what it is that we are doing, and as someone who worked in programs for many more years than I worked in politics, I'm keenly aware that what you measure is generally what you wind up doing. What comes out of this workshop is therefore of critical importance in terms of what is actually going to happen at the field level. I'd like to urge the participants in this workshop in the break-out sessions to focus on two sets of parameters:

1) Prioritization of indicators. One of the things that I have learned in the health sector is that there is no end to indicators. We can come out with a laundry list that could run to several volumes, but it's terribly important to know which of those indicators are critical. A) What is critical? A small set that by mutual agreement is seen as really being critical to the issues of food security in each of its three dimensions. B) What is important? These may be not critical, but important indicators that need to be fed into programming needs to be interlaced across our various strategic objectives. C) What is useful? "Useful" you may use sometimes, but it is not going to be a fundamental issue that's always going to be at stake.

2) Focus on the operational level. Again, I've been witness to enough indicators that seem to serve only the function of feeding headquarters. Tell us what we can report to Congress or to the President. That is important, and in the political environment it is important to know what story we can tell, but much more important in terms of an operational agency, which is what USAID is, is to know what works to help managers at the local level, at the USAID Mission level, at the PVO level, and at the operational level to make programmatic decisions that are based on useful facts. I will reiterate: of the workshops that have taken place looking at indicators at USAID, this may be the most important, because it is an area which some people have feared has fallen off our map. It hasn't, but this workshop is very clearly going to locate the longitude and latitude of where food security sits on the USAID strategies for sustainable development.

Food Aid in the Context of Food Security

Bob Kramer

At the time of the workshop, Bob Kramer was the Director of the Office of Food for Peace in USAID's Bureau for Humanitarian Response (BHR/FFP).

I was told I only have twenty minutes. Those of you who know me understand how difficult that is, because of the importance of the topic.

A mismatch between USAID food resources and food aid

For nearly half the children in the sixty least developed countries, being born is a shock from which they never recover. In these countries, most of which are in sub-Saharan Africa or the sub-continent of Asia, out of every 1,000 children born alive, 112 will die before their first birthday. Another 48 will die before their fifth birthday, and of the remaining 840, some 300 will be significantly underweight. As school children they will be less able to learn. As adults, they will earn less income and accumulate less wealth. Only the remaining 540 children will emerge relatively unscathed. There has been progress in addressing malnutrition in the past 40 years. Eight hundred million people in the world are still chronically malnourished, more than 180 million children are severely underweight. Thirteen million children each year die from hunger, another 35 million people are at risk. We had to provide 4.5 million tons of emergency food aid in 1994. Despite some progress, we cannot be complacent about the future: the International Food Policy and Research Institute(IFPRI), the United Nations' Food and Agriculture Organization (FAO) and the U.S. Department of Agriculture (USDA) all predict a looming mismatch between food aid resources and food aid. Earlier this year, USAID, the State Department and the USDA commissioned a report by the Economic Research Service of the USDA.[1]

This report is consistent with what IFPRI and the FAO have predicted. It says that food aid needs will nearly double for the next decade, even with reasonably optimistic assumptions about governments' ability to produce their own food or to import food commercially. Total food aid requirements to meet and maintain current consumption levels, and to meet emergency needs, are projected to be 15 million tons in 1996. This will increase to almost 30 million by the year 2005. Obviously, far more food will be needed for consumption targets or to meet minimal nutritional standards. Food aid needs will be chronic and will be primarily in sub-Saharan Africa, where food aid needs will more than double, under even the most optimistic scenarios.

I remember when we were putting on the 20-20 Vision conference several months ago, it was said that "food security is a widely debated and much confused issue. It is time to demystify the concept of food security and its measurement. Food insecurity is hunger. Food security is elimination of

[1] USDA/ERS, Food Aid Needs Assessment. Situation Outlook Series 11/94.

hunger." I cannot minimize the importance of this workshop to the Agency for International Development, other development organizations, and other donors.

A challenge to develop valid indicators

The General Accounting Office (GAO) of the American Congress issued a report in 1993 that was sharply critical of USAID's management of food aid.[2] I use this as my bible. I want to quote from the report:

> After 40 years of experience and $60 billion in resources, USAID has not developed guidance on how food aid programs should be developed to enhance food security. It is implementing its food aid program without empirical evidence of the enhanced food security. USAID has not yet developed the methodologies for measuring what the long-term impacts of these food aid programs are, or whether food aid is an efficient method for achieving or sustaining food security objectives. USAID has not systematically collected relevant data or developed appropriate methodologies to assess the impact of food aid on food security. USAID has no strategy for assessing the impact of its programs on enhancing the food security of people of recipient countries. Again, furthermore, USAID has not systematically collected data to assess the long-term effects of projects on improved nutrition or improved infrastructure. USAID is required to develop quantifiable indicators to measure progress toward achieving food security. The GAO recommends that the Administrator of USAID develop and systematically apply methodologies and performance indicators to monitor and evaluate the impact of food aid programs on food security. The Administrator of USAID must direct that Missions and PVOs collect data necessary for such evaluation and report to Congress whether food aid is the most efficient means for addressing food insecurity.

In its update done this year, the GAO reported that USAID has come a long way, but still has not established performance indicators to measure the impact of food aid on food security. This is a challenge for this workshop. As we commemorated the anniversary of Food for Peace last year, this Agency dedicated itself to a transformation in the way food aid is conceived, managed and used. We committed ourselves to increase the awareness of food aid within USAID, among our PVO partners, in international organizations, and in Congress, as a quality resource, one that plays a surely vital and unique role in meeting emergency and development challenges around the world. Unfortunately, not all of you are convinced.

The Food for Peace Transformation Program

Partly in response to the GAO report, but primarily because it was just the right thing to do, in the spring of 1994 the Food for Peace office initiated what we call the Food for Peace Transformation Program. We could be criticized for engaging in a bit of hyperbole when we talk of transformation, but we realized that a reform had to be made. And we realized that we had to change the way we

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[2] General Accounting Office. 1993. "Food Aid Management Improvements Are Needed to Achieve Program Objective." Washington D.C. GAO.

do business and food aid is a very large percentage of the Agency's resource. We had a unique challenge and opportunity to initiate a thorough review and reform of the procedures used in the management, programming and evaluation of food aid. The agenda we established was ambitious and very comprehensive.

The goal of the program was to enhance the credibility of food aid and the capabilities of the people who manage it. Among the specific tasks we set out were to:

a) re-define and focus food security's strategic objectives,
b) create a new streamlined project design and review process,
c) develop a new food aid monitoring and evaluation plan,
d) develop — and this is important for this workshop — a core set of performance indicators to better assess impact, and
e) recruit the best and most dedicated new staff to manage food aid.

The plural of anecdotes is not data

As we implemented the agenda, we identified quite a number of significant weaknesses that had to be addressed. For example, we can always tell interesting anecdotes about the success of food aid, for example in helping to create basic social services, build productive assets, ameliorate starvation, etc., but — and you have heard me say this many times — the plural of anecdotes is not data. We did not have clearly documented evidence of success, of the positive impact that food aid has had on improving the lives of the poor and their access to food. We did not have a body of evidence that tells us what works, when, where and why. We needed to document the impact of food aid and establish monitoring and evaluation tools to permit us to document that impact in a routine, measurable and sustained way in the future. Despite the mind-set prevailing in this Agency and outside the Agency, food aid is now a very expensive resource, one that must be used as effectively and efficiently as ever. We firmly believe that adopting a more focused concept of food security as our strategic objective will give us the programmatic compass we need to guide us in our decisions. We also recognize, however, that the governing definitions of food security contained in PD 19[3] and the 1990 Farm Bill and other documents did not provide us with that compass. As we reflected on how to maximize the effective use of a very finite resource, it became clear that we have to sharpen the focus of food security. We would never be able to measure the impact of our food aid programs against a strategic objective if that objective was so broad that just about any activity proposed will address hunger. Hence, the drafting of the new *Food Aid and Food Security Policy* paper was critical to permitting the Agency and our PVO partners to set our sights lower and establish more precise indicators to measure progress with more confidence. As I mentioned before, the *Food Aid and Food Security Policy* was a very important tool for this Agency. It was very difficult to actually draft a policy that would achieve consensus, but the need to come up with very defined food security objectives to help us measure the impact of our food aid programs was essential.

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[3] Policy Determination #19. Definition of Food Security. 1992. USAID.

Food aid alone cannot achieve food security

I will just briefly mention what the major conclusions of the policy are. Food aid will be used primarily for those regions and countries that are the most food-insecure, primarily sub-Saharan Africa and the sub-continent of Asia. Highest priority would be accorded to those activities that increase agricultural productivity or increase household nutrition; that is, provide food to women and children. That does not mean that food aid alone can achieve food security. We recognize that to really achieve food security we need to more broadly define access, utilization, and availability. Food aid cannot be considered as a self-contained resource. To be effective, food aid has to be integrated with other forms of assistance, primarily technical assistance and dollar resources. That's why I'm delighted that there is a such a large group assembled here that does represent more than food aid, because to me, this provides recognition that food aid alone cannot achieve food security. Many of you have heard me say this, but let me also explain why this workshop is so important to all of us. Twenty-two years ago Eugene Ravenholt directed Family Planning Resources. Family Planning Resources was being condemned by both the right and the left wings, especially in Congress. In order to be able to demonstrate the impact of that resource over a period of time, twenty-two years ago, the family planning community met. They had to defend their resource and they had to demonstrate over a period of time that they were having an impact. They decided at that workshop to establish one objective: fertility reduction. They also decided to adopt common performance indicators and monitoring and evaluation methodologies.

Despite the discrete nature of family planning programs, be they community-based distribution, social marketing, voluntary sterilization and many more, they all had the same common objective (fertility reduction), and the same performance indicators. The child survival community did the same thing. There is no reason why we, sitting here today and tomorrow, cannot do the same for food security. Let's not mystify the concept of food security. In the two days that we are here, thousands of infants and children will die of hunger and diseases caused by malnutrition. Again, let's not mystify the concept of food security. I implore you not to permit this workshop to turn into yet another series of academic exercises. Food security should not be the business of academics and professional kibitzers. I have admittedly very high standards for this workshop, but given the talent of the people assembled in this room, there is no reason why we cannot initiate what our colleagues have achieved in other disciplines. I don't underestimate the difficulties involved in developing core or generic indicators that will permit us to finally demonstrate the impact of food aid on food security. We must simply accomplish that task; if not, we will have again missed an important opportunity.

Management for Results and Performance Measurement Indicators Bearing on Food Security

Gerry Britan

At the time of the workshop, Gerry Britan was the Chief of the Performance Measurement and Evaluation Unit in the Center for Development Information and Evaluation within the Bureau for Policy and Program Coordination (PPC/CDIE/PME).

I will give you a brief overview of USAID's program performance measurement system, and discuss the various activities you will be engaging in over the course of this two-day workshop. We in CDIE, as are our colleagues in other divisions of the Agency, were charged with a fairly straightforward but not necessarily easy task: creating a simple and comprehensive system to orient all USAID activities to manage for results. Now, there's an old parable that says if you don't know where you are going, any road will take you there. But this point is easily overlooked: if you don't have objectives, it's hard to measure performance. In other words, you need to have a clear idea of what you aim to achieve, in order to determine whether or not you have made significant progress towards accomplishing your initial objective. In addition, once you have collected performance data, you need to determine how to make the best use of it to improve your future endeavors.

Why measure performance?

Nils Daulaire has already pointed out that one of the most important reasons for measuring performance is because other people want us to be able to explain to them what we've accomplished. Aside from the American public, whose support we must also win, there are other very important groups of people, such as those in the U.S. Congress, who control the amount of funding USAID receives and are thus able to determine the types and scale of present and future Agency activities. Performance measurement is critical to USAID and our development partners, who share our strong interest in promoting development and its benefits throughout the world, as we both recognize that helping people to improve their quality of life is the most rewarding outcome of this new approach to implementing assistance activities.

Five years ago, when we began discussing the possibility of adopting a managing for results orientation, not much emphasis was placed on this type of approach. To determine if there was a great potential use for a system that tracked development activities in order to ascertain what was being accomplished and then using that information to improve assistance endeavors, we conducted several opinion surveys of those who work directly in the development field. The reception was overwhelmingly positive, since most people who do development work are motivated by a strong personal commitment to make a positive change in the lives of those who are less well-off. When Janet Ballantyne came back to CDIE last spring she told us we had to make sure that we made the process of managing for results concise and easy to understand, so that we would be able to convince

even those who weren't development professionals that this new approach is not only worthwhile but also easily implementable.

We don't need three thousand measures of what we've done, but two or three good ones, that clearly reflect what we are trying to achieve. Fortunately, we aren't starting from scratch, but instead are building upon the fairly long and devoted commitment of academic institutions, NGOs and PVOs, other donors, USAID, and our other partners in the development community. We had already completed three years of work on performance measurement, under the PRISM project,[4] and had begun Agency-wide strategic planning efforts involving all of our Missions and partners all over the world. Now, under re-engineering, we are trying to institutionalize what we have learned and accomplished and incorporate into that some new ideas from the President's National Performance Review, from the Government's Performance and Results Act (GPRA) of 1993, as well as lessons from private industry. The GPRA now requires that every government agency have clear objectives, set targets for what it hopes to accomplish, collect performance measurement data to determine if it is making progress towards the achievement of those objectives, and be able to report on the status of this information in a simple format to the American people.

We have made considerable progress to date, however, our managing for results system is still a work in process that requires further refining. We measure performance for a variety of reasons: (1) To enable us to work with our customers and partners to make better program decisions at the operational level; (2) to determine how well our strategies are working in a country, and decide whether we should be pursuing different activities in order to make a more meaningful impact in enhancing food security and alleviating hunger. Performance measurement, then, tracks the progress of development activities so that we are better able to manage for results. It is a tool that anyone can use, from the relief worker who is implementing a particular food aid activity to the manager of an overarching food security program, to the head of a Mission or bureau, or to the Administrator of USAID. It requires that all levels of management have clearly-defined objectives, work with their customers, and have a clear idea of how they contribute to the Agency's overall goal of sustainable development.

Keep it simple

We want to keep the managing for results system as simple as possible. The point of having performance indicators is to provide a general idea or snapshot of what we have been or are currently achieving, not to understand all dimensions of a program, everything we are trying to accomplish, or any future endeavor we might conceivably be interested in pursuing. USAID should certainly conduct research that looks more broadly at development issues, and we should evaluate our activities, and to try to better understand more deeply the impact of our programs on host country aid recipients. However, performance indicators are more narrow in scope, as they are simply intended to show to what extent we were able to achieve the results we had anticipated, picking the two or three things we think are most important to track. Performance indicators are like the warning

[4]PRISM stands for Program Performance Information for Strategic Management.

gauges in a car: they let us know whether things are progressing as planned or if something is wrong, in order to help us make judgments about where we should direct our concern and attention.

Evaluations, research, and warning systems

Program performance measurement and program evaluations are related yet distinct tools. Performance measurement lets us track our results are over time. Evaluations tell us more about how and why results are being achieved, what the intended and unintended impact of our activities are, and whether positive results can be sustained. Research, in contrast, helps us to gain a greater understanding of how the world works and what interventions can be used to stimulate development worldwide. To successfully manage our programs, we need both a warning system that lets us know where we are doing reasonably well, where we have problems that we need to focus on rectifying, and which enables us to have the capability to do in-depth analysis, to figure out what's going on and why, and how whether our programs are or are not working well.

This workshop is not going to focus on how food security works, or how we can best contribute to food security. Its purpose is simply to determine how we can keep track of whether or not we are making progress. For this workshop, we want to concentrate on how to improve our ability to measure the performance of our food security interventions. Let me touch base on a couple of the concepts that we will be discussing, such as objectives and results for the outcomes we want to achieve. Key questions we must ask ourselves when we begin to create objectives and set targets for anticipated results are: is it clear ? is it simple ? is it as unidimensional as possible? Also, from the point of view of USAID, when we are talking about objectives and results for interventions at the operational level, they should contribute to USAID's Agency Framework for achieving the goal of sustainable development. We're not necessarily going to directly demonstrate that connection, but we at least want to fit it within the framework of alleviating hunger or avoiding food insecurity. All of our individual activities on the ground won't affect that dramatically or directly, but we want to make sure that at the very least we have a reasonable basis for thinking that they will make a contribution.

What are indicators?

Indicators are the characteristic of a result that we choose to measure in order to assess progress. An indicator should be reasonably valid, meaning that it should measure data that tracks the path toward the result we are trying to achieve. That data must also be accessible, and we should know where to obtain it. Often the most valid measure is not very useful if the data is either impossible or too costly to collect. In addition, whatever measure we use in our operating program should be directly relevant to that program. An indicator should also measure information that we are capable of acting on in our operation, and such a measure should preferably be widely applicable to and useful in a variety of situations. To the extent that we can develop common measures to achieve universal results, so much the better. Achieving and tracking results must also be affordable or cost-effective, since we have very limited funds with which to implement and manage our programs and are facing even more severe budget constraints. Given the financial obstacles we face in USAID, as Nils

Daulaire mentioned earlier, it is absolutely essential that we focus our resources and indicators on only those activities that are of human dimension, and that measure changes in the lives and opportunities and well-being of people.

Let me provide you with more information on the context of this workshop. Thus far, we have discussed operational-level performance indicators and the Agency's strategic framework. USAID has considered two different but related levels performance measurements. We also talked about goals and objectives at the Agency level of USAID. Now, we must ask ourselves several critical questions: What contributions are anticipated from our interventions in support of sustainable development? What are the changes that we want to come about in an individual country for us to say this nation is working towards a sustainable goal? For the most part these are changes, hopefully improvements, in country conditions, although we by no means want to claim all credit and say that we are or were the sole or the primary force in achieving those results. For in reality, we know we can only help achieve large-scale and lasting positive results with the help of our development partners, and through the work of the governments and the people in the developing world.

Operational objectives

On an operational note, we can ask what our operating units are actually doing. Our operating units have developed strategic objectives which they believe are feasible and for which they are willing to be held accountable. These objectives also represent outcomes that our operating units (including field Missions) and offices feel are within their reach. As part of our new *re-engineering* of USAID, we need to identify the intermediate steps necessary to achieve those results. Such objectives have to be as ambitious as reducing infant mortality in a region, or in a country, and include intermediate results such as improving the use of vaccines or whatever intervention is critical in order to reach that objective. Then, there are also individual activities. We want all of our investments to interrelate, in that they should contribute to each other and be mutually reinforcing.

Let me spend a minute going over the Agency's strategic framework, which has five Agency goals that together lead to the overall achievement of sustainable development. We ask ourselves the following questions: Can broad-based economic growth be realized in a given country? Is democracy sustainable? etc. We have indicators that we are using throughout the Agency that show whether those changes are occurring in a country. They serve as our reference point for ascertaining whether we are making progress, how serious a problem is, and ultimately deciding if our program is really making a meaningful difference.

Under each of the Agency goals, there are more operational objectives which also have common indicators. How can we determine if markets are being strengthened in the countries in which we work? How will we know if civil societies are becoming more active? We have developed some measures to help us answer such questions but they are not necessarily the best ones. We are trying out the first set of indicators this year and we will revise them again next year if we have to. We can assess whether countries are making progress and if the kinds of outcomes the Agency wants to achieve are in fact being furthered.

Within each one of those objectives, we've also tried to develop a link to our operational-level programs. We ask ourselves: What are the primary approaches that USAID as an agency is using in its operational program to lead to strengthened markets? Are our operational programs focusing on appropriate policies and regulations? Are they making investments in infrastructure? Are they developing technology which supports agriculture? Those program approaches are empirically-based right now, as they show what we are actually doing in our attempt to group the different kinds of activities we are launching to contribute to this objective in a reasonable way. What are people in the field using? Can we make any summary statements about which indicators seem to best measure strengthening market institutions? Are there common indicators that might be applied around the world? Which indicators work best in a variety of different program scenarios? At the highest level, we in USAID/Washington and our field Missions are concerned about indicators for operational programs.

Common indicators for food security

All of our Missions and their individual programs are working on developing indicators for their specific activities, which vary a great deal. The U.S. Congress and the GAO have put considerable pressure on us to come up with more common indicators. We may go so far as to say if you're working in a certain area you should use such and such indicator; you might use other ones in addition, but we think this indicator is the most important one.

Some of you might notice a disjoint when we talk about food security as if it is a part of the USAID strategic framework. This is because food security has not as yet been declared an Agency objective. Food security has not gone through the same process as other sector areas with CDIE working with policy advisers to identify an empirical set of program approaches. Nils Daulaire was quite right when he said that food security is much more than an Agency goal. It is something which, as a critical aspect of sustainable development, may be reflected throughout our strategic framework in terms of how we measure the extent to which we are reaching our objective. There may be a need to develop indicators at the Agency level that are more sensitive to food security issues, requiring a working group to work in parallel with conferences in order to help us track whether food security is improving.

At this workshop, we are going to focus primarily on how we call tell if our programs are contributing to increased food security. We have created a draft USAID analytical framework for food security which I will briefly introduce and which Margie Ferris-Morris will discuss in more detail later on. The words "analytical framework" have a long history. Before we came up with an Agency strategic framework, we had earlier versions known as "analytical frameworks" that helped us to look closely at what we were doing. These frameworks went through several revisions, and could be changed dramatically before they became a matter of policy for the Agency. To help guide our discussion of indicators here, we will use our draft food security framework. When we look at improved food security as a goal we see three main areas contributing to food security:

a) increased availability of food,

b) improved access to food, and
c) improved utilization of food.

Keeping that in mind, we need to ask ourselves: What are the categories of results that our programs on the ground are trying to contribute to when we talk about indicators? Then we move into the empirical data and ask: What kinds of indicators are our programs on the ground actually using? We then apply that knowledge to the three aforementioned categories. This is some of the information included in the primary working material in the book that you received. This framework is just a starting point, and can be changed as needed.

II. Panel Presentations and Discussion

Issues in Performance Measurement of Food Security: An Overview

Luther Tweeten

Luther Tweeten is the Anderson Professor of Agricultural Marketing, Policy, and Trade, Ohio State University. (Additional comments on Agency-level indicators may be found in Annex II.)

I'm going to begin by talking about ten principles of food security, and then I will talk about some more specific means of measuring performance. Many of these principles came out of a study that Mike Weber referred to in the question and answer period.

Food availability versus food accessibility

I want to start by saying that in my judgment, food availability is not going to be the major problem over the next decades. Food accessibility will be a much greater problem. Food availability has been improving for the world overall at about one-half of one percent a year, measured as food output per capita. I would like to change the definition of food security to "utilization by all people at all times of sufficient food or sufficient nutrition for an active, healthy life." Chronic food inaccessibility stems primarily from poverty. Transitory food insecurity and famine are caused primarily by lack of economic growth; that is, poverty is the result of lack of economic progress. Also, transitory food insecurity is caused, in no small part, by civil unrest and armed conflict. These are also major difficulties. The most effective way to deal with poverty and reduce food insecurity is through economic growth. General poverty, as opposed to case or scattered poverty, is the result of public policy failures. I think one of the most important things we have learned over the last few decades is what works in terms of economic policy. We had a number of success stories. When I was a graduate student we used to argue what system is best. On theoretical grounds, you couldn't say; now we have a much better idea of what works in economic progress.

The Government Performance and Results Act of 1993 (GPRA) calling for quantitative measures of performance poses special challenges when applied to food security. The problem is not a shortage of aggregate measures of food security and insecurity, as is evident from the following numbers, which are mostly from the International Food Policy Research Institute. In 1995, some 800 million people were chronically food insecure, defined as long-term utilization of too little food for an active, healthy life. Numbers were down from 950 million people in 1970. Progress came especially by cutting numbers of food insecure people in East Asia by half. Globally, at least another quarter billion people suffer acute food insecurity, defined as transitory utilization of too little food for an active, healthy life.

South Asia is home to the most hungry people (270 million), followed by Africa (175 million). But numbers of food insecure people are growing most rapidly in Africa — 45 percent since 1970. Trends are much more favorable in other regions. A reduction in child malnutrition is expected in all regions from 1990 to 2020 except sub-Saharan Africa, where numbers are expected to increase 50 percent, to 43 million children. Protein and calorie deficiencies are widespread as noted above, but in addition nearly 2 billion people worldwide are deficient in iron, 125 million school children suffer from vitamin A deficiency, and 600 million people have iodine deficiency.

Although the number of food insecure people is declining, the problem of income disparity between the rich and the poor is widening. The share of global income received by the poorest 20 percent of the world's population fell from 2.5 percent in 1960 to 1.3 percent in 1990. Problems again are especially acute in sub-Saharan Africa where food production per capita is likely to continue to fall, per capita income will remain nearly static, and civil unrest will persist if current trends continue.

Food security is often viewed in the context of food availability (necessary aggregate food supplies are available from production, commercial imports, or other sources), food access (individuals have adequate income or help from families and others to maintain an adequate diet), and food utilization (individuals with access to food are not inhibited by ignorance, habit, custom, or health from realizing nourishment). My assignment here is to emphasize the measurement of performance in food access.

Measuring food access is challenging for several reasons. Ideally, a performance measure is unidimensional (includes only one phenomenon for measurement), direct (includes only one quantifiable goal or objective, and avoids proxy or indirect indicators), relevant (substantially influenced by USAID), useful (informs agency administrators so they can make wise decisions), cost-effective (data available at reasonable cost), periodic (available regularly and prior to the need for decisions), and objective (clear, widely understood, and replicable). Many of these ideals cannot be met in judging food security performance. The challenge is to select a set of indicators that, though not necessarily ideal, can lead to better decisions by USAID.

Despite apocalyptic forecasts by some of worldwide pestilence, environmental degradation, and an end to technological cornucopia, the problem of the next century is unlikely to be global food

unavailability. Food production per capita has been increasing nearly one-half percent per year on average since 1950 and production per capita likely will be greater in year 2100 than in year 2000.

Food access will be a much greater problem. Hundreds of millions of people will command too few resources to produce their own food or to enter the market to purchase food. Many of these food insecure individuals will not be able to rely on family, neighbors, friends, or private charities for adequate food supplies. Agencies such as USAID will need to perform well to fill food gaps as fully as possible.

Ten food security principles

Perhaps the major challenge in measuring performance is that food security is difficult to quantify. And many of the most reliable measures of food insecurity come too late for USAID to make timely decisions. Thus much reliance must be placed on proxy indicators. The following set of conclusions give principles and background for choosing food security performance indicators. Several of the "ten commandments" of food security are from a *Food Security Discussion Paper* (Tweeten, et al., 1993) prepared for the USAID.

1. Food inaccessibility is a greater source of food insecurity than is food unavailability, as indicated earlier, but food availability and accessibility cannot be separated. A region characterized by lack of food availability is almost certainly also a region where people do not produce enough food or other goods and services to generate purchasing power to buy or barter food.

2. Food inaccessibility stems primarily from poverty — of people lacking resources and technology to produce or purchase food for themselves and others.

3. The most effective means to alleviate poverty is by economic growth. Economic growth directly lifts persons out of poverty and provides wealth which can be used to fund food transfers and other services.

4. Transitory food insecurity is also the result of poverty, but wars, tribal conflict, and other sources of violence and civil unrest play a major role. I do not have the numbers, but I suspect more people in the last two decades have starved from upheavals caused by armed conflict than from other sources of food insecurity.

5. General poverty (as opposed to case, scattered poverty) is primarily the result of public policy failure that brings slow economic growth. Man, not nature, is the principal source of general poverty and hence of chronic food insecurity.

6. Proper economic policy can assure economic growth. The most important economic happening during my career has been empirical verification of a standard model of public policy that will bring economic development. Barring war, any nation that follows that standard model of

broad-based sustainable development assures itself of food self-reliance, defined as food security either from domestic food production or from exports sufficient to pay for food imports.

7. The second requirement for food security besides economic development is a safety net. The latter is for food transfers to those unable to provide for themselves.

8. An imperfect political system, ignorance, greed, and apathy are the principal impediments to the standard model and hence to economic growth, reduced poverty, and increased food security. Even egregiously bad economic and social policies (including those that bring civil unrest and wars) tend to benefit someone. If in a position of power and authority, those served by unfavorable policies maintain them. Hence food security, poverty, and economic growth cannot be separated from politics. In general, food security is best served by democracy because it can help to reduce civil unrest, war, greed, and ignorance while creating the continuity of government needed for markets to work.

9. It is best to address food crises before they emerge. Famine can exacerbate the civil strife or other conditions from which it arose.

10. Severe food insecurity (famine) is often best addressed in the short run by food aid, in the intermediate run by broad-based, sustainable economic development, and in the long run by lower birth rates and reduced population growth. Families are more food secure when they know their infants are likely to survive to adulthood, they are protected in old age by social security, and they are able to control conception so as to have no more children than they desire or can care for.

11. Sustainable development required for food security requires protection of the environment. The environment will not be cared for by the market alone! Proper public policy is essential. Food insecure people cause deforestation, desertification, erosion, eradication of species, and other environmental degradation in their desperate search for food and firewood.

Thus food security depends on economic growth, health and population, democracy, environment, and humanitarian assistance — all priorities of USAID. This interdependence means that all USAID performance indicators directly or indirectly relate to food security. Thank you.

Issues in Performance Measurement of Food Security: An Overview

Bea Rogers

Bea Rogers is the Academic Dean and Professor of Economics and Food Policy at the Tufts University School of Nutrition Science and Policy.

The definition of food security has evolved considerably over time. The earliest definitions focused on "access to food at all times by all people." We all remember that. Food utilization (called

nutrition security in some frameworks) represents an enlargement of the concept of food security, in acknowledgment of the fact that availability and household access alone are not enough to assure that all people obtain and use the food they need for an active and healthy life.

Focus on the outcome

In a brief presentation, it is important to emphasize the few key messages one would hope people take home with them. I would like to start with these key points. Number one: in looking at indicators of utilization, or of anything else, it is important to remember that the indicators need to stick as closely as possible to the outcome of interest. Focus on the outcome.

Stick to the level of interest

Second: stick to the level which is of interest. We all know, and have known for many years, that national food balance sheets tell you nothing about the prevalence of inadequate consumption among vulnerable households and vulnerable individuals, of whom women and children are key groups. If individuals are the focus, outcome measures must be at the individual level.

Progress is location-specific

Third: the proxy indicators selected depend on the model of causality you are working with. A point made frequently in the literature is that proxy indicators tend to be more location-specific than outcome indicators. Outcome indicators are generalizable and comparable across countries, while proxies depend on linkages that have been identified in the particular location and situation. For example, height for age and weight for height carry the same meaning everywhere. Caloric intake as a percent of caloric requirement is culture free. Intermediate indicators, like increase in women's control over resources, like access to clean water: these are indicators of food utilization that are based on assumptions about processes which result in the outcomes we wish to bring about.

Measuring outcomes and processes

There are two purposes for identifying indicators of food security, and it's important to distinguish them. We need outcome indicators, comparable across regions, to determine the accomplishments of a program. We need process indicators (output indicators in USAID terminology) to understand why an outcome was or was not accomplished. The output indicators demonstrate the performance of specific projects in addressing what were perceived to be the barriers to the food security outcome in a given context. The list of proposed indicators prepared for this workshop was clearly based on a set of assumptions about the links between such factors as access to safe water and sanitary disposal of waste, on the one hand, and improved food utilization on the other. Good household health and nutrition practices, increased use of primary health care services: these are results we seek because we think that improvement in those results will alter morbidity rates. But the outcomes of central interest are reduced morbidity: infection, parasitic infestation, and improved metabolic

efficiency. So again, the emphasis should be on looking at the outcome we really care about: morbidity.

Interpreting anthropometric measures

We all know that anthropometric status is a function of the amount of food consumed by an individual and that individual's need for nutrients. The measures of utilization proposed in the framework implicitly suggest that the focus is on morbidity. I would argue that this focus should be acknowledged and made explicit. One reason is that the focus on morbidity leaves out one important factor determining food utilization: activity level. Many studies which look at food consumption as a predictor of anthropometric status have identified activity level as an important intermediate variable. Work burden imposes calorie costs which raise the requirement for energy intake. I don't know that this group can develop an easy measure of activity level, but we should recognize its importance to the accurate interpretation of anthropometric measures as outcomes.

Look at the short-, medium-, and long-term effects of interventions

These points relate to the identification of measures of food utilization, a component of food security in the USAID framework. The fourth message I would like to emphasize is that in utilization, as in other aspects of food security, we need to be conscious that the proposed measures look at impact in the short- and the medium-term. This is essential. We have a responsibility to ensure that programs are having their desired effects. At the same time, we should be aware of the very long-term potential effects of the interventions we are evaluating. Here is an example. A presentation of preliminary data from the Guatemala feeding studies conducted at Institute of Nutrition for Central America and Panama (INCAP) suggested that there are effects in the second generation on birth weights of babies born to girls who received nutrition supplements as children. While we must focus on a shorter (two-, five-, at most ten-year) time horizon in performance evaluation, we should be aware of the possibility that some program effects are long-term, even multi-generational. Similarly, we can look at the accomplishment of keeping children in school through sixth grade as a final indicator of program performance, but we know that in fact there are outcomes, in terms of mothers' ability to care for their children in terms of economic performance, that are a generation away. In evaluation, you don't see what you don't look for. We need to be very careful to look for the entire range of impacts which are important, and to be conscious of the fact that some of those effects are simply not measurable except in the extremely long term.

Proxies depend on understanding the local situation

I would like to make a few practical comments on the suggested outcome indicators for food utilization, keeping in mind the points made earlier about keeping the measures as close to the outcome as possible. An example is access to potable water. If access is defined as it is in the glossary, in terms of distance and time, it captures a terribly important determinant but risks missing other critical factors. For example, labor force participation of women or cultural restrictions on women leaving the home might be barriers missed by the time- and distance-variables. This is even

women leaving the home might be barriers missed by the time- and distance-variables. This is even more true of health service access: distance is one of many factors known to affect use. Others are quality of care, availability of staff and medications, hours of operation, cash costs of participation. Once again, this suggests that proxies depend on understanding the local situation. If the real indicator of interest is use of the service, or if it is change in measures of morbidity in children, then these are what should be measured. Proxies are selected based on a model of causality. For example, if I am interested in dietary adequacy, I may choose to use dietary diversity as a reliable proxy. Diversity is a characteristic of wealthier households with a wider range of choice in the foods they consume. In some settings it is also a characteristic of desperate households that are turning to wild foods, foods not usually consumed except when other food is not available. The local situation must be known before such a proxy can be used. Similarly, the work of researchers at IFPRI, Michigan State University, and elsewhere have shown that diversity of income sources is a characteristic of relatively income-secure households, and of desperate households.

Aggregates can mask information

In selecting measures, it is critical to be careful of using aggregates which may mask information. Rather than using averages, such as average consumption or average water use, it is better to identify thresholds and look at the percent of households falling below the threshold (with a measure of how far below the threshold they fall). Further, it is essential to specify the population being referenced in a performance evaluation. Very different conclusions may be reached if percentages are based on the whole country, the target province, or only the community targeted by the project. Obviously, these can lead to very different conclusions.

Weigh the costs of NOT collecting data

Any evaluation faces a dilemma: we must often choose between cheap, easy measures, and those which really get at what we need to know. The focus of performance evaluation suggests that we care enough to consider not just the cheap, easy measures, but those which require some investment. A recent paper by Haddad and colleagues in Food Policy discussed the costs of collecting data, and the costs of not collecting data. The cost of not collecting data is the risk of spending a lot of money — much more than would be spent on an evaluation — for a program which is not having the desired impact. This leads me to end where I began: if we are interested in household food security and individual food utilization, then we should measure outcomes at the household and the individual level. We should measure anthropometric status, food consumption, and morbidity, because these are the cross-cutting outcomes that have meaning in every place. We should conduct evaluations on a statistically valid sample of households and individuals representing the underlying population of interest, even if it costs more. Because otherwise, we may be measuring things, but we may not know what we are measuring.

(***Refer to Annex II for additional paper by Bea Rogers on 'Indicators of Improved Utilization as an Element of Food Security'***)

Issues in Performance Measurement of Food Security: An Overview

Michael Weber

Michael Weber is a Professor of Agricultural Economics at Michigan State University.

I was asked to make some comments about food availability. I strongly agree that poverty is at the heart of access to food. When it comes to Africa, there is a very close relationship between producing more food and raising incomes over the long run, and getting the growth cycle going. And while we all wish there were other sectors and other mechanisms to do it in Africa, I firmly believe, as do a lot of others, that there is really no one sector. It does not mean you have to stay there, but you have to do a lot with that sector. So, food availability is a really important issue, particularly in Africa, and I am going to make very brief comments about five things we've been working on that I think are relevant for this discussion.

Market prices as an indicator

If there is one indicator I would use, it is market prices. What can we learn from market prices? We recently did some important work for the Africa Bureau Sustainable Development division, where they observed that real prices have been going down in Africa. We've done six case studies, and we concluded that for the most part they are correct: real food prices have been going down in Africa. Their hypothesis is, prices have been going down because productivity has been going up, and we didn't know it because we didn't measure output the right way. We conclude that the reason real prices have been going down is that policy reform has been working and the marketing margins have been reduced by a whole series of factors that make a lot of sense when you make markets work better and cut transactions costs. Policy reform has really been working in that area, and in just a few days or weeks the Africa Bureau will be coming out with reports on some of this work. So, real food prices: what are they doing and where are they going? It's a very important issue; this helps us understand availability.

Sustainable capital intensification

Think of sustainable capital intensification if we are going to talk about increasing output in Africa. It's no longer possible to address some of the issues that Luther Tweeten talked about, the environment on the one hand and well-being on the other, and not look at capital intensification. We simply can't do it anymore because it does not work very well from the production standpoint, and it has a tremendous negative effect on the environment. It is therefore important to understand what we are doing in terms of making more food available and how we are using capital more intensely. Some of the other really interesting work that we've done for the Africa Bureau shows where productivity has been going up. One of the things our work has shown is that productivity goes up in those interesting places where you can find that farmers and governments and private sector firms

are very skillful, in combining cash crops and good crops and letting the dynamics of those systems work. A number of markets then work better together to let farmers intensify their output.

Food system productivity

The third point really derives from the first two. If you are going to look at productivity and you want to measure something that is important, you should not just measure productivity on the par. You have to look at food system productivity and when we get at the issues of where real prices are going, we are starting to move in that direction. Point number four: we've done a lot of work with USAID Missions in a number of key countries in West Africa and southern Africa and now in Ethiopia, where food aid is a major commodity, a major resource. If there is one single thing that I think we've learned, it's that we have not done nearly enough to figure out important indicators and understand how to make food aid more friendly to markets. Food aid planners have been worried for years about making food aid friendly to farmers, but not a disincentive. Obviously we also worried about food aid reaching the right people. I believe we have missed the boat because we have under-invested in seeing *how food aid affects the market*. The market is so critical in the longer run to getting at the real problem of making income grow. If you don't have dynamic markets, if you don't have private sector investors, you'll never get real income growth. So making food aid market friendly and finding indicators are important issues.

Why measure the market price of food aid wheat?

And the last issue, which is probably the most important one of all: is there a useful indicator showing whether we have really succeeded in building the local capacity to understand the market into which food aid is being injected? This is a common problem seen in Mali, and in Mozambique, among other places. Currently we are discussing ways to help the Ethiopian government set up a price-monitoring system. Part of the debate within is: why should we measure the price of food aid wheat? Because food aid wheat is supposed to be in the market? Probably a third or more of the wheat food aid in Ethiopia is monetized by the participants, or the people who got it before the participants got it. It has a tremendous effect on the market, but we don't even have a price series in Ethiopia on food aid wheat. That's not easy to measure because they get lots of different kinds of wheat. We need to really understand the local capacity. We've made a lot of progress working with USAID in Mali and USAID in Mozambique in building that local capacity. It's interesting and productive to see how the USAID Missions themselves help them refine their abilities to really use food aid more productively.

Discussion

Question: **How do you measure income?**

Weber: Why measure income? If you can measure prices and you can study those and see how they change over time in relationship to lots of other things, you've got two mighty powerful insights of what's going on. There is a clear need that governments periodically conduct income expenditure studies. Those are very positive but they probably take too long to do. However they seem to be the things that give us one of the greatest insights particularly about different kinds of household income.

Rogers: I just want to add one clause to that. My experience is that when there is a household survey, word goes out and people are on that survey like a pot of gold, which it is. If you look at the fact that the World Bank finally decided to do their living standards measurement surveys, that everyone I know who looks at the kinds of things in utilization uses the Demographic and Health Surveys, that when household income and expenditure surveys are performed, people find myriad uses in nutrition, in health, in education, in agriculture, suggests to me the marginal benefit of conducting surveys, keeping an ongoing survey capacity in the country, and getting the input of new potential users to make the most use of them. I would like to raise the question, can we really not do household surveys? Given the power — you can get prices, you can get real income, you can get food consumption indicators — once you're in the household, you can get anthropometric information at fairly small additional costs. I'm throwing that out as a question.

Tweeten: I want to reiterate that these bottom line items are very important measures of height, weight, etc. And surveys and school records and that kind of thing are what we are ultimately concerned about. But I also think that we could get carried away with that, and we can end up doing a lot of little things that really don't add up. In these countries that are having food security problems, I think if we work on also some of the big things, such as getting the policies in order, a lot of those little things will fall in line and we won't need to worry about those things. And we should also remember that even in this country, we have an incredible amount of malnutrition. We are never going to get all these indicators right. But I hope being concerned with the small does not divert us from improving agricultural productivity and things like that, which are so important to being able to do the small things.

Hendricks: Let me just mention that the new USAID guidance in terms of costs, says that roughly between three and ten percent of the monies allocated to activities ought to

be spent on monitoring and evaluating program activities. That's a larger chunk of money than has ever been suggested be made available before.

Weber: We are working on a global sustainable agriculture and natural resources management project in five sites. Our major mission or goal is not food security; however, we would like to identify in our monitoring and evaluation system, a group of indicators that would show us both global impact and indicators of process that would show us that the work in natural resources management is having impact and also we need indicators for population. For agriculturists, height for weight and price are indicators we are unlikely to measure. What other indicators would link agriculture with food security issues?

Tweeten: If you're working in the desert area, the indicator is desertification, if you are in a forest area, deforestation. I'd be concerned about erosion rates, almost anywhere. I'd be concerned about land abandonment, I'd be concerned if you're in parts of Africa where they're using shipping rotation system, how frequent that rotation is occurring. I'd like to know about the chemicals found in ground water or surface water, I'd like to know about chemicals found in food and so forth; where you're spraying five times is it showing up in the coffee beans? I know this is too long a list, but there is a lot we'd like to know about those indicators.

Perspectives on Food Security at the Operational Level: USAID and Implementing Partners

USAID Mission Perspective: India

Heather Goldman

Heather Goldman is the USAID/India, OSD/Director for the Title II Program/India

In this talk I briefly describe maternal and child nutrition problems in India, and efforts of the USAID Mission to assess and address those problems. I have also tried to give a bit of a 'human face' to the subjects of malnutrition discussed during this meeting.

The Title II program (*Integrated Child Development Services*) in India is implemented jointly by CARE (Cooperative for American Relief Everywhere) and CRS (Catholic Relief Services). The Integrated Child Development Services (ICDS) scheme is the most extensive outreach program, and probably also the largest child development program in the world. A great part of the Title II resources go to this program, and over the years, much of USAID development assistance resources have been used to support this program, which reaches both mothers and children. We are also

trying to improve the geographic focus of the India Mission resources so that the food aid program is targeted to the neediest states and is well integrated into our development assistance programs.

Malnutrition: a chronic cycle

One of the most pervasive problems in India today is chronic maternal malnutrition, which gives rise to a vicious circle: Very short mothers have premature, low-birth-weight babies; who are especially susceptible to infections, with consequent malnutrition and poor growth; and who, in turn, will likely grow up to be small mothers. This is further compounded in cultures such as that of India, where many girls have early arranged marriages and become pregnant while still adolescent. Because she has not finished growing, a pregnant adolescent has greater than normal nutritional needs. Both she and her fetus are then especially subject to under-nutrition where food is limited and labor demands high. Chronic maternal malnutrition is thus both endemic and insidious in India.

A visit to villages in India may lead to the exclamation, "These kids look okay — they don't look so bad!" This is because the growth stunting that results from prolonged under-nutrition can leave a child very short, but normally proportioned. The truth is only revealed when one knows the age and can make comparisons. It is not hard to find stunted 2-year olds no taller than a healthy 1-year old, or 8-year olds the size of a normal 5-year old. [See Tables 1-3: Undernutrition in India; Underweight by Age and by State] These tables show stunting in more than half of all children.

Data collection considerations

I would emphasize that USAID Title II programs operate in India's more remote areas, often under very harsh conditions, which affects all activities, including data collection and program monitoring. Consequently, we need to think twice before adding new data collection systems to those which already exist. In India there are regular monsoons. When a monsoon occurs, bridges are washed away, making it difficult for people in remote rural areas to provide food supplements or immunizations. During the monsoon season, it is also difficult for supervisors to reach villages and collect data.

On the positive side, one of the most striking things in India has been the government's commitment to programs such as the Integrated Child Development Services (ICDS). The Indian government has successfully used U.S. food aid for over 40 years, and has a very well-developed system, without which, people would not receive critical services and food assistance. About once every two months a "*anganwadi worker*" who is a village nutrition worker, comes all the way from the village, crossing mountains, streams, and many fields — walking a good two hours, and then taking local transport to pick up food for the ICDS center in her village. This contract with ICDS program supervisors provides an opportunity to strengthen program monitoring.

Reaching the needy with multiple services

Beyond just providing calories, food aid has the potential to leverage other types of assistance for those in greatest need. In a country with widespread hunger, food aid sources can be a highly visible entry point to other services. This is especially important in populations which are not easily served.

India has great disparities among social classes. Aggregate, nation-wide measures of health and well-being may mask not only regional disparities in food security, but also tremendous social inequalities within regions. Landless laborers are an example — an occupational category often comprised of ostracized social groups whose condition may be much worse than other groups. In ICDS centers, occasional provided by communities, but more often by the government, laborers can leave their children in the care of the nutrition worker who also does some preschool education. Although facility conditions are poor, women from these marginalized groups do bring their children for child care, and thus gain access to other services, such as referrals, nutrition education, and health education. However, the system doesn't always work perfectly.

I'm giving this background to show where we come from when we have to approach the question of indicators. Problems in India include lack of personal hygiene, the disease burden, and inadequate sanitation. Although the government has done a good job of getting water out to communities, it has done little else to address sanitation problems, which are especially acute in urban areas. Another point to consider is that young girls, inexperienced and ignorant of health hazards, are often charged with caring for smaller children. Growth monitoring is something one would ideally want to promote, but it is highly complex in a country where illiteracy is a major problem. When we speak of obtaining regular nutrition information, we have to be very practical about whether such data can ever be used, because its quality may not be that good. Fortunately, breast-feeding in India is the norm in rural areas, where about 70 percent of the population lives.

Data from the recently completed Demographic Health Survey (known as the National Family and Health Survey in India) show much lower use than in other countries of suitable complementary weaning foods, such as imported corn-soy blend, which, together with the oil in which it is cooked, delivers much-needed calories and protein for the CARE supported village nutrition centers. It's quite surprising that administrators, many of them male, often do not think that infant feeding is important. They think it is some sort of 'automatic' thing that mothers do as they have for generations — but what a difference sound infant feeding makes to whether a child survives its first ten months! Excessive reliance on bottle-feeding (14%) rather than breast-feeding (exclusive breast-feeding under four months -51%) is not a big concern in rural India right now, but it is a growing problem in urban areas.

When a food aid program works as it should, you get children who can be graduated and mothers who go on to have healthy children. We at USAID/India have really worked hard over the last few months, with both CARE and CRS, to figure out how we can measure the impact of the food aid program and other activities and projects which support the goal of enhanced food security.

Although India represents about 16 percent of the world's population, it is the home of 40 percent of the absolute poor in the world, and has the greatest concentrations of poverty and malnutrition in the world. Thus it is comforting to have listened to the speakers in this gathering talk about the thinking they have done to select indicators to measure food security. What all Missions have to do is propose some ideas, which can be refined as a result of all the discussions taking place here.

At the USAID Mission in India, we have had to grapple with all the varied and often synergistic forces that have an impact on our development assistance and food aid programs. How do we lay out that scenario conceptually — to capture program impact, but still represent realistically the results USAID resources are having in a country the size of India?

(Refer to Figures 1and 2: Results framework USAID/India) We have four main sub-goals: accelerate broad-based economic growth, stabilize India's population, enhance food security, and increase environmental protection, all of which are interrelated. India's population grows by approximately 18-20 million people each year, which is like annually adding to it a country the size of Sri Lanka. So trying to insure that agricultural production keeps pace with a growing population is a major challenge for India. To that end, USAID has always been a lead donor in the population field, providing support to India and other countries which are trying to reduce their fertility rates.

Enhancing Food Security and the Role of Women

Enhancing food security and stabilizing India's population are intimately related. Another difficult question is how to promote women's empowerment. One of the big problems the Indian sub-continent faces in terms of enhancing food security is the low status its women suffer, so it desperately needs to transform the situation of women. As we all know, women have an enormous impact on food security, since they play a major role in determining not only their own physical welfare (health, nutrition, and sanitation), but also that of the households they run. Their ability to go out and seek services also determines what happens to future generations. We are therefore ever increasing our efforts toward women's empowerment, by, for example, providing women with more economic and educational opportunities. These indicators are: increased enrollment and retention of girls in primary schools (in one district in UP) e.g., Percentage of 6-11 year old girls in lower primary and percentage of girls enrolled in class 1 who dropped out by class 8. We decided on the following indicators of progress, or upward trend, in child survival and nutrition in northern India: child and infant mortality rates, and percent underweight among children less than four years old.

Measuring performance of child survival programs

Down at the program outcome level, for indicators which can be measured more frequently (ideally annually), we look to service statistics and better targeting, because the Agency, and especially our PVO partners, can discuss with the government, and work at state and local level to improve these areas. To improve quality and coverage of child survival programs, we have some indicators for infant feeding, immunization coverage, micro-nutrient supplementation, and targeting. (See Tables 4 though 7)

Targeting is our most complicated indicator. The PVO's would like to show that they're reaching the neediest members of communities, but with center-based programs, one sometimes only reaches those who come to the center. Those mothers and children may not be the most needy. The Mission does this with several projects, in: population, reproductive health, projects which have provided improved services for maternal and child health through the NGO sectors, improved quality for immunizations, and our huge Title II program. For targeting of Title II commodities, we've selected number of children who received food supplement/total number of 6-24 months old children. These baselines and targets can be established only after PVO baseline studies.

Demographic & Health Surveys (DHS)

The Agency should feel extremely proud of the Demographic Health Survey (DHS). This survey in India has really been a landmark. Never before in India have we been able to have reliable estimates at the state level of so many health and nutrition indicators. This is internationally- and Agency-comparable data. One can see what's going on with priorities for different health and nutrition indicators. When the DHS team came out to India and presented the results, it was surprising to see that of all the countries surveyed in the last three years, India has the highest percent of underweight children. When we talk about having an impact on nutrition, whatever happens in India is going to profoundly affect the nutrition picture in the world because of the numbers of people involved.

The DHS data showed that in areas of India and also of the subcontinent, over 53 percent of the children are more than two standard deviations below the standard median weight-for age. In other words, they are less than 80 percent of the expected weight for their age. The distribution of malnutrition amongst states shows clearly why the Mission has worked with the PVO partners and with the government to move North, up to the Hindi speaking belt. The DHS results had enormous impact for the government. They highlight that although India is doing very well in many areas, the government has not been able to deal well with the malnutrition problem.

Eighteen percent of children being wasted (i.e., too thin) is similar to the rate of malnutrition I used to see. India also has a very high rate of chronic malnutrition. Under this ICDS program that I was mentioning, India has not been very successful in targeting their most vulnerable group, and yet one can see that in most cases, the children are already malnourished by the time they are two years old. Programs must do a better job of reaching the younger population. One of the things that the USAID-funded survey pointed out for the government, and everybody working in the health field, was that only 31 percent of children were receiving food in addition to breast milk by six months of age. So that's one of the indicators we selected for regular use. We can thus see how we defined interests at the strategic objective level.

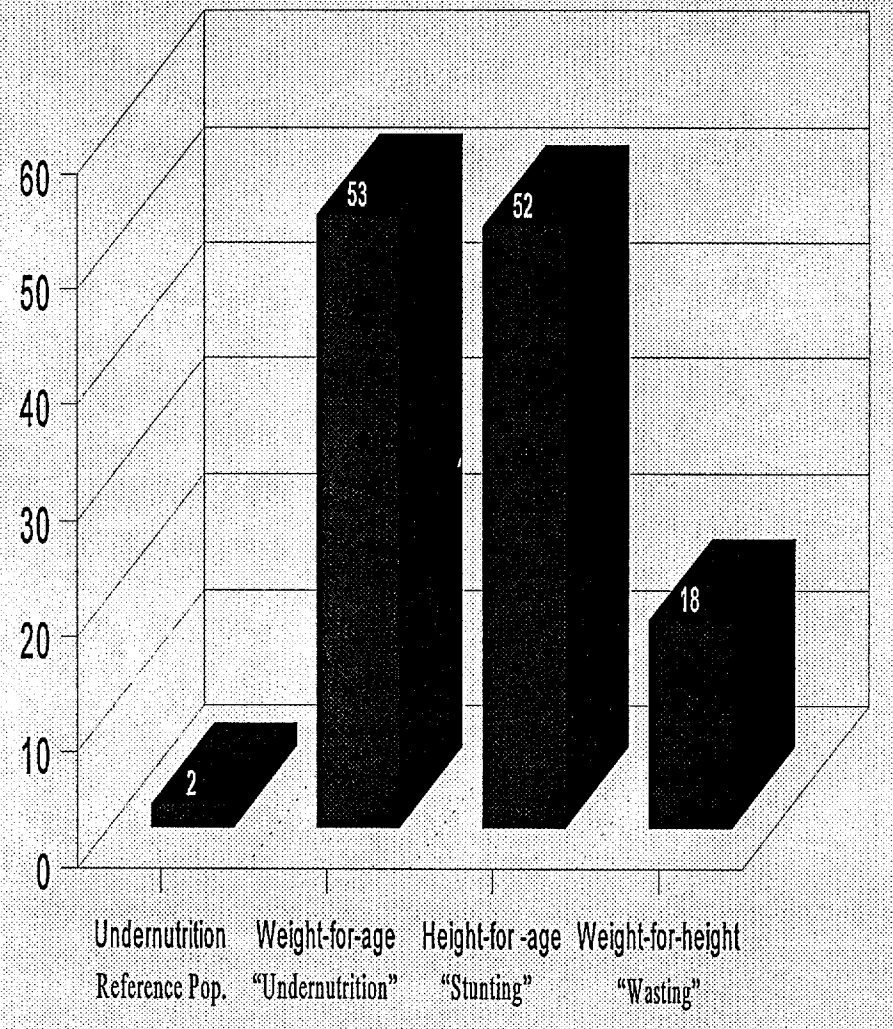
As a representative of a field Mission, I have tried to approach indicators from an operational point of view. I would like to bring up some of the practical issues that we had to consider when working on these indicators. Some of these are:

- Decision to use a nutrition indicator as proxy for food security rather than food production or distribution indicators because of nature of USAID program in India
- Look at those indicators that could: be measured at a reasonable cost; be generated from existing data systems; are easy to collect; are critical in affecting nutritional status in the Indian context; and be changed through USAID assistance
- Are in congruence with PVO programs
- PVOs have a mechanism to measure

Obviously we at the Mission are going to benefit a lot from discussions here, because in the process we shall get a chance to try to refine these indicators. I very much agree with what Bob Kramer has said about the importance of a good definition for food security. When you're talking with people in government and the not-for-profit sector overseas, what they really cannot understand is that there is too much hunger. The Mission has focused on both "access" and "utilization" variables. When we talk about better targeting, we have not yet looked at income levels and how that would be taken into account of, if at all. How do we marry what the PVO's are already doing — the data they can collect at a reasonable cost — with existing government systems and private assistance? How do we do that — using what sort of samples — so that we do not create huge new systems in trying to meet the need for reliable measurement and results monitoring?

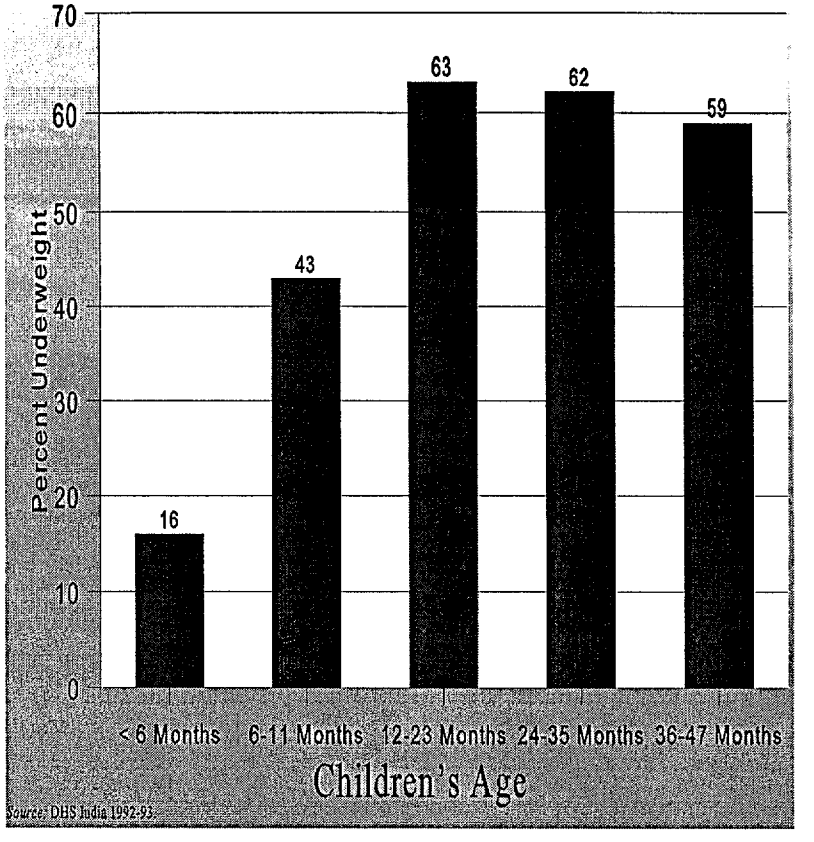
Table 1: Undernutrition in India

Children under 48 months old



Source: National Family and Health Survey (DHS) 1992-93, India.

Table 2: Underweight by Age for India



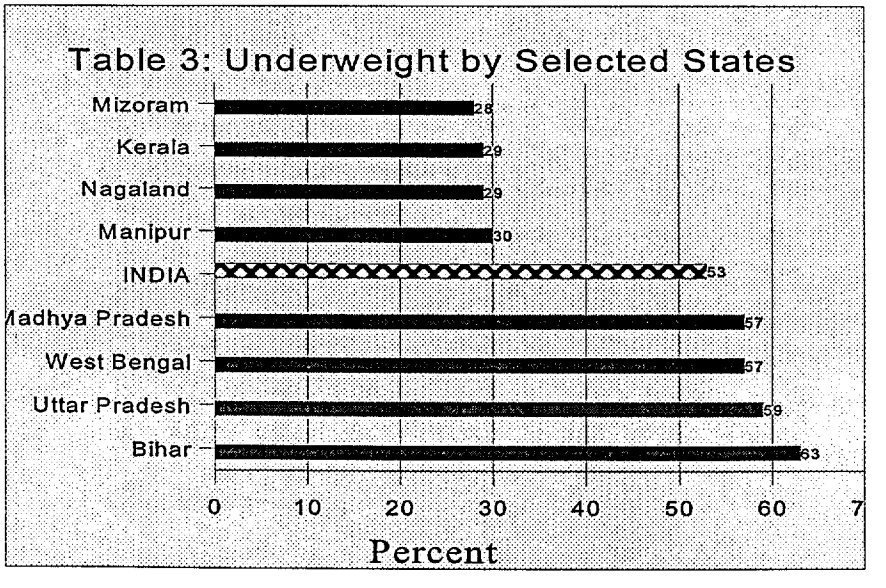


Figure 1: INDIA
R4 FY1995

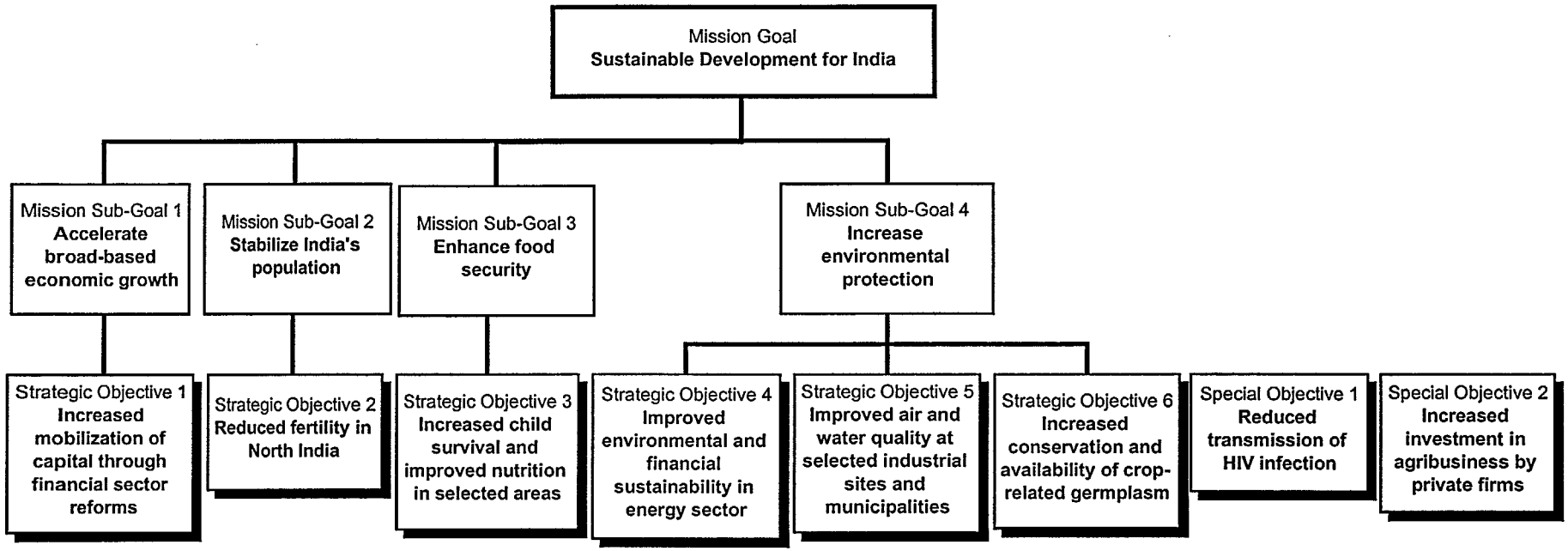


Figure 2: INDIA - SO3
R4 FY1995

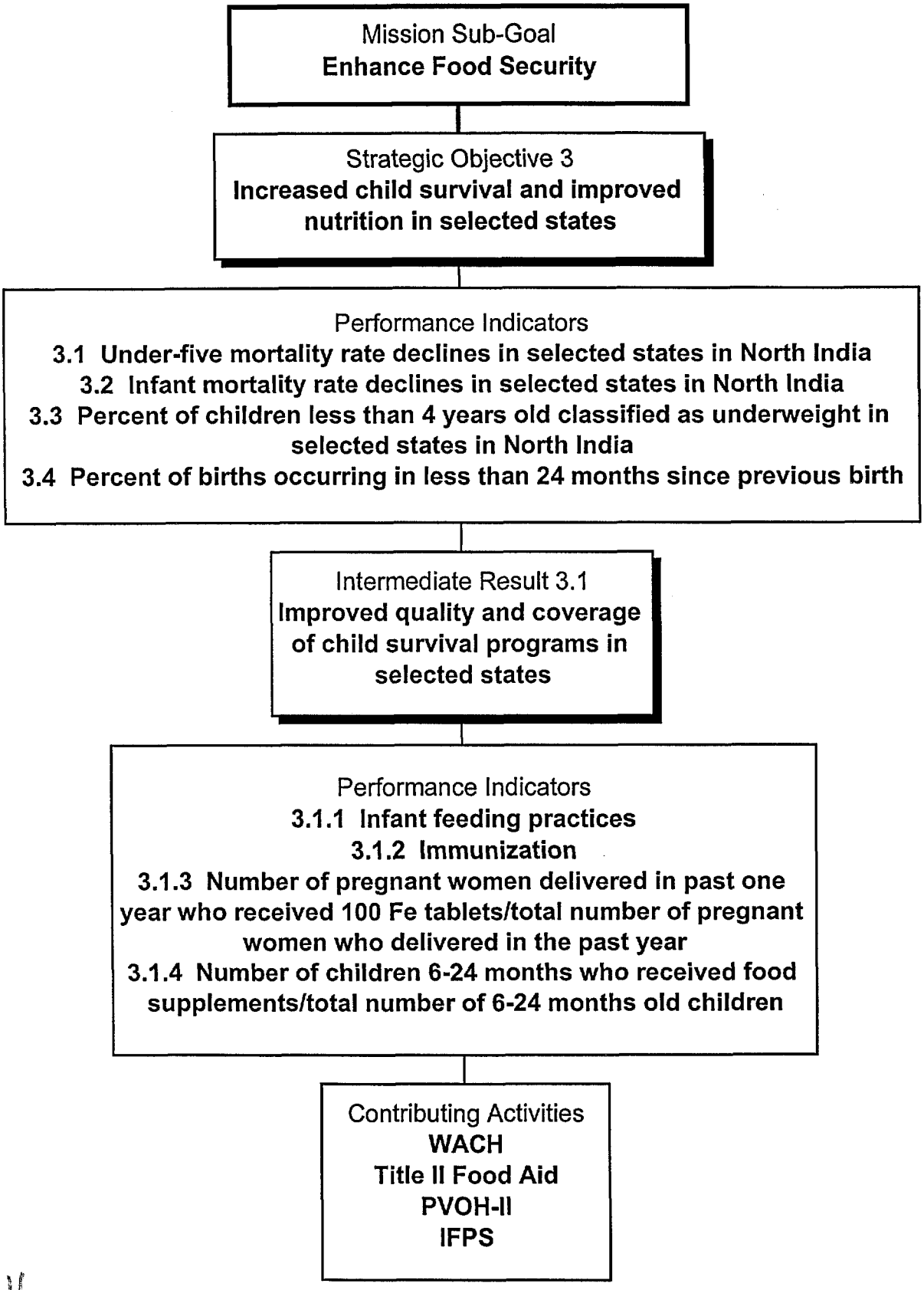


Table 4: Infant Feeding Practices

- **Use of Colostrum**

Number of infants given Colostrum at birth/total number of live births

State	Baseline 1992-93	Targets	
		1997-98	2000
UP	10%	30%	50%
MP	28%	40%	50%
Orissa	36%	50%	60%
Bihar	NA	30%	50%

- **Timely Complementary Feeding**

Number of 1-2 year old children who received breast milk plus solid/mushy foods at 6-7 months/total number of 1-2 year old children

State	Baseline 1992-93	Targets	
		1997-98	2000
UP	19%	40%	70%
MP	19%	40%	70%
Orissa	19%	40%	70%
Bihar	NA	40%	70%

Data source:
Baselines: NFHS, 1992-93, state rural figures
Targets:
1997-98 NFHS, 1992-93, national urban figures CARE/I's tentative targets
2000 (INHP draft proposal)
Actual: CARE and CRS program data collected through surveys/special studies

Table 5: Immunization

- **Children**

Number of 1-2 year old children fully immunized by age one/total number of 1-2 year old children

State	Baseline 1992-93	Targets	
		1997-98	2000
UP	17%	50%	85%
MP	26%	50%	85%
Orissa	35%	50%	85%
Bihar	NA	50%	85%

- **Pregnant women**

Number of pregnant women who received two shots of Tetanus Toxoid vaccine during pregnancy/total number of women who delivered in the past year.

State	Baseline 1992-93	Targets	
		1997-98	2000
UP	32%	80%	85%
MP	37%	80%	85%
Orissa	51%	80%	90%
Bihar	NA	80%	85%

Data source:

Baselines: NFHS, 1992-93, state rural figures

Targets:

1997-98 NFHS, 1992-93, national urban figures CARE/I's tentative targets

2000 (INHP draft proposal)

Actual: CARE and CRS program data collected through surveys/special studies

Table 6: Micro-nutrient Supplementation

Number of pregnant women who delivered in the past year who received 100 Iron-Folic acid tablets/total number of pregnant women who delivered in the past year.

State	Baseline 1992-93	Targets	
		1997-98	2000
UP	25%	69%	75%
MP	39%	69%	85%
Orissa	47%	69%	90%
Bihar	NA	69%	85%

Data source:

Baselines: NFHS, 1992-93, state rural figures

Targets:

1997-98 NFHS, 1992-93, national urban figures CARE/I's tentative targets

2000 (INHP draft proposal)

Actual: CARE and CRS program data collected through surveys/special studies

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TABLE 7: Baselines and Targets

- **Under-Five mortality rate declines**

State	Baseline 1992-93	Targets	
		1997-98	2000
UP	141	129	113
MP	130	119	104
Orissa	131	118	105
Bihar	128	117	103
Rajasthan	103	94	81

- **Infant mortality rate declines**

State	Baseline 1992-93	Targets	
		1997-98	2000
UP	100	92	85
MP	85	78	73
Orissa	112	103	95
Bihar	89	80	75
Rajasthan	73	67	62

- **Decline in percent of underweight children (under fours)**

State	Baseline 1992-93	Targets	
		1997-98	2000
UP	50%	44%	38%
MP	57%	49%	38%
Rajasthan	42%	40%	38%

USAID Mission Perspectives: Peru

Bobbie Van Haeften

Bobbie Van Haeften is with the USAID/Latin America and Carribean/DR Bureau.

Poverty is at the Heart of Food Insecurity

The workshop organizers selected Peru as a case because, not only is it the second biggest Title II program in the world, but also because last year the Peru Mission commissioned a food security strategy which has had a lot of impact in terms of how the USAID Mission has reorganized its own program. It is also having some impact on the government and how it sees food security, and how it is reorganizing its own investment program. And it had a big impact on the Title II program; I do want to mention a couple of things about the food security strategy, because it highlights some of the points that were made earlier. One of the major conclusions of the food security strategy that was done for Peru was that poverty is really at the heart of food insecurity in Peru. We have numbers from several household surveys, including one in income and expenditure, which showed that 20 percent of the Peruvian population are in extreme poverty, which means by definition, that they do not have sufficient income to purchase a nutritionally adequate diet. One of the other very interesting things that came out of the security strategy for Peru was that when you look at where the food-insecure are, where the extreme poor are, they're primarily up in the highlands of the Andes, and they primarily live in rural areas. We were also able to determine from the information available, that the food-insecure also tend to be the non-Spanish speakers. This has had a very major impact on the Title II program, because (while there were some reason for it during the economic crisis at the end of the 1980s and the 1990s) a major share of the Title II resources were going into the coastal area, particularly in Lima.

One of the major outcomes of this food security strategy is that the program is being refocused to move more of the resources up into the Andes and into the rural areas. I think another thing that came out of the food security strategy was that although poverty alleviation is the key to reducing food insecurity in Peru, there is a serious problem of malnutrition among young children in Peru. To deal with that problem, we could not wait for poverty alleviation strategies. We needed to have a very important sort of health and nutrition program that was targeted to where most of the malnourished children are. And again, related to the location of the extremely poor and food-insecure, the bigger percentage of malnourished children are up in the highlands area. According to the latest year surveyed, 55 percent of children under five are chronically malnourished in the highlands of the Andes. So, the food security strategy has had a very important impact on redesigning of the Title II program in its influence in the government investment program.

A Separate Food Security Objective Focuses on the Poor

Let me mention that Peru has four cooperating sponsors on its food aid program: CARE, ADRA [Adventist Relief and Development Agency], CARITAS and PRISMA. Past Title II programs had been spread around the country, but now more of the resources are going to go up into the rural highlands. Consistent with the food aid policy, more of the resources are going to be going into the directed portions including household nutrition and towards improving agricultural productivity. The food security strategy has had an important impact on how the Mission now sees its strategic framework. Peru is somewhat unique as a Mission program, at least with respect to Latin America, because the Peru Mission has decided to have a separate strategic objective for food security. It also has a strategic objective of increasing access and income among the poor. And it has another strategic objective that is related to health: improved health for high-risk populations. There were several arguments for having a separate food security strategic objective. One of the arguments was that it has a more limited target group: the extremely poor and food-insecure. The income and access strategic objective is focused on the poor, which is a broader group than the food-insecure. The health strategic objective is focused on high risk, but again, it is a broader strategic objective and it is not oriented to the rural highlands of the Andes. The strategic objective that the Mission has focused on is stated as "improved food security of the extremely poor," to indicate what the strategic objective is. They are the indicators the Mission has selected, and then three program outcomes and the indicators. The performance indicators for the strategic objective in Peru are: the rates of global malnutrition or weight for age, the rates of chronic malnutrition in extremely poor areas or height for age, per capita food availability and primary educational completion rates of girls and boys. There are three program outcomes. The first is nutritional rehabilitation of children under five in program households; and the indicators the Mission is proposing to use here are: number of high-risk children participating in Title II nutritional rehabilitation programs, and the rate of graduation of high-risk boys and girls from this program. The second program outcome is increased income available in extremely poor households for food consumption. Here are the indicators:

a) number of extremely poor households adopting improved agricultural production technology,
b) hectare gender intensified management through program interventions,
c) number of micro-enterprises assisted in extremely poor areas (broken down by male and female.

This whole strategic objective includes both Title II resources and development aid sources. Other indicators related to the micro-enterprise program are:

a) the rate of loan revolving fund repayments, and
b) the number of men and women temporarily employed through food for work.

The final program outcome is increased basic education for the extremely poor. Here the indicators are drop-out rates of school age children boys and girls in program households and level of government-approved budgetary commitment to primary education in extremely poor areas. I also want to point out that the resources here are not coming from Title II. They are coming from the World Food Program, remaining program Title III B sources, the Ministry of Education and the

government-approved assistance food program. I think the Peru Mission has done a good job of integrating food aid resources with the other resources of the Mission.

CARE: Food Security Targeting, Monitoring and Evaluation: The Issues and the Indicators

Tim Frankenberger

Tim Frankenberger is the senior advisor for CARE's Food Security Unit. (For further discussion of this topic, see Frankenberger papers in Annex II)

Greetings. I can't speak for all of the NGOs/PVOs in the audience, but I think some of the comments I am about to make are consistent, based on conversations I have had with the other PVO representatives in the audience with regards to USAID-funded food security activities and projects. Food security indicators are used for a variety of purposes. They are used for identifying particularly vulnerable groups of people. They are used as criteria for selecting certain households or individuals to include in project activities or as recipients of direct food assistance. They are used for monitoring transitory food-insecurity changes as part of an early warning system for famine detection. They are used for evaluating projects and programs that are intended to have some beneficial impact on food security. Selection of which indicator to use is very much dependent on the following questions: what is the purpose of the indicator? what is the decision that will be based on the use of the indicator? what is the level of specificity required? and how quickly is the information needed? One of the most important factors in food security programming has to do with targeting. USAID-funded activities span the relief and development continuum. The ranges of targeting decisions are:

a) targeting food and other resources to populations that are facing emergency conditions and strengthening their survival;
b) targeting food and other resources to populations in absolute poverty that are eroding their livelihood base;
c) targeting nonfood resources to poor populations to improve their food access and utilization, and
d) targeting nonfood resources to poor populations for improving national food availability.

Linking high potential areas to low potential areas

All of these objectives are critical to food security for particular countries and they should be considered in strategic planning exercises of country offices. What is missing in many country offices, however, is an understanding of the linkages that exist between these different objectives. We often try to plan for these things separately, rather than together. For example, when you target food aid resources to populations that are in need of food, because their survival is threatened or

because they are in an area where their livelihood base is eroding, why not also target *high potential areas* nearby so that food availability can be increased, and **link** these two areas up? What tends to happen in strategic planning is that high potential areas may be totally separate from the *low potential areas* where much of this food aid is targeted, so the linkages between the two areas are not created. For example, in a low potential area where agriculture is of limited potential, we can focus our resources on human capital development. In the adjacent high-potential areas, we can do capital-intensive agricultural production, creating jobs for people that are being trained in the low-potential areas, using food-for-work to create linkages between the two. Another example of linking these programs has to do with combining nonfood resources and food resources in targeting. It has been frustrating for some NGOs, but I understand why the Food for Peace office is trying to put limits on uses of food aid. What is unfortunate is that there is not also a strong lobbying effort on the part of regional offices to support nonfood resources in the same places that food resources are being targeted. So, if a program is working in an area where income generation is key to food security (non-agricultural income generation) there should be a link between regional bureau non-food resources as well as Food for Peace resources. Food for Peace offices should not be responsible for providing all the food security support resources that NGOs will need to effectively deal with food insecurity. If we are serious about improving food security, then the Bureaus have got to get together in supporting the implementing agencies that are working in these areas.

A related dilemma that is facing a lot of the Missions, is the emphasis on performance management. Cost and inefficiency are what normally characterize the food-insecure areas, or the vulnerable areas in which many of these vulnerable populations live. Higher rates of return are often obtained by investing in regions where an infrastructure is already in place and resource potential is high. So, there's a targeting dilemma, with regard to the Missions. If they are going to be judged on how much they've increased output within a particular area, there is going to be a bias towards high potential areas where infrastructure already exists. This is contradictory to what most of the PVOs are trying to target in terms of food insecurity. They tend to be focusing where the most vulnerable populations are. This dilemma can be overcome if we use weighted criteria for investment such that incremental improvements in lower potential areas are given more weight than similar changes in high potential areas. If you link the low potential and high potential areas through programming, then it's probably easier to see the linkages between those two. What's important here is that when we target, we need to understand where the food insecure are, and why there are food insecure in those areas. Food security profiles, much like the ones that Roberta van Haeften just talked about for Peru and Heather talked about for India, are extremely important for determining where to target resources. I believe that if USAID really believes food security is one of the most important strategic objectives of the Agency, food security profiles should be generated for every country that USAID works in.

Early Warning Systems

In terms of surveillance, USAID has pioneered early warning systems through efforts such as the Famine Early Warning System (FEWS) in a number of countries in Africa. FAO has also contributed very much to early warning system development. What national early warning systems cannot do however, is pick up on pockets of vulnerability within regions. NGOs or PVOs can therefore play

a very complementary role to these national early warning systems. NGOs or PVOs can help design and implement contingency plans for areas where food insecurities start to increase dramatically, either due to drought or conflict, or to market failures. What is key, and I think what needs to be emphasized in this conference, is that protecting livelihoods is just as important a food security goal as trying to make livelihoods more sustainable by protecting the asset base that people already have access to. In terms of impact monitoring, two critical questions have to be taken into account. Is the impact calibrated to the appropriate population unit? Is the change being measured attributable to the activities of the program? Indicators being monitored may be aggregated at a level that is too high to be sensitive to the location-specific interventions being implemented.

It is important as in India's case, that the Demographic Health Survey (DHS) information has helped us determine which states are the most vulnerable. If you look at the size of the actual projects that are being implemented, or the PVO activities that are involved, they are at a much lower scale than for the whole state. So, you are limited to sub-regional or regional measurements to make sure that the data is disaggregated at a level which lets us pick up on changes brought about by the project or the program. If we stay at the national level or at too high of an aggregate level, then it is quite likely that there are not enough resources to really demonstrate change in that area. In terms of what changes can be realistically brought about by a given project, it is important to realize that if we have a food access program or project, one that is focused on increasing productivity in an area, there may be other problems (such as health access or child care) that are having just as a great an influence on nutritional status as food access. This does not mean that we would not want to measure nutritional status in that area, because if we know that we've increased production in the area yet we still see no demonstrated change in nutritional status, it means that we need to target other kinds of interventions to that area. It can be an important tool for targeting.

Three Levels of Indicators

We need indicators at three levels. First, we will always need to know whether the project is delivering the inputs that it says it is supposed to be delivering in a timely and effective manner. So, goods and services and the delivery of those goods and services need to be monitored. The second level has to do with the actual effect of the project. This is a change brought about in knowledge, attitude or practices which that project is trying to promote. These are very location- and project-specific. However, that does not mean that we are not also interested in conditional changes that are brought about by the project, or that might be brought about by the project. There are the standardized indicators that we are interested in across all programs or projects. These are changes in well being, such as nutritional status, some proxy for consumption and/or access to income. What is important is to remember which level you are talking about when you are talking about indicators. Are you talking about project delivery? or are you talking about some particular knowledge, attitude or practice that is related to the project activity? or are you talking about some global well-being changes that you are hoping can be brought about by the project? We should be trying to measure all of these. However, we should not view a project that brought about positive behavior change but did not bring about nutritional change as a failure. Other intervening variables may be influencing nutritional outcome.

We want to keep monitoring nutritional changes so that we can target additional projects, either at the micro-level or at the macro-level, to bring about the desired outcomes. In summary: Country Missions must target their programs in such a way to address short-term food access and long-term food availability in the same regions. Second, decentralized food security monitoring systems operated by NGOs might be seen as complementary and not as redundant to national early warning systems. Third, impact measurements must be calibrated to the appropriate population unit and must be attributed to the activities being promoted by the project.

IMPACT Project: PVO Case Study - Developing M&E Systems for Food Security

Bruce Cogill

Bruce Cogill is a senior advisor with IMPACT Food and Nutrition Monitoring Project/ISTI (International Science and Technology Institute)

Today I want to explain a little bit about what we are doing to assist PVOs and their sponsors in tackling this beast of monitoring evaluation systems and indicators for performance measurements. I represent IMPACT—a project serving a collection of individuals and institutions. I am not here to sell IMPACT, but to represent that process, which is evolving and will evolve beyond this workshop. But this workshop is an important focus for a number of things that are happening in support of PVOs.

This support is now two or three years old, and has come from an earlier request to assist Africa in review of their multi-operational plan—to help them in their redesign, and more importantly, to focus more directly on impact measurement. About the same time—1993, 1994—a GAO report[5] that Bob Kramer referred to this morning made very clear what the Agency had to do to address the deficiencies in this two day program. We are focusing primarily on Title II and that effort.

The principle of what we are doing is applicable to other areas and, of course, other programs like child survival. Population has moved very aggressively in this direction as well. So, we are not the original nor are we the specialists in this area.

This process of assisting PVOs—and I should add, in cooperation with the missions, who are critical partners in the development of the information system—has now moved ahead. We've learned as we have gone along that there are a number of other issues emerging in indicator selection in measurement and evaluation design.

[5] General Accounting Office. 1993. "Food Aid Management Improvements Are Needed to Achieve Program Objective." Washington D.C. GAO.

Our partner in the exercise was Tulane University. Frank Riley is a principal author of a document that I will talk a little bit about and share with you. He and his colleagues at Tulane worked in developing these materials, because there is a basic need. The NGOs and PVOs identified that need by saying they were required to do performance monitoring reporting as the Agency has established guidelines. Interim Food for Peace guidelines are very clear about what is expected in terms of the type of information, but not very clear about what and how it can be done. The draft guidelines and the Food Aid and Food Security Policy Paper[6] were key documents directing this effort.

This effort is now taking place in several countries. We are calling them case studies, but they are more than simply an experiment: they are actual, ongoing technical assistance to these countries. What we are trying to do is get some experience with the different types of food aid Title II programs, the different country settings that PVOs work in, and the different kinds of Missions. Fortunately, we had the opportunity to work with India, Ethiopia, Eritrea, Honduras and Guatemala, which I think represent a broad spectrum of different types of Title II programs.

These programs are primarily Mother and Child Health programs (MCH), but also pertain to other areas Title II has been used for - for food for work, access in some cases, availability type of programs that Title II has been used for. These materials we are developing call it a pattern of simply describing what food security is, of developing a conceptual framework of food security in which the PVOs are operating, which needs to shed light on the mission of food security programs. This must also be seen in the context of a national, and in some cases regional food security initiative.

That conceptual framework is discussed, analyzed, and re-analyzed in terms of activities that the PVOs and Missions are undertaking. The PVO participants and their national counterparts are invited to discuss, review and analyze their programs in terms of food security definitions and terminology. That agreement on common terminology is critical to moving to the next stage, which is the development of the M&E [measurement and evaluation] system.

That element and that part of it is simply a description of terminologies or a set of agreements as to what we mean by *impact* as opposed to *input*, *output*, or *outcomes*. All these words are very confusing, unless you have seen some of the Requests for Proposals (RFPs) that have been submitted to Food for Peace last year. We see that there is now a shortage of indicators, but grouping and analyzing those indicators has not always worked as well as it could have. The exact type of technical support which the PVOs themselves had been very aggressive internally organizing themselves and building capacities for will take time. That is very much part of our support.

The monitoring conceptual frameworks are then married or combined to examine what the activities under the program are, what sort of information has been collected, what could be collected, and how it relates to the overall program structure. The experiences in India, Ethiopia, Eritrea and Honduras and Guatemala, have raised many issues of program design. Is the program integrated in any way that really achieves the expected outcomes and impacts? What's the time line for that?

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[6] Food Aid and Food Security Policy Paper, USAID, February 1995

There are a number of technical issues that also relate to the indicator selection in the M&E system design—costing issues, sample size, capacity among partners and the PVO institutions to collect, analyze, interpret and report on that information. All those challenges are not resolved easily. We've been working with the PVOs on that, and some are working among themselves.

This document - *"Food Security Indicators and Framework for Use in the Monitoring and Evaluation of Food Aid Programs"* is a draft of the output. It is a handbook. As I mentioned, there is a series of workshops being followed by technical support to the PVOs in the design of the M&E system. This parallels the project proposals that we're developing. The implementation of the M&E program is also part of our support. This document—which outlines food security M&E concepts and examples of different types of Title II programs—does not actually give you a how-to on setting up an M&E system. That is a complex issue. We don't pretend we have accomplished that yet. But I think we need to move to that direction. The experiences from the PVOs and other groups in this set of guidelines on what constitute an M&E system, what is an acceptable minimum data need for different uses, for a program manager, beneficiary or participant, right through for Congress or other general uses. That ability to stratify or rank information system and manage that as far as the cost, taking into account the cost available, is critical in the M&E design.

We are not at that stage yet with this document. There is a description of what an M&E system is, with examples of the different types of M&E systems. But we need to move much farther. We have included an inventory of indicators that are often used in M&E systems, and descriptions of all these. This is being done by many different groups.

In summary, we are trying to develop a process that will provide a range of indicators for a wide range of activities under Title II programs. We think that the issue of coming up with one indicator is an extremely difficult exercise. However, what we want to do is establish a framework so that USAID and its partners, cooperating sponsors, can select, understand, and accept those indicators without being told to. I believe this issue about what is acceptable requires leadership on the part of the Agency and its partners. We need to communicate perhaps a conference level as well, what is acceptable, or at least establish the criteria for it, because there is some confusion and mystification about the concept of food security. Thank you.

Discussion

The theme emerging from the food aid field practitioners' and academics' remarks is the importance of targeting on a national basis to reach all food insecure people. This will be effective and measure one's effectiveness more accurately. There is a disconnect here which is fairly important: it is important to be effective in measuring effectiveness, not only for the rosy glow that it gives or for organizational survival, but also to have the most impact we can with resources.

Food development assistance resources are not allocated on a sub-national basis. They are allocated on a national basis, where we cannot effectively measure the disconnect, that it is not countries but people who are food insecure and hungry. We are not putting our money where their mouths are.

The point was made how difficult it is to get reliable data, versus data sources that might provide good data for the agency to defend its program and show results on a greater time period. It's a serious question. The monitoring and evaluation seems to have preoccupied a great deal of PVO efforts. In Honduras, for example, they are wrestling with this issue and one of the questions is how much the Agency is prepared to put out with an impact statement or indicator. The level of precision quality they are willing to live with has not been established.

PVOs and their counterparts face very clear technical challenges such as monitoring systems, evaluations, and experimental design questions. It's critical to evaluate impact statements on programs and how much attribution the Agency is prepared to consider. For example, a beneficiary-level impact versus a community, district, provincial or national level impact.

How reliable is any organization collecting data? CARE, for instance, has tried to be very rigorous in their data collection. In fact, PVOs provided an excellent model for other USAID funded projects as to how to target, to do sampling for measuring impact, what kinds of indicators to collect, and how to do minimum data sets for baseline assessment. PVOs have come a long way with staffing professionals and at being more rigorous about evaluations and in making impact in general. However, there remains a range in capability among PVOs. For example, the PRISMA (Peru) organization is very basic because they began as an operations research unit and then moved into implementing. It's one of the better integrated food aid and maternal child health programs around. There is a range, but there are very capable groups and others that are learning.

Another remark was made that food security activities cover a wide range of things — such as building roads in Cambodia to increase rural markets, or doing something to improve women's credit or to reduce family size — all may have tremendous impact on food security.
Trying to reflect everything that a Mission is doing and everything the Agency is doing at a higher level is a challenge. We need to focus on data sources because we can get very ambitious very quickly, and then the reality is that you only have so much money and so many human resources. It takes a lot of time and effort to try to get the PVOs, the contractors, and the Mission to agree on how to report on the enhancement of food security.

In one presentation, the point was made that survey data were critical to making a major policy impact which made the government pay attention. For the first time we could have empirical data on which to base targeting and prioritization of impact. I think the point is self-evident that we're talking about a fairly expensive way of data collection and a fairly high payoff. The Demographic and Health Surveys (DHS) are a perfect example. However, the socio-economic indicators are weak. DHS may have information on education and sanitation, but lack information on sources of income and livelihood. USAID, especially in responding to Congress, needs reliable indicators that are representative of the country. If we just look at places that are already getting aid and not at nationally representative populations, then we'd never find out that the highlands of Peru, for example, where there are no programs, is where they are needed. At the heart of this workshop were the questions who

is collecting which data and at what level should the data be collected? Is the data only looking at symptoms, or does the data also look at causes of food insecurity?

From the beginning: who collects the data? If we are working in countries where national governments have pretty good data collection systems, then USAID does not need to set up a huge monitoring system. That information is already being collected and we can utilize the information, particularly if it is disaggregated at various levels of political units. Unfortunately, a lot of the countries USAID and PVOs work in do not have good data collection systems. The second question then becomes: who should be collecting the data? Should USAID be responsible for collecting this information across all of its project areas? Or, should each project be responsible for collecting data? The problem is that NGOs are expected to collect some levels of data, and USAID Missions are expected to collect other levels.

More importantly, are we collecting data for the same reasons? PVOs are collecting data to determine whether projects have impact. USAID is collecting data to determine whether other changes are being brought about by programs that may have nothing to do with PVO activities. It was noted that data used for targeting, for instance DHS information, may not be appropriate for monitoring impact because it is not disaggregated at the level that allows us to measure that impact. That is critical. What you use for targeting may not be what you use for impact monitoring. It can be the same kind of data, but if it isn't disaggregated at the level that makes sense in relationship to the resource we are contributing to the project activity, then we aren't going to be able to measure the impact, because there are too many other variables and factors that are impacting the outcome at a higher aggregate level. DHS surveys are available for a lot of countries but only every five years. They can't be used for monitoring, but they can be used for targeting and evaluation. Are the resources to support the DHS surveys disappearing? Perhaps. USAID along with the World Bank, PAHO and UNICEF are jointly financing these surveys. So in some countries, they will continue to be available, but not every year.

III. Plenary Sessions

Proposed Analytical Framework and Indicators for Food Security

Margie Ferris-Morris

Ms. Ferris-Morris is a USAID/CDIE/PME/PRISM Consultant, and the workshop coordinator.

This morning we had an opportunity to hear the Agency's perspective on food security and some of the issues and concerns facing USAID Missions and private voluntary organizations in terms of their measuring the impact of food programs. Now we're going to turn to the task at hand: coming up with a set of common indicators.

The objective of my talk is to walk you through the process of how we came up with an analytic framework and the indicator list of tables that you have in your folder.

Why did we design a framework? Basically, this is really the first effort within USAID to come up with a framework for food security. We needed an analytical tool for this workshop, a framework to hang our indicators on. And we needed to clarify where indicators belong, under which objective, under which result. And so, this is a tool for us to work through identifying a common set of indicators.

How was it designed? It was designed on the principles outlined in Policy Determination 19, which is the Agency's definition for food security— *when all people at all times have both physical and economic access to sufficient food to meet their dietary needs for productive life*. Under that policy, the Agency sees availability of food, access to food and the utilization of food as three key elements that will help us reach the objective of improved food security.

The analytical framework was also based on the *Food Aid and Food Security Policy* paper. In terms of improved food security, what will optimize use of the Agency's resources, taking into account current program approaches?

The working group for this workshop chose a narrower focus on food security, and we didn't consider everything related to food security— democracy, human rights, and environmental factors, for example. As a working group, we decided to find the most important aspects that the Agency deal with, that we feel we can deal with. We wanted a realistic way to reach the goal; a best fit between usage, definition of food security, and current policies at the Agency. The analytical framework, as developed, is broad enough to encompass the elements needed to achieve this goal.

The framework is meant to be a flexible tool to fit the needs of the Agency. The results from the framework are represented to lead up to fulfilling that objective. Under each of these boxes in the attached chart are intermediate results which contribute to the major results in the framework. What this framework does not show are secondary causal linkages. It does not show the additional intermediate results that lead to each of these results because we wanted to keep things as simple as possible so that we can identify the best core set of indicators. An example of the intermediate results that might fall under this result: Sustained increases in resource and net domestic food production. You would have improved natural resource management practices contributing to that result, and improved agriculture infrastructure and practices contributing to that result.

Under the result: increased level of household income, resource-based you would have employment, asset ownership, social security, public service, and safety net activities contributing to the household resource-based. There are other boxes underneath these, and there are probably other boxes under those as well.

Is there another way to do it? No doubt there are other approaches. This framework was designed to be as flexible as possible to accommodate discussions, new thinking and ideas. That's why you are here. This is not a perfect tool; it is just a tool.

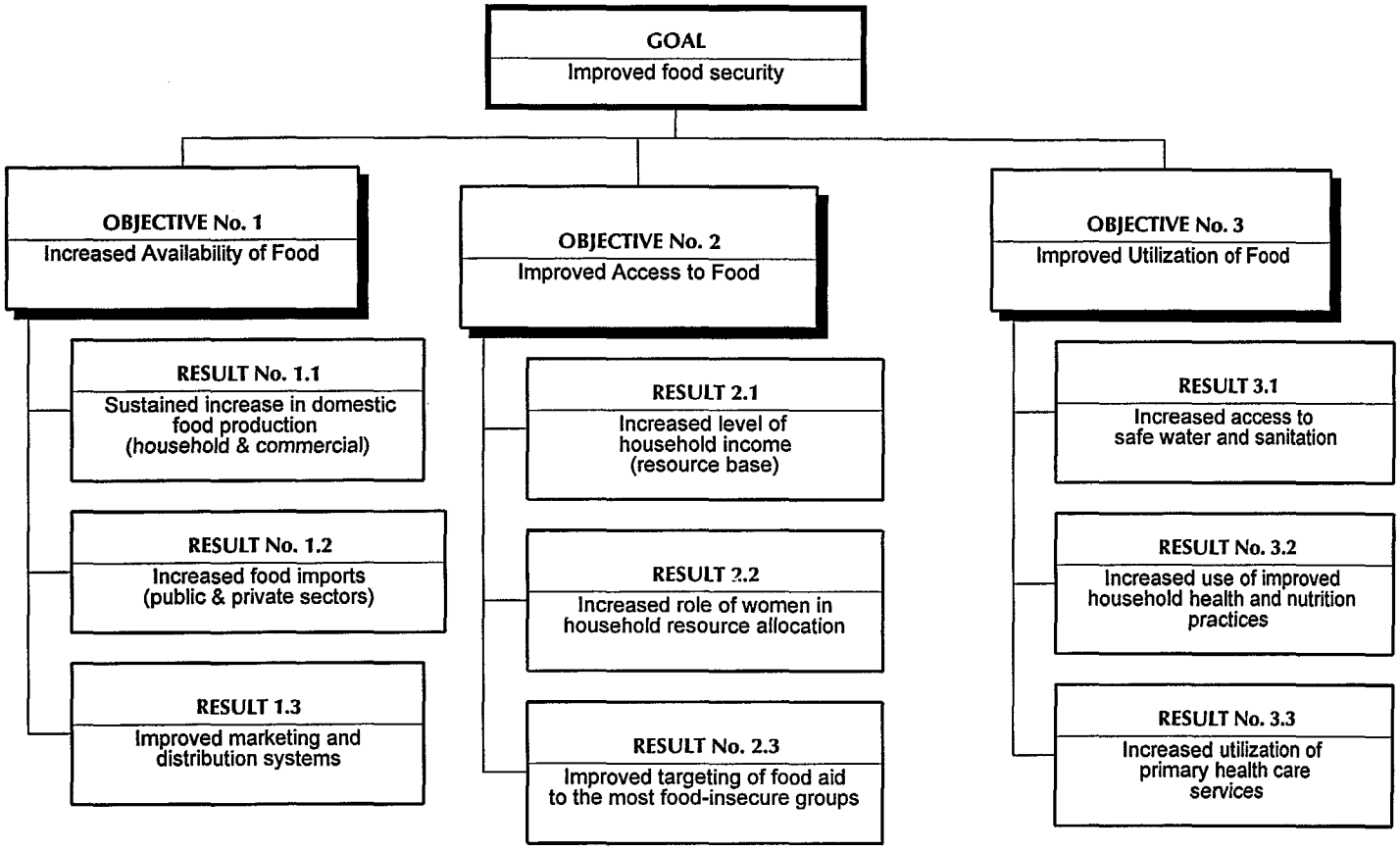
Indicators for food security

The USAID Missions data comes from CDIE's PRISM Project data base, which includes data and indicators on performance and impact of USAID programs in every sector of USAID Missions worldwide. The data comes from their strategic plans, country plans, action plans, PRISM trip reports, and assessments of program impact which the Missions have sent to PRISM for entry into the database. Data is submitted on an annual basis. These data are used by analysts around the Agency to examine the efficiency of program purchase and progress towards Agency goals and objectives. It is also used for audiences such as the USAID Administrator, and the Congressional Office of Management and Budget (OMB).

Gabrielle Dennis (of the PRISM Project) was the primary person putting these tables together. Key words relating to food security in the database. There are some limitations of the PRISM search: key words relating to food security in non-emergency situations were used. There was a humanitarian workshop held in June [1995] which looked specifically at emergency situations. Missions may express their objectives related to food security in different ways. Some of these plans were very recently received, and some plans are very old, some are a year and a half to three years old. It is only recently that the Agency has been reporting on food security and not all Missions have explicit food security objectives. We found 13 Missions with explicit objectives relating to food security, out of over 67 in the PRISM database. The tables are a compilation of the types of activities that the Missions are using toward food security. Indicators are categorized under three areas: access, availability and utilization.

I would also like to acknowledge the efforts of the Agency working group including Global Bureau and especially, the Office of Nutrition, Agriculture and Food Security Center for Economic Growth, and BHR's Office for Food for Peace. They all had a lot of input and comments on formation of this framework and these materials. Thank you.

PROPOSED FOOD SECURITY ANALYTICAL FRAMEWORK



Gerry Britan: USAID, as a matter of policy, will emphasize a smaller group of indicators in some areas, or even require a particular indicator for some programs. Our job is to come up with some useful feedback to the field.

What we don't have in the humanitarian assistance area is an analysis, collation, summary and synthesis of all the discussions in the workshop about operational level indicators. Our hope is to translate that into a set of manuals for the field by the spring. Some sections are in better shape than others. It's a difficult area for USAID to synthesize because it's a very diverse area.

Bob Kramer: After a tremendously critical report by Congress, those of us who are involved in food aid, which is now 40 percent of this Agency's development project, must come up with generic core performance indicators that demonstrate the impact of food aid on food security. Let me just explain some mis-impressions. We don't want to marginalize food aid. We don't necessarily want to have a separate set of indicators just for food aid. Those of you who have been with us for the last two years realize that we are trying to demonstrate that food aid is as important a development resource as dollar aid.

So we are not using different standards for food aid than we would use for dollar assistance. When the GAO issued its recommendations, they said the Administrator shall develop performance indicators to demonstrate the impact of food aid on food security. There isn't anything built into the structure of this workshop to give a cross-fertilization. There are obviously indicators that will cut across all three and sometimes two of the different objectives. There are other cross-cutting indicators that are not even listed which you can note in your particular group. When we get together in the discussion session, we'll be able to flesh that out a little bit more.

Nils Daulaire: Just a quick comment in response to these cross linkages: When I was in graduate school in public health, we were told that the world was divided into splitters and lumpers. Of course, it was the splitters who said that. But in fact, one of the problems that we face in coming up with an overall framework is how do you get such an incredibly complex web. Development as we all know is not simple, and not linear.

There are four levels results, objective level results and intermediate level results. Indicators tell us whether we are making progress towards achieving those results.

How do we know we have improved access to food is the question. The answer is that we have to have some indicators of improved access to food.

In doing that, there are three types of indicators that we have come across in the past several years. "Process indicators" are things we do and outputs that we produce. For example, in the economic area, if we have policy reform, it's a process indicator and the achievement of it.

A good indicator has to be measurable, quantitatively or qualitatively. Second, it has to be a direct measure of the result. It has to be useful for judging progress and for managing your program. When it is difficult to find direct measures, we use proxy indicators. They have to be objective in the sense that they have a familiar measure. It has to be replicable, so that if you are transferred to another place, whoever replaces you will be able to generate that indicator. And information is costly, so it has to be cost-effective. We cannot produce all kinds of data if we cannot use it. Data also has to be uni-dimensional: if the result has many dimensions to it, we want to have different indicators for each dimension.

We are required to report progress periodically, so the indicator should also be available on a periodic basis. As a rule of thumb, measure at the results level in a two to three year time frame; measure at the objective level in a three to five year time frame. We know it takes longer to accomplish results at the objective level than at the result level. You tell us what the indicator should be and what the period should be for indicators for various results.

Every year the Agency is going to have to depend on the budget. Every year, the Missions have to contend for resources for projects. When we have indicators that really reflect what we are doing, they will determine the period and the size of aid, what data sources were available, and what intellectual resources can be put into more data. We need annual data sources and something that says USAID resources made a difference this year.

Gerry Britan: At some level, the Agency needs a kind of annual measure for everything it does, to show whether it's making progress. In some cases that may be input/output data. To the extent that there is reasonable annual data on outcome, that may serve the Mission more sensibly. The bottom line is, what would be useful to people in the field managing their programs? Ultimately, Missions would rather measure which programs make a difference even if it means spending less money on their programs. If the programs don't make a difference, then they won't spend money on them. Most people in the field want to know whether their programs can make a difference. We want to focus this workshop primarily on the kinds of changes that we think result from our programs. We may decide that the program is an appropriate program, but we are not starting out by saying what we are measuring at the national level. One of the things that would be helpful from this workshop for Missions is to understand the importance of showing that USAID resources

had a specific impact, versus showing that USAID resources contributed to a greater impact. Messages coming from headquarters often imply that we need to be even more stringent about showing what has been the specific impact of the USAID resources on an outcome.

Agency-level Indicators for Food Security: Report of the Task-force

Carl Mabbs-Zeno

Carl Mabbs-Zeno is an agricultural economist working in USAID/PPC/ECON

We are looking at Agency-wide indicators, which are contrasted with operational indicators, so there might be something not operational about these things that I am going to talk about. These are not analytical in the sense that we are saying necessarily we can attribute their results to our activities. These are more the context on which we operate and help us to discuss where things ought to be done.

We operated independently of this workshop and we're not necessarily assigned to use the breakdown of indicators that are being used here, but you can see some similarities. We added one fourth category. We use availability, access and utilization, because we thought that it were understandable to the people in the Agency, but in addition to make sure that we get through another element we added sustainability. So, we assigned ourselves to come up with two or three indicators in each of these areas.

It also seems like in a poor idea for us to turn back to the Missions and ask them to go out and collect data, so we also limited ourselves to existing databases for all of these items. It's somewhat different than what you experience in the operational kind of exercise in that an individual project or activity may be willing to spend something on collecting indicators, but for the Agency level, we were limiting ourselves to existing measures.

Let me just show you what the indicators were for each of these. On availability, we decided to look at national aggregate levels of food available and we thought it might be more useful to express that in calories which was highly correlated with other measures of *availability.*

There was some question in the group as to whether we have to include food aid, because in some sense the presence of food aid indicates a failure of food security, rather than a success, particularly if you are thinking in terms of *sustainable availability.* So we thought the best thing would be to include both measures, the aggregate food available and the aggregate food available less food aid.

Remembering that in the end, these would be used in a discussion of food security. We're not saying that this represents food security, we're simply saying that this useful information in a discussion and something that ought to be maintained in the database of CDIE. We thought that this was a useful measure because it was easily understood and because it was widely available.

For *access* we thought we would measure two things: the number of people living in absolute poverty and the levels of malnutrition. From the speakers yesterday and from the discussion in the group that

I attended, which was on access, there was a lot of convergence here. The level of absolute poverty was one of the indicators that we will probably adopt and expect in the access group here, and there was some discussion yesterday about ultimately we need to looking at the impact on people, therefore various measures of malnutrition are important.

We thought it a most useful measure of poverty would be one which uses food basket as a numeraire. In fact different countries eat different kinds of things, and the fact that prices change and therefore the income level should be adjusted according to other things going in the economy that impact the income. However, we were also aware that since we were depending on our exercise on available data, than often unavailable. So we would supplement that with other measures of poverty where it was necessary to do so. So, the preferred measure was the poverty measured as the number of people living in poverty expressed in terms of food as a numeraire but where there was unavailable, we reduce to a more conventional measure of income.

Malnutrition can also be measured. Both indicators — stunting and wasting should be measured because they measure different aspects and therefore we have different kinds of food security problems.

Utilization, of course, is fundamentally really what you're after. When somebody always tried to separate these things, and that's why you see malnutrition repeated here -- exact same thing. The point being that the data that we would presume will be maintained on malnutrition would be useful both for the discussion on utilization and the discussion on access. Because we expect that stunting and wasting data to say something about gender and regional and other kinds of distributions, we will then be able to say something about the access dimension.

In addition, we thought we would try to capture something about the environment or infrastructure that was relevant to utilization. We thought that there was relatively good information on access to potable water, this being relevant for saying something about the prevalence of diseases from the viewpoint of environmental infrastructures. So, recognizing that this is a flawed measure, but relevant for the discussion we thought we would include it as an faulty but available measure.

We thought it was good idea to come up with some measure of sustainability because the notion was not well captured in one of these other things, and yet we were not able to come up with a very good measure. So, for the moment, anyway, our main contribution in this will be to one people that they need sometime next year to say something about sustainability.

We have included the agricultural productivity of land. The point here being that in countries where food insecure people are heavily dependent on agriculture, the quality of land may change according to how they use it. For example, like erosion would reduce the productivity and therefore would be captured over a period of years in this measure.

For the measures often used for other aspects of the food security issue, we're suggesting that it is a useful piece of information in discussing sustainability. But we've also cautioned in hearing that it's not useful everywhere; in a country which is basically urbanized, the agricultural productivity may not be so relevant particularly in our role of speaking about sustainability.

These are the proposals from the task force to the Agency and that they will go forth through a further process before they are actually introduced into the database.

Discussion:

Why we did not use health facilities as a measure of infrastructure? Perhaps because it's such a simple measure (access to potable water) and more transparent.

These indicators would not be used expressly for targeting resources in the Agency. That's a very different process. It may have some impact in helping people to think about how to make national comparisons which may have some relevance.

The problem of national aggregates is a very big problem, but when you rely on data which is already existing and that is widely available across the world, including countries where USAID does not work, because that's part of this discussion, then it is very difficult to make comments and to provide data that gets below the national level. I think that's the main reason why we relied on data which is national.

It is not within the manageable interest of USAID to affect probably any of the elements on this list, certainly not to affect food security in the world. We don't have enough resources coming out of USAID to take responsibility for the changes in food security in the world.

A question arose about use of two measures for nutritional status. The argument during our discussions was that one of them is long-term (stunting) and one of them is short-term (weight for age), but we thought they were both relevant for measuring changes which tell us different information. As for use of the poverty measure, it is a little bit open in our group as to what exact data we're trying to here. The argument was, that there were some measures out there that took account of the price and quality of food when they set their poverty level, and that those measures were more useful for our purposes but that they were less common. And so, we agreed to go back and examine the actual data that was available and see where we would use measures of that type where others were commonly available.

There is a problem with this data being available often enough. The annual report to the Administrator comes out every year. So, we will use what we have, understanding that we may be repeating the use of some data from year to year. But a lot of these five year reports and individual country may be every five years, but it might be a different set of countries each year which is coming in, and therefore we might have something new to say, even though on an annual basis we don't have a full set.

IV. Breakout Group Sessions

Summaries

Breakout Group on Food Availability:

Our group had an interesting discussion on *sustainable increase in domestic food production.* We tried to identify the various levels of availability at the household level as well as at the national and regional level. In addition, we discussed a number of indicators that would be relevant to measure that availability.

One of the first indicators was the *value of production*, not only in the overall value of production, but in terms of per vulnerable households. When we talk about availability of food so that households that are net purchasers of food can get access at a lower cost, then we have to have production/productivity increases or improvements in availability in the same region where our vulnerable populations live. That is, they should be within an adjacent region. Targeting criteria for where we do production/productivity increases and targeting criteria for other types of interventions for food insecure households have to be in the same areas.

We decided not to use *net value of production* because we felt it was an access question. In collecting household level of information, we'll find the net value of production for the access level of information. Our focus is on overall availability.

We were interested in the next indicator, *diversity of food production*, for two purposes. First, diversity can provide stability since certain crops have better yield under changing environmental conditions. Some production can be obtained whether a drought year or a high rainfall year. Second, diversity of food production with regards to balanced diets is oftentimes when staples replace locally grown foods and diets have not necessarily improved in a nutritional sense. So, we want to make sure that it has both sides of the equation, the risk side as well as the dietary quality.

We're interested in the *percent of non-major staple food crops* growing in an area, starting at the baseline and looking at the change over time as a result of the project. What do we mean by crop ranking? How important were these crops to farmers in the beginning before we began to intervene? How important are these crops after the interventions have proceeded for a number of years?

There must be a distinction between field level diversity versus farm level diversity. If you only have a couple of plants of a different crop in the same field, does it mean that diversity is increased? Does it have to be a certain percentage change of total crop production to really be a significant change in terms of diversity? We believe that several of these issues still need to be discussed, and an expert panel needs to focus on how they will be measured.

We also talked about *yield or productivity per unit of land.* Another controversy is crop cuts versus farmer interviews or are there more important ways to get the information. If an expert panel is created, it can address that issue as well.

In terms of changes in degradation, we're trying to get at the sustainability part of availability. We were interested in measures of soil, water and vegetative erosion. Now we know that there are certain levels of skills that are needed for this as well as precision that may not exist in a lot of the NGOs that are going to be collecting this information. Therefore, we need an appropriate model for the agri-ecosystem that this area is in, and then a sampling frame to validate that information.

We also realized that it takes a longer time to collect this information to see demonstrated changes, so five year project cycles may not be enough to see significant change. So, we have to have a longer time frame if we're really serious about sustainability.

In terms of sustainable changes in production practices, we're interested not only in the number of people that are affected by adopting these changes, but also the hectarage that is affected. These are improved practices, such as improved crop varieties, agri-forestry techniques, soil erosion techniques, etc. So we're looking at adoption rates, but in terms of sustainability. Oftentimes a farm family may adopt a practice for one year and then abandon it. It has to be more than just adopting it on a one year basis. We're interested in changes in prevalence rates over time.

We also talked about autonomy, with regards to the following measure; you can become dependent on a subsidized external input that can bring about changes and availability, but may not be sustainable. So we need to factor into the equation the autonomy or the ability of farm families to maintain that sustained change with their own resources and what is made available to them in their local markets.

The group decided, after much discussion, that the second result would be *effective use of world markets* (including commercial and food aid). Realizing that imported food, whether it is food aid or commercial basis, does increase the availability of food, just like increases in production. But we have to deal with this somewhat differently as we work with world markets versus confessional or food aid.

On a commercial side, one of the indicators is a reduction in their rates of protection, and we want to emphasize this for both input markets as well as commodities, whether it is food, feed or fiber. Often times, we will find in a country that the protection rates or trade barriers are higher on the agriculture inputs, which could include trucks, refrigeration equipment, or packaging materials. And they may be a greater detriment to agricultural productivity because of those trade protection barriers. Therefore, farmers cannot get modern technology into the country and they can't produce.

So let's look at commodities as well as inputs. We can easily measure those by the rates of tariffs and the number of quantitative restrictions. The smaller margins between the world market price or border price are domestic prices. The wider the spread, the greater the trade protection.

If we look at the percentage of total food imports that are food aid versus commercial, the greater use of food aid means that the economy is not well developed or there's a disaster going on.

As we go through the development process, if we start in an emergency situation, whether drought or famine, we are going to have a lot of food aid instead of commercial food imports. As you go up

the transitional food aid and development food aid ladder, and hopefully into confessional sales like the GSM program, eventually there will be a greater reliance on commercial imports.

Let us remember that imports in and of themselves are not a bad thing in the development ladder. The U.S. is the largest exporter of food in the world, but we are also the largest importer. So trade works both ways - over $20 billion each way. If you don't understand the General Agreement on Trade and Tarrifs (GATT) or the World Trade Organization (WTO), you better learn it, because that is the way of today and the future. GATT - the Uruguay Agreement - is changing the face of trade throughout the world, and it includes food aid. It's a very essential piece of economic development. I encourage all of you to become familiar with it, because it could be a God send when you are dealing with economic policy reform. It gives you a language to use with your constituents out there on the farm, and in the processing sector to deal with your government in staying competitive. I've got to have lower restrictions in imports, so that I can have more competitive prices for fertilizers, for seeds, for modern technology so I can compete with my neighbors. It gives you a whole new language to use, and it really empowers those local indigenous groups to fight the policy battles that we have been fighting as donors for a long time.

Reduced reliance on preferential market access could be like the sugar quota in the U.S. and in some European countries. This should be considered as temporary measures to get people into markets, but should be phased out as quickly as possible.

Food aid needs to be market friendly, first and foremost. For a price stabilization indicator, the higher the peaks and valleys in prices over time, the more difficult it will be to manage food aid and to coordinate with donors. Better donor coordination on quantity, timing, the commodity mix and also, greater use of the private sector in the global country for distribution of that food aid, is needed. So rather than disrupt private markets, we should build and strengthen them with our food aid.

Under increased availability to food is the Result 1.3, *improved marketing and distribution systems.* (Refer to Fig. Page 53) Three groupings of various indicators are reduced food marketing cost in an absolute and temporal and spatial dimension; the cost and availability of key inputs in agricultural production (both food crops and livestock); and availability with emphasis on facilitating services, an infrastructure for inputs and outputs. We need streamlined indicators, those that are indicative of the process one will go through to specify very precise measures that are implementable across countries. An example would be *intra-annual staple food price variation.* Over time what we expect are the costs of performing temporal arbitrage to go down: with less risk, less losses, less financial costs, the cost of carrying food from the harvest to the lean season is going to go down. That's an improvement in the marketing and distribution system. We can try to measure that by looking at price at harvest in a major city for major staples, and price in the lean season for those same commodities in those same cities. Likewise you can do the same thing, but for a rural deficit market, which is probably some of your most vulnerable groups, being net buyers who have to operate in those rural markets.

There are a lot of different ways to specify margins, we have retail series margins in an ideal world and in OECD countries, we have farm wholesale and retail with variations. Many countries now have retail series and some have farm levels. If we've got these series, we can look at the aggregate of a lot of marketing services and costs, and we can try to see what's happening over time.

Secondly, prices of key agricultural inputs—retail prices for major farm inputs in major growing areas. Clearly, these would have to change by country, commodity and interest projects.
We talked, for example, about the price of nitrogen fertilizers in major growing areas. To the extent that it's beyond world market levels, we really discriminate against domestic growers. That is an important indicator to the extent it changes over time.

We don't have any indicators for the third area, because it's the most difficult to implement with clear indicators. However, an example of an interesting facilitating service would be small holders in Malawi today that had significantly improved their household food security because they now have the right and the ability to market barley and tobacco. And they didn't have that right before. There was no service, there was no marketing opportunity for them to grow and sell barley and tobacco. Today, they can do that and it's had a significant effect on their household food security. That's a very important new marketing service.

In Harare, Nairobi, Lusaka, and many other countries, we can find small-scale hammer milling services that five years ago didn't exist. And because those hammer milling services exist today, medium and poor income households have a new product available that is at a significantly lower price than the alternatives they had before. That's a major improvement in food availability because something changed and allowed those new facilitating services to operate.

It is difficult to measure. But this is the grist for the real change in the system. So to the extent that we can create indicators to identify those things, even if done through anecdotes documentation, they are helpful.

- Changes in Degradation-Natural Resource Management - The key to this results component is the fact that measures of soil, water, and vegetation erosion must be based on established models for given regions. It is not necessary to set up measurements for every project activity . Sampling may be done to validate the model for different sub-regions. In addition, a time-frame for a period greater than 5 years is usually required for obtaining these results, consequently, this must be factored into project designs.

- Sustained Changes in Production Practices - It is critical to take into account a number of factors in the measurement of this results component at the household level. For instance, when considering adoption rates, it is important to determine who is adopting the change and whether that change is being maintained over time. At the regional and national levels, the changes in production practices can be calculated on the basis of the number of people (including women) and hectares affected. Changes in production rates can be determined at the household and regional levels, as well as at the national level, depending upon the size of the target area of the program.

- Diversity of Production - The key issues to focus on for this results component are the stability of production to avoid risks (weather-induced) biological, and market) and the importance of promoting balanced diets. Diversity of food production includes both crops and animals. The design of interventions aimed at promoting diversity must incorporate regional market considerations. Interventions aimed at promoting the diversity of food production are not typically aimed achieving impact at the national level, nevertheless, such diversity should be

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monitored and tracked at this level. To measure this results component at the household level, indicators should include the % of non-major staple food crop production (measured through farm records or baseline and follow-up surveys); crop rankings; and measures of both field level and farm level diversity. At the regional level, the first two indicators would apply.

- Yield-Productivity per Unit of Land - The key issue associated with this results component is whether crop cuts or farmer interviews should be used. Recent studies have shown that widely-used crop-cutting methods for estimating crop yields are not only highly resource- intensive, but that they can also result in serious measurement errors which range from 10-30 percent. Farmer estimates, on the other hand, are less resource-intensive and may be just as accurate. While crop yield estimates are usually available from government secondary sources, this type of data cannot be disaggregated to distinguish between program participants and non-participants. Thus, the best way to derive this information is through household surveys.

Breakout Group on Food Access:

Group two came up with some indicators under the objective of improved access to food. We will then discuss indicators for results 2.1 and 2.2.

There was not a specific focus on food aid, prices, or retail markets, but there was a specific focus on incomes, expenditures and other critical things to understand and improve access.
The result were two good indicators under the overall objective: the change in the percentage of households meeting minimum caloric intake standards and the change in the level of real per capita food expenditures.

With regard to result 2.1, increased level of real household income -four of the five indicators essentially dealt with income. One indicator dealt with income and the other dealt with expenditures. Several questioned whether or not they were one and the same because of measurement issues.

Income can be measured through expenditures. I think if anybody here was from Iowa State Center for Agricultural Development, they would certainly point that out. And economic theory will suggest that's the best way to measure income. But in fact, there was an indicator for income and one for expenditures, an indicator for employment and an employment related indicator, and another indicator that was an asset related indicator. People were trying to come up with a comprehensive set of indicators that really captured everything that was important, vis-a-vis, the income, asset portfolio side of households.

And this links back to the fact that food aid was not explicitly discussed. The fact remains that because we are talking about households, we're talking about household level income and assets, and therefore household nutrition.

But the income indicator was a change in real per capita income at the national, regional and local level. The expenditure-related indicator was the per cent change in per capita expenditure. The assets (all household) are all measured in terms of household level.

The third indicator in terms of assets was change in the value of household assets, complementing any income measures. The employment measure indicator was change in the number of retail businesses whether it was family owned or not. The group concluded with not family owned, but change in the number of retail businesses in target areas.

In theory, one indicator was completely separate from the others— the percentage of children in school.

I thought there would be some discussion about prices but they were captured implicitly. For example, we talked about real per capita income and everything was measured in real terms for prices. And incomes would be measured in real terms, deflated by prices. But the group had no indicators related to retail prices which might be worth reconsideration.

For the second result, which was sustained reduction in the number of and proportion of people in poverty, we came out with a smaller list consisting of only two. One was the change in the number of people falling below the poverty line. There was some debate as to whether the poverty line was measured in terms of food or food and non-food. We used the expanded definition of poverty line — change in the number of people below the poverty line.

The other indicator, which was left a little bit unclear, was change in the poverty gap. By poverty gap we meant the spread between an essentially estimated poverty data line and the "average" household income level. It is unclear whether that be in terms of the lowest decile, or whether that be in terms of all income categories. Some specificity would be needed to refine that particular indicator in order to use it.

Regarding indicators for result number 2.3, people questioned whether we were talking about inter-household allocation, gender issues, women —what exactly were we talking about. It was a divided opinion about how to capture this important dimension. As the next activity to pursue an indicator for this particular objective, we will need more time thought and consideration to deal with the question of control, authority, use of resources within the household context, particularly as it relates to some important gender issues that everyone recognized were pertinent.

We did not have time to complete result 2.4.

Breakout Group on Food Utilization:

Regarding objective number three, we looked at the definition of improved utilization of food and decided that a few words in the definition should be changed. Our revised version is "*Food utilization is the proper biological use of food, requiring a diet providing sufficient energy and essential nutrients, potable water and adequate sanitation. Effective food utilization depends in large measure on knowledge within the household.*" And here we recommend that "knowledge" should be substituted for "practice within the household." For basic principles of nutrition of food storage and processing techniques, we asked that health and proper maternal and child care be included. So basically three words, "practice" instead of knowledge; "health" is added after nutrition, and "proper maternal and child care."

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We then looked at the three results and felt more comfortable with a definition closer to the objective. We felt sustained improvement in dietary intake would be one result, and improved retention of nutrients reached all of the results relating to the utilization of food.

We recommend that the results that are on the analytical framework be substituted for the results we have. Number one is sustained *improvement in dietary intake*, and number two is *improved retention of nutrients.*

Going back to the objective of the level of improved utilization of food, we looked at the indicators that we felt should be measured. We did not spend as much time on the actual descriptions of the indicator itself. We just described it very broadly.

The first measurement indicator we felt should be stunting; second, weight-age, bearing in mind that they both depend on the age of the child. Weight-for-height could be used as an impact indicator, either in emergency situations or directly with beneficiary populations, when it is not possible to make measurements at the level of the population. These measures should be at the level of the population. We also talked about the weight-for-height of pregnant women or women at seven months of pregnancy, which apparently is an up and coming indicator. Vitamin A deficiency, iron deficiency and iodine deficiency as the micronutrient deficiencies should be at the level of the objective. The percentage of births less than 24 months after the previous birth should also be at the level of the objective. We did not get a good definition on the number of episodes of diarrhea per child, but we're basically looking at the episodes over the year that a child had diarrhea in any specific area. Those were all our indicators for the objective level.

Our first result is *sustained improvement of dietary intake in individuals.* First recommended objective is the percentage of the population consuming 80 percent of the required intake - meal or food frequency calibrated at the local level, number two is meal/food frequency. Number three is the prevalence of exclusive breast feeding. Some thought that six months is what you aim for but it's probably rather ambitious in many countries. We could lower it to six full months or we could use that indicator as an average change in months if we're not getting exclusive breast feeding in any country.

Number four is the prevalence of adequate weaning practices consistent with WHO/USAID recommendations. Number five is the introduction of a colostrum, consistent with those recommendations. Number six is continuous feeding of children with infectious diseases, including all infectious diseases, and continuous feeding both with solid food and with breast feeding. The frequency of consumption of local indexed food reflective of micronutrients would have to be locally defined in each region. Number eight is reduction of cultural barriers to feeding practices during pregnancy and lactation, which again is very region specific.

Our second result is *improved retention of nutrients.* Number one is the percent of fully immunized children at 12 months. We felt that measles in some parts of the world is important enough to be a separate indicator; the percentage of measles immunization at 12 months. Number three is the percent of mothers using oral rehydration therapy for diarrhea and other infections during the last two weeks. We had a discussion about ORT versus ORS, and felt it very important that the concept of ORT basically come with this indicator which is continued breast feeding and continued feeding

during diarrhea, as well as liquids and/or oral rehydration solution. But it is not just oral rehydration solution.

Number four is the percent of mothers introducing weaning foods in children from six to nine months. Number five is percentage access to potable water for both drinking and sanitation. We didn't have an exact definition and we would like to look at the JSQ/WHO definition.
Number six is the percentage access to sanitation facilities, both latrines and waste disposal. And number seven is the percent of time and distance from health services.

We went through a great length to come up with this list of indicators and we reduced it considerably. Between the two groups we found that we duplicated many indicators.

The group had *two recommendations or concerns*. We feel that *PVOs should be involved in the indicator definition and discussions on implementation*. In some cases, PVOs may need help with the mechanisms for the collection of some of these indicators. Also food should not be evaluated alone; it should be evaluated as a package with other interventions such as the maternal and child health care interventions.

Discussion of Breakout Group Presentations:

Bea Rogers:
I am concerned that there is something that might be considered access, but is probably better considered household use of food or practices. But the issue of how household level food consumption is translated into consumption by individuals who are particularly vulnerable individuals, has not been explicitly addressed. I think it's very clear that you could make a case for it, being in either access or utilization. I would like to suggest that we add something that would get at that translation when we look at the access measures of households achieving their age and sex composition adjusted caloric adequacy. We know that is enough, but not necessarily sufficient for individuals in the vulnerable groups to receive enough food.

Ted Okada (Food for the Hungry):
In the last presentation, I think one of the elements was categorically left out which was something that we had included on increasing or reducing the time division allocation for women. Such as getting fuel, retrieving water, as well as health services. I don't know if we are able to revisit issues of analyzing the time division problems that women face, and factoring it in terms of the utilization of food and the access.

I think we may be underestimating the centrality of that role in our issues, for example, the obtaining of fuel. There are problems that, in the environment and in reforestation in the case of the Sahel and particularly with the Horn of Africa, where eight or nine hours are spent a day on retrieving fuel. It is difficult to categorize whether it is environment or agri-forestry. I'm wondering if there was more comment in response from the group on the issue of time division problems that women face.

V. Panel Discussion

PANEL RESPONSE AND GENERAL DISCUSSION

Nils Daulaire (PPC/PHD), Bob Kramer (BHR/FFP), Scott Smith (PPC/CDIE), John Lewis (G/EG/AFS), Robert Clay (G/PHN/HN)

Nils Daulaire:
We started out yesterday by reviewing where all of these might sit within the overall Agency framework. I spent most of the last two days sitting in on breakout group two [on Food Access] because to my mind in many respects, the issues of access is the most difficult to encapsulate, to bring forth in relatively simple, translatable terms, in terms of indicators and clear outputs. I was not disappointed and in fact, it is clear to me from both the discussions that I took part in and the presentations today, that access really is as yet unsettled in terms of getting a clear handle on it. To me, this reinforces the need for us as an Agency and for you as our partners and colleagues to continue working on this. I think we made some progress there, and—based on the presentations—the issues of availability and utilization have been quite well and quite clearly addressed. We've made a good start, but not come to closure on the access issues.

While these reports were being made, I was thinking of this in the context of our initial framework. I am thinking about when I presented yesterday morning and I underlined the areas which I thought had particular relevance to food security.

Based on what I heard today, I circled five of the Agency-wide strategic objectives that were discussed over the last two days. In terms of availability, access, and the importance of strengthened markets, what's come out of this workshop will help us to more closely define what areas of market strengthening we need to focus on. It will also help us to really get some precision in our overall economic growth portfolio.

Similarly, expanded access and opportunity for the poor was clearly the major topic of our discussions in breakout group two [on Food Access]. I think that data on the percent of households living in poverty is going to be very useful, and will help direct relevance to the issues of food security.

Because of my own background in health and nutrition, I am personally most comfortable with the work of breakout group three [on Food Utilization]. In terms of child mortality reductions, 2/3 of what we have listed up here were directly related to what is already currently the core of the Agency's child survival programs. This clearly points out the need to coordinate our food security and food aid efforts, but it does not mean that we have to change things. I think, it means that we have to concentrate more. Similarly, the reduction in unintended pregnancies was highlighted in terms of child spacing in that group report. A number of the key interventions in our maternal mortality

activities are focused on maternal nutrition and will, of course, feed into the child mortality rate as well.

Within the environmental aspects, certainly within the utilization category, there was a lot of discussion about the importance of water and sanitation. While not clearly defined as a specific Agency objective, either in health or in environment, it is dealt with under "pollution", Agency objective 4.3. I think we are going to need to return to that issue as we look at ways of better integrating our various Agency-wide objectives to get broad results in food security.

I will let Bob Kramer discuss the issues that go under Agency Goal 5. The urgent need to meet crisis situations is central to much of our emergency food aid. We also need to more clearly define within this entire framework how our development food aid can directly fit into this, or what we need to add to it in order to make it more substantive.

It's been a tremendously useful couple of days. I've learned huge amounts and I really benefitted from sitting through the small group discussions. How we organize the structure of our ideas, whether there are cascading elements of security going up from food security to nutritional sub-security, and so forth, are certainly issues that we need to explore in much greater depth. And I appreciate your bringing it to us.

Bob Kramer:
Last night I was thinking of ways to put into a human perspective the work that you've been engaged in the last two days. I was not quite sure how to do it.

We have a lot of posters in our office showing very healthy people consuming food, and that is not necessarily the picture I want to present to you all. What I was planning to do and not do, was to find a very large photo of children who are really seriously at risk. I found one in the cover of last year's World Food Day report, but unfortunately, I did not have a very large photo to show. It shows three severely malnourished young kids. This was submitted as the President's Report to the U.S. Congress last year.

I was going to issue a challenge to all of you: if these kids survived, you were successful; and if the kids did not survive, then the group was not successful. I think the kids survived. But they are still severely malnourished. This workshop has really progressed. I would have preferred it to be a totally full glass, but I will accept a glass that is half full.

What you've done the last two days really helps us in the process, and will permit us to go to Congress fairly quickly with the core of generic performance indicators that are so critical to defending the resources that we now have.

It is not just an academic exercise. It's interesting as an academic exercise, but the future of our resources—be they food resource or dollar resource—is in jeopardy. You all know that. We have to be able to be conclusively demonstrate to our colleagues, our friends and certainly our antagonists that the resource that we have—which are declining—really have had and can continue to have an impact. Not just anecdotes, but an empirical impact.

In the Food for Peace office—and this is what Bureau for Humanitarian Response (BHR) has been doing as part of our strategic planning process—we have come up with our strategic objectives. They have been discussed and established in consultation with our PVO colleagues.

We've come up with a number of indicators of performance. We came up with two strategic objectives: on the emergency side, one that is particularly important is sustained improvements in household nutrition and agricultural productivity for vulnerable groups served by USAID food aid programs. We have a number of what we call "intermediate results". They are very similar to what you have worked on here.

The attempt to put together indicators of performance for these results were a best-attempt by us with some help, certainly from the PVO community and others. We attempted to come up with indicators that were measurable, that did not place a tremendous burden on those collecting data, that could help us demonstrate to everyone over time that we were using food aid resource wisely, effectively and with a definite impact on food security.

Since what you have come up with today may permit us to come up with more precise indicators, it will be very, very helpful.

The next step for us is for strategic objective teams (core teams inside the Agency) to come up with more definite indicators. We mentioned last Friday to the food aid council group participants that we will be establishing expanded strategic objective teams on both the emergency and the development side in the very near future. Ultimately a third team will be established to deal with transition.

The teams will have a tremendously difficult but challenging agenda. We will again discuss the performance indicators, and we will achieve consensus on the performance indicators. We will come up with the kinds of systems that will permit us to demonstrate impact. Now, that's something that I believe breakout group three [on Food Utilization] mentioned in terms of its recommendations. I subscribe to them.

I disagree a bit with the recommendation and concerns that PVOs should be involved in indicator definition, and given help with mechanisms for collection. It's not that PVOs should not be involved in indicator definition. What we do in this Agency has been done in partnership. When we established strategic objective teams at the mission level, Washington level, the teams are a part of the process of dialogue among PVOs, USAID missions, international organizations, other clients, certainly recipient governments. Everyone is a stakeholder, a member of the strategic objective teams in the field.

The PVO has not seen this in the field because I have been involved in this strategic planning process in the field. The PVOs have the major burden. Our counterparts actually collect the data. USAID in the field does not collect data. We have to make sure that we give PVOs the capability to collect that data. We all together analyze that data and report to Washington, and that's why it is so important that ultimately we have core or generic indicators of performance. I spent most of my career in the field and I was always very frustrated when I got generic performance indicators from Washington because I thought that I was straight-jacketed. Now I am in Washington. Because we are fighting a battle of survival for our resources it's very important that we achieve a consensus on a few core indicators.

That does not mean that the Missions or the PVOs cannot establish far greater numbers of indicators, but we have to establish a few core ones. I think the analogy that I used yesterday in the family planning community and child survival communities: we're helping for constructive result. So again, I just want to congratulate you all. I think you have done an excellent job, there are some next steps, and we will be working very, very closely with you in the next few weeks and certainly next month in the establishment of our strategic objectives.

John Lewis: *(John Lewis is the head of the Office of Agriculture and Food Security, which is within the Global Bureau's Center for Economic Growth)*
As for economic growth, everybody who works closely with the Environmental Center of the Global Bureau—and David Hale who is head of that Center—keeps asking what we've done with $14 million of his money, because there is an attribution in our agricultural research portfolio of $14 to $16 million to environmental impacts, which we see, of course, totally consistent with food security. And we see it again up here, several times.

I agree with Bob, this is probably as good a list of indicators as you're going to get or as good a list as we want. The question is, if we do it as rigorously as discussed and presented here, would there be any money left for the food aid, let alone for the transitions investments in increasing productivity? The answer is yes. Fortunately, a lot of you and a lot of other people are already doing what was presented. It would seem to me that the next step is figuring out who is counting what, where, and make sure that they reference the same way. I didn't hear it in the presentations in the group discussions of geographic information systems, which dramatically reduce the cost of doing some of these fine-tooth combing of these three aspects of food security.

A lot of what we heard from the utilization presentation is data that USAID still has money to spend on, the DHS surveys. Many, many of those are geo-referenced, and some of them are, coincidentally, geo-referenced in the same way that we do our different world resources: land use, green mapping. We're part of the land quality indicators group at the World Bank, which, thanks to God, uses some of the same mapping coordinates as some of the DHS surveys. So, you can actually look at nutrient mining, land use degradation and some of these utilization indicators, even though the people who actually collect the data on the other side don't know each other or if they do, they don't talk to each other, because they are fighting for the same budgets. But they are studying the same villages, and so, you can say something intelligent about the relationships and the trends of baselines, etc.

Within the data set that we have all agreed on here, there are other kinds of economies of scale. There is data on margins on the availability side, there is data on investments, savings, discussions on the access side. These in many, many cases are two sides of the same coin.

At the risk of throwing out some proxy indicators, I would recommend that we develop a handy set of things that will reflect income and, of course, productivity change. I copied this down as quickly as I could, and I have two pages on [food] availability and a half a page on the other two [food access

and food utilization]. As I look back through the pages on availability, I see many, many things that are proxies for access data.

You would want to think of people out on the ground. We have a list now of 10 things to count, which gets me to my second point: indicator counting is not only to keep Congress off our backs, and put us on Congress's back, as it were, but to help all of us help our on-the-ground job better. Many of you work in situations where government is more or less absent. You have your own teams and the capacity building by-products of your work, with many local leaders and potential leaders in local areas. We want to think of that list of 10 indicators that you are out on the ground collecting that are going to help us at least on access and availability, and those aspects of utilization that are already being tracked. These have to be valid area frame samples of some kind.

What are you going to learn doing your job better? You want also that benefit, because we will be asked why you are spending so much money counting the same things. Not only to keep Congress off our back, but also to learn how to do our jobs better, and to train the people we are working with better. You will be asked what it is all about, and where it is supposed to lead.

My final point is about the by-products of doing some of these same kinds of work. This is about getting the governments of some of these food-insecure countries to lead their countries out of food insecurity by policy reform. And that's what in my office we are particularly interested in: how this knowledge and these experiences and the transition information will lead to development; how that information can be used to make a linkage (not in the Cold War context) between marginal development resources—not to be confused with humanitarian or relief development resources, but development investment resources—say in the agriculture sector, to use those resources, or to program those resources in countries that are performing better against these indicators.

If we are going to use these ten things we are collecting in the field for this other purpose, there has to be some agreement up the line, about what those indicators mean and what story they really tell, like women's access to land. That's a very important indicator for us in our discussions in international reforms.

Countries work with regional organizations that have a certain monitoring capability. Some have these GIS technologies themselves. We agree on a report card for countries in the food security area, and the countries then in the transfer process see themselves getting more or less of these development resources as a function of what that their three- or four-year report card looks like.

We seem to have so little money now, that we have to stop thinking about our development resources. Now, we don't have 40 percent of development assistance resources that the Agency like. I don't know what percentage it is in agriculture. I hate to think - but it ain't much and what we want to think about using that not only to, you know, get better kind of sweet potatoes in that valley, but in so doing in that valley, in one country, instead of another valley and another country - since we can't afford to do both countries and both valley any more. But the country knows why one country is getting the money and the other country is not. And that would be linked to performance against these indicators.

So that we can have some impact or we don't spend money, because it will be known why we are not spending money there or spending the money we have there, and not just where we do end up

spending a little bit of money we have left. And I think if we start having those impacts, that would be recognized again, because we have these indicators in our finger tips.

To conclude, I still think there's a lot of work to do here, and it's not that what we have up on the list here aren't the right things, it would take a few - how did they get collected, what's already been collected, and how can it be used, and then, what do we need to get out there and get in addition. Thank you.

Nils Daulaire:
The Global Bureau is broken out according to the strategic goals of the Agency, and another one of the Centers in the Global Bureau is the Center for Population Health and Nutrition, and within that center is the Office of Health and Nutrition. Robert Clay is the deputy chief of the office, and has been heavily involved in child survival activities here in Washington, ever since child survival became a recognizable phrase in the mid-80s.

I'd like to stress the important that I think this workshop has brought out, integrating our health and child survival activities, which incidentally are one of the few areas I think in our budget, which is not under huge stress. It's under stress but it's probably the best protected of all our budget areas, besides direct food assistance. And I think this certainly lends to conclusions that we need to more tightly integrate our activities between what has been traditionally the health sector and the food and food security sectors.

Robert Clay: *(Robert Clay is the Deputy Director of the Office for Health and Nutrition, which is in the Global Bureau's Population Health and Nutrition Center)*
I think the first important thing to note is that this is the Office of Health and Nutrition. As many of you know, we have combined these two offices together. I think that is significant, because it really reinforces the way we look at nutrition in our office. That is, it is an underlying program for a lot of our strategic activities and strategic objectives.

I was impressed as I heard the report out saying that nutrition is really a critical component. And it certainly reinforces the strategy that nutrition is critical to the achievement of the goals that our office has set out to focus on. Nutrition clearly is a critical element in terms of child survival and maternal mortality. The sessions also highlighted the clear link to food security of other PHN focus areas of family planning and HIV/AIDS.

The Group 3 report out was of particular interest. There was a long list of indicators, such as breastfeeding, measles, potable water, child spacing, the list went on. This list of indicators clearly illustrates that there is a whole other community that is also committed to achieving the results that G/PHN is focusing on.

This brings up the important point of the collaboration which is going to be essential to achieving Agency objectives. We have already been working closely with BHR, with IMPACT and other projects, in support of improving the design, implementation, monitoring and evaluation of food aid programs.

But I think there is a lot more that we need to talk about, given the sort of objectives that you have outlined here today. One group report brought out the need for data collection, and actually how we are going to achieve the collection of data on the various indicators that were mentioned. That's one area where we have had a long history in Population, Health and Nutrition, which would be important to share, to learn from and to make use of.

One of the exercises we have gone through in our strategic planning process is to look at all the major PHN indicators and note which ones could be collected from the Demographic Health Surveys, which ones could come from country specific surveys, or other mechanisms, and then finally to identify those indicators that need further development in order to be useful. I think this kind of categorization of indicators would be helpful and we would value your opinion on these issues.

What can we do as an office in the Global Bureau? Clearly we can have our staff work with you on the working groups, so that we are sharing information together. We should also look at the indicators to see how we can better coordinate support of both improved reporting and improved activity implementation. In our current portfolio we will be addressing many of the indicators that you mentioned, particularly in the breakout group on food utilization, but we also have specific programs of nutrition, looking at policy and programs, which will be very important as well. We can certainly discuss that and see how our programs can help support some of the work that will be done under your activities.

Let me share with you one other story. The head of our center recently returned from WHO, where he participated in a large international meeting. In that meeting they were looking at indicators, and it turns out that one of the most critical factors and most influential pieces of work was actually the indicator development that we had done here at USAID on the HIV/AIDS program; indicators that have been worked on in a similar fashion to what you have been doing here today.

That was then used as a basis for determining some of the U.N. benchmarks, as well as for some of the collaborating donor organizations. I mention this anecdote here, because I noticed that this effort that brought us here today has already entailed a lot of work, you spent two days here, and there is a lot more that is going to be required. But I believe USAID has a unique sort of role to play. Our office has done quite a bit of work in this area, and I think the impact can be felt beyond just our program to organizations which some of you represent, as well as international organizations, which were a key member and play a key role. So, it is important work, and we will be with you, working side by side on achieving some of these indicators. We will be talking with BHR on how we can continue to collaborate. Thank you.

Scott Smith:
A few years ago, some attempts were made to analyze how much is being spent now on evaluation in USAID. And those numbers usually come out to be less than one percent of the amount of funds that we have. PVOs and Missions should take three to 10 percent of the budget as a target measure. It gives some sense that USAID does indeed mean that we should be putting more emphasis and more resources on monitoring and evaluating the performance of our programs.

This is not just a rhetorical thing and back to business as usual, but that this is important, that it is important in managing for results to have some systems that would enable us to judge whether we are

making the kind of results, making progress towards the kind of results that we laid out and then to be able to do something with that information in return.

One should look at that as a reflection of two things, one the recognition that these things do cost money, and they are expensive, and also that a recognition that fundamental management systems, collecting information that will be useful for helping us manage the programs that we re funding, is an important priority for the Agency.

Unlike my colleagues on the panel, I don't bring any particular technical expertise or even recent field experience with these kinds of things. So the lens that I have looked through, and in listening to the reports earlier this afternoon and reflecting on that, was really more one of management, may be senior management in the Agency, and also from the standpoint of the Agency's performance monitoring and evaluation systems in all of their broad dimensions.

Let me congratulate the progress that you've made, and say that I think we've all benefitted from the sharing of experiences, from the input that everyone has made again from diverse group of people from different perspectives bringing your experiences, bringing the benefits of what has worked and what has not worked, I think is very valuable. Begin applying these indicators to your programs, while we refine and reduce the list we have generated here.

There's a bit of a risk to say that food security is everything having to do with sustainable development. Despite the fact that we've done the strategic framework and the Agency has cast strategies in terms of these five goals, clearly it is not intended to mean that they are isolated from each other, their whole integration, the cross cuts of this are very important. And this is one area that cross cuts most of what we are doing.

It was very beneficial in a chronological sequence to do this workshop last, after we have done the ones on environment and democracy and some of the other areas. There are many linkages. And there was real value in getting all you specialists together around one issue.

My final appeal — let's build on what others are already doing, and then look at it through the prism of food security. The challenges to define those key things that will be most sensitive in telling our story to management in the Agency and through partner agencies, have in fact, that much of these are already being collected, I think we are much further ahead perhaps than people might think. Thank you again, particularly those from outside USAID, who've come to share your time and ideas and experiences with us.

VI. Concluding Remarks and Follow-up Steps

Gerry Britan

Three comments before we do that about what I think the next steps. First of all, where we are. We came up with 30 - 50 indicators in a total for about ten results boxes.

We certainly want to identify a smaller subset of that to be very useful for USAID managers. It is a reasonably good beginning, by comparison to the other four workshops, that I had the privilege of sitting in on.

We have developed a set what you call candidate indicators, which is a lot smaller than the kind of laundry list of two thousand indicators that we had just when the people were using at operating level. And it won't be that hard to think about where we go from here.

The first step, I think that we, my office, can play a role in, is to begin sharing and consulting and refining and deciding and then the roles are to shift away from my office, where do we go from here. I think that we have a good group of people here, but there are an awful lot of people who aren't here, that we need to share this with other PVOs. We certainly need to share this with USAID field staff, who have some representation here, but I am sure a lot more representation in the field. We need to share it with other people who could not make it here, to get input from, what they think we have done, what they think we forgot, if it is good, to help make those decisions, which I think we're probably going to have to make some of them - some of them you'll have to make yourselves, some we'll have to make jointly.

To do that, I think we have to get as people suggested, the product of this workshop, a summary of the list of the candidate indicators, and ultimately a proceedings out to the participants. One way to do that would be in hard copy, and we'll do that. We're also exploring, and I presume we'll act on other mechanisms, electronic mechanisms. We have the capability fairly easily to do an electronic conference with our field missions, to actually share some of the materials, and to get their comments and thoughts. Hopefully we can do that more broadly, with the PVO community and other academic colleagues and others, by making this information available, either for comments via E-mail, or do some sort of an electronic conference, that go beyond USAID, where that might even include efforts and information to our Web site. Or maybe some of you people would take some of the initiative from us, and use your own capabilities to share this information with others.

Secondly, once we figure out where we are in terms of measuring the performance of our efforts to enhance food security, we need to figure out where we go from there. I think USAID's position in terms of resources in food security evaluation is not characterized fairly well, 3 to 10 percent of funds available for monitoring and evaluation was somehow pulled out of a hat. We certainly we don't want to spend one dollar less than we are capable of spending to save certain people, but what we are

recognizing very clearly is, that if we don't know whether our spending those resources save people, we're probably not going to spend it very well. We want to invest enough money, so we know that what we are doing is having the effects we want. And three to ten percent is a reasonable amount to spend on evaluation and on various kinds of monitoring performances.

But secondly, once we figured out where we are going and we're getting ready to spend some this money, hopefully, we need to coordinate, mobilize and support those efforts. But they're not just going to involve USAID collecting data, they're not going to just involve PVOs, they're going to involve PVOs, host governments and other agencies. Certainly if there are 10 programs in a country focusing on different aspects of food security in different regions, it does not make sense to have 10 actors work independently to collect, often some of the same data.

So, we look, primarily with our colleagues, in the Bureau for Humanitarian Response, particularly in the Food for Peace office, and in the Global Bureau offices, to help, not do all the work but mobilize the effort to make sure it is coordinated. For example, to make sure if we need a facility to support one of the implementations, or household surveys to determine impact for some of the indicators. We may need a central capability to support these efforts - that it gets developed, whether funded by USAID or by another donor, or however. We're not going to have all the answers, but I think we have a responsibility to help make good evaluation happen. What I am hearing from colleagues in Global and BHR, is that they are certainly ready, willing and able to shoulder that responsibility. The tasks I see for us, are sharing, consulting, refining and deciding, jointly with you and others, and coordinating, mobilizing and supporting so that we actually do it. Thank you.

ANNEX I

USAID Performance Indicators for Food Security

Final Agency-level Indicators

MEMORANDUM

TO: Participants of the USAID Workshop on Food Security Performance Measurement and to All Other Interested Parties in Food Security

FROM: PPC/CDIE/PME, Mike Rechcigl
PRISM, Margie Ferris-Morris

SUBJECT: Performance Indicators for Food Security

Attached you will find the final output of the December 1995 USAID Workshop on Food Security Performance Measurement, i.e. a core of common indicators for food security at an operational level, organized in a conceptual framework. The detailed proceedings of the workshop, highlighting the speeches and the issues raised during the discussions will be forwarded to you in the foreseeable future.

The document has been organized in two parts. In the first part we have attempted to summarize the process which led to the final product and have enumerated several key points and issues the users of this document should be aware of. The second part comprises of three food security conceptual frameworks charts, one on food availability, the second on food access, and the third on utilization, with the proposed core of performance indicators, accompanied with explanatory notes.

We would like to stress at the outset that the proposed conceptual framework and the recommended core of performance indicators are the result of a teamwork and represents the effort of many individuals in the field as well as their colleagues in the Washington Metropolitan area.

The only purpose of this document is to make your job easier. We realize that some sets of indicators may still be untested in their entirety under actual field conditions. Consequently we would welcome your feedback as to their utility or any problems you may have encountered.

Several USAID Missions have indicated the need for a field manual which would provide more details and enumerate practical steps on the collection and interpretation of the data, and other practical information regarding the availability and reliability of the data sources, etc. We would like to ascertain how many Missions would have use for such a document and are therefore soliciting your opinion on this point.

And finally, we would like to express our thanks and sincere appreciation to everyone who participated in this important endeavor and who assisted in the preparation of the final hopefully useful document.

Performance Indicators For Food Security

Part I

HOW WERE THE FOOD SECURITY INDICATORS SELECTED

Last year CDIE was asked to host a workshop on performance measurement in food security. A working group comprised of people across USAID was formed to assist in the development of the workshop. The primary objectives of the workshop were to share information and experiences of performance measurement of food security at the operational level, taking stock of how USAID and its implementing partners currently measure their food security programs and to generate a core set of performance indicators that will help demonstrate the impact of non-emergency aid.

In December 1995, USAID sponsored a two-day workshop to achieve the above purpose. Drawing upon the knowledge of over 120 USAID Washington staff, Missions, implementing partners and other experienced practitioners, and WFP, IFPRI, World Bank, Economic Union to name a few organizations, the workshop facilitated deliberations over best practices for measuring performance measurement of food security in the field. Key speakers from USAID, PVOs and academia outlined important issues of performance measurement of food security in developing countries. Where relevant, indicators which specifically addressed the role of food aid and food security were highlighted. Experts divided into breakout groups to generate and discuss indicators to measure improved availability of food, improved access to food and improved utilization of food. Clearly, as a joint effort of many, a draft list of seventy plus indicators was generated. Due to time limitations, however, not all tasks were completed during this workshop, which necessitated post-workshop follow-up.

Following the December workshop on additional input on the draft list of indicators had to be sought from USAID Washington, USAID Missions, PVOs, as well as outside experts, notably World Bank, IFPRI, Institute of Development Studies (IDS), to mention a few. A number of meetings were held to fill in the gaps where indicators were not identified or others had to be refined, specific terms defined and additional information sought concerning the availability and reliability of the data sources. Finally, a technical review group, comprised of knowledgeable persons from USAID, USDA, IMPACT Project, and PVOs, was convened to finalize the list of proposed indicators.

HOW TO USE THIS DOCUMENT

Inasmuch as the USAID programs relating to food security vary widely throughout the Agency, the respective USAID Missions will need to determine which of the parts of the conceptual framework fit their programs or activities. Some USAID Missions may have programs addressing the improvement of food availability, improved access to food, or improved utilization of food, or a combination of part of two or three of these areas. Please refer to the attached three conceptual frameworks.

Cross-cutting issues. Food insecurity reflects a complex phenomenon, arising from a host of diverse factors. For this reason, developing a common set of generalizable indicators is a difficult task. Program focus may differ depending on the nature of the etiology of food insecurity and special needs of the vulnerable populations. The set of indicators proposed in this document addresses that concern with a choice of performance measures, allowing sufficient flexibility to meet the uniqueness of individual programs and the particularities of the environmental situations.

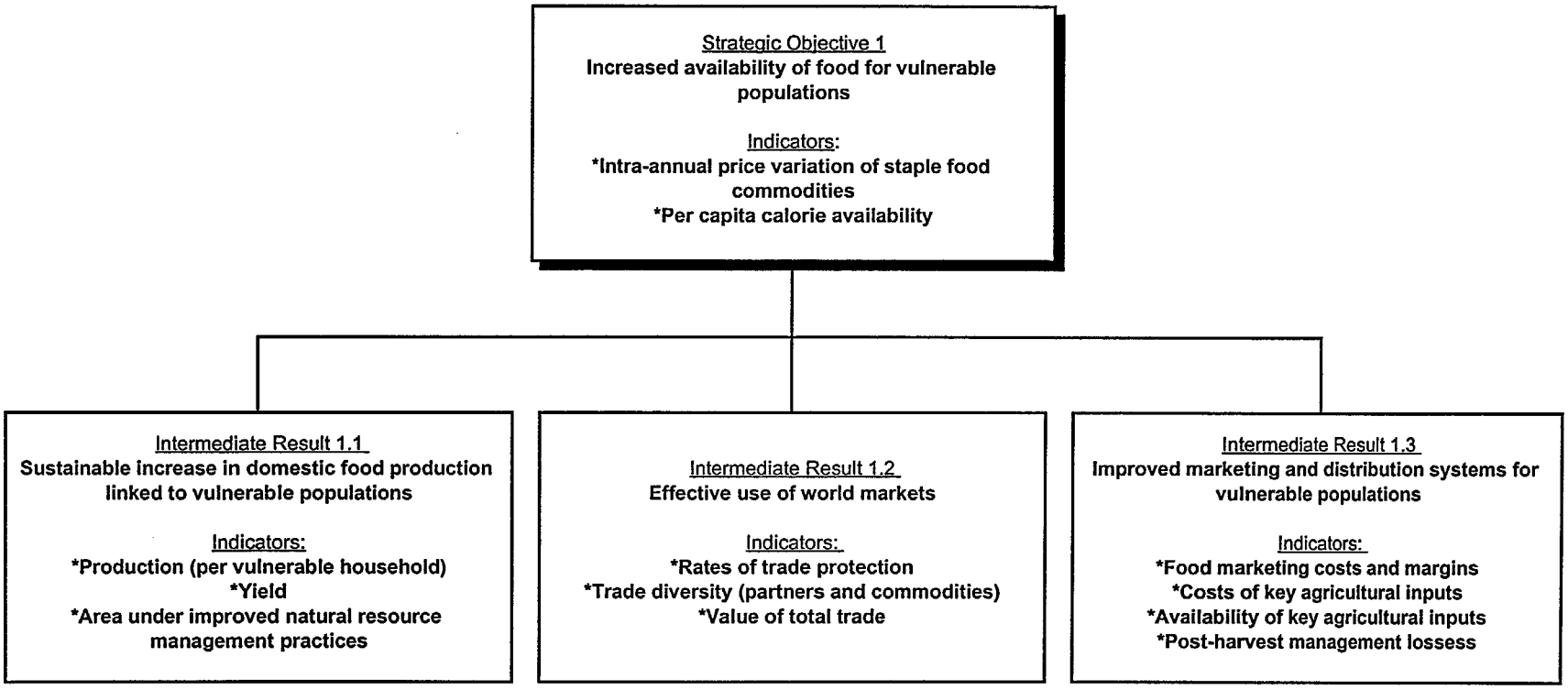
Linkages and causality. For some indicators, evidence is sparse as to direct linkage to food security, while for others, causality can be imputed from years of research and data. Links between access to food, availability of food and utilization of food were not drawn in the frameworks presented here. Needless to say, such linkages do exist which may need to be delineated, where applicable, in order to determine other areas of need and potential interventions.

Who is the target audience? These indicators are designed to help track program progress against food security aimed at food insecure populations. Who those populations are needs to be clearly defined, as well as the nature of the households in question.

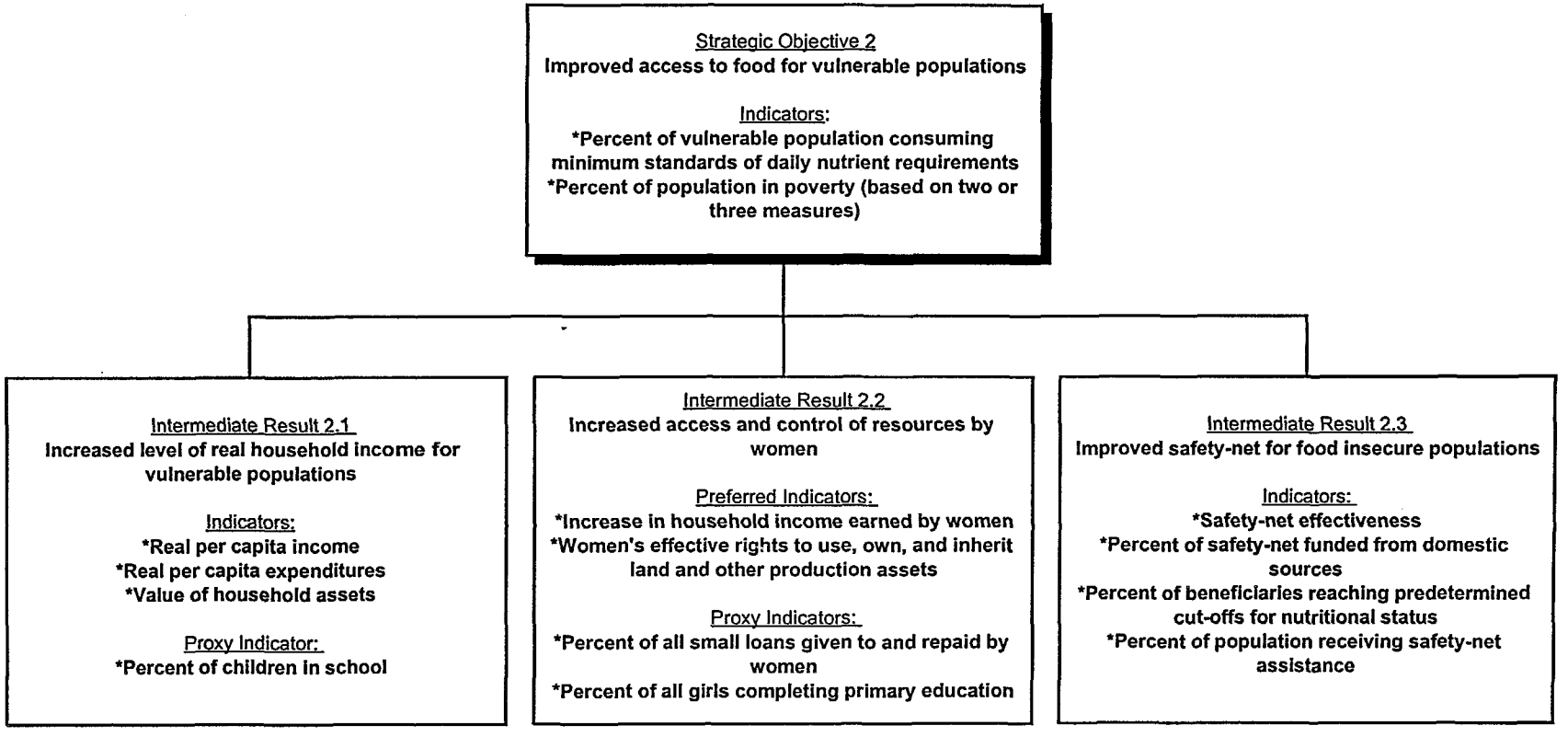
Levels of indicators. Different levels of indicators were proposed in the December workshop. USAID Missions may be working at the national level, and cooperating partners at the regional or community level. Indicator selection and measurement will need to be appropriate to the level of program operation. Attention should be paid to levels of aggregation and possible change of relevancy of their measurement when they are aggregated or disaggregated.

Focus on performance. Although the emphasis of the workshop was on impact, it was felt that some process indicators need to be included, for a variety of reasons e.g. poorly-designed or lack of impact indicators; measuring certain impacts was not in the manageable interests of USAID Missions, cost factors, etc. The process indicators are important in monitoring progress towards the end results; they are meaningful indicators which lead to the overall goal of enhancing food security. The need for measuring and reporting on impact indicators cannot be, however, underemphasized. "Keep it Simple!" was the guiding principle in all follow-up discussions. While it is important to look for impact, it is also desirable to assure that interventions continue without a distracting overemphasis on data collection.

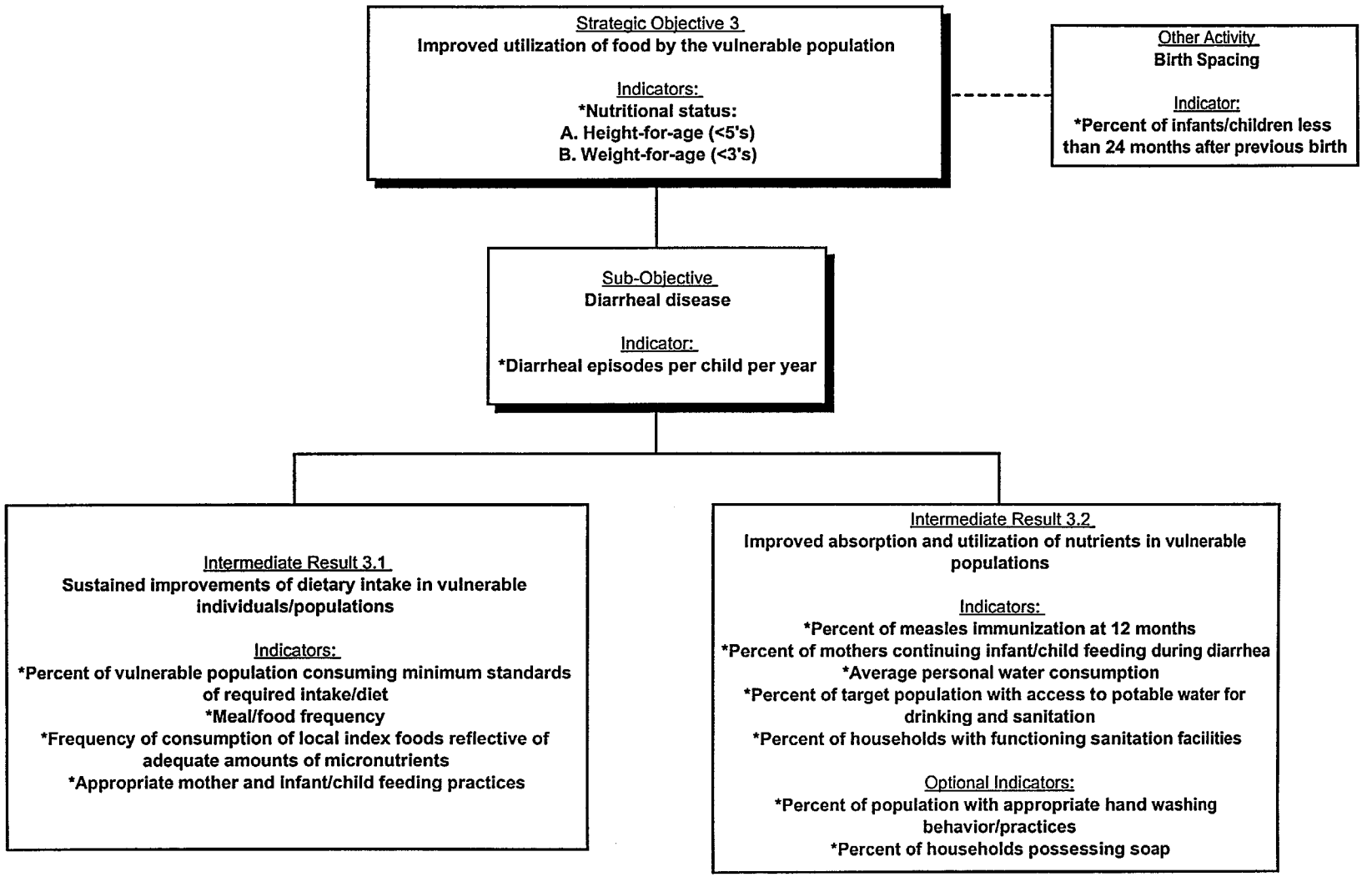
PART II
CONCEPTUAL FRAMEWORK FOR FOOD SECURITY
1. FOOD AVAILABILITY



PART II
CONCEPTUAL FRAMEWORK FOR FOOD SECURITY
2. FOOD ACCESS



PART II
CONCEPTUAL FRAMEWORK FOR FOOD SECURITY
3. FOOD UTILIZATION



Performance Measurement Indicators for Food Security
Explanatory Notes[7]

Objective 1 Increased Availability of Food for Vulnerable Populations

1. Intra-annual price variation of staple food commodities

2. Per capita calorie availability *(From food balance sheets)*

Result 1.1 Sustainable increase in domestic food production linked to vulnerable populations
Note: Targeted areas for increasing domestic food production can also be 'bread basket' areas as long as linkages (e.g. markets, roads, transport, etc.) are made from targeted production areas to the vulnerable populations.

Indicators:

1. Production (per Vulnerable Household)

Indicator Measures:

A. Amount of different crops can be converted to grain equivalents, then totaled for household level

B. Total production (volume/commodity)

C. Value of production (overall production per commodity)

D. Number of months of self-provisioning (number of months per year a household is able to subsist from the last harvest) *(Note: self provisioning is NOT equivalent to self sufficiency)*

2. Yield

Indicator Measures:

A. Production per unit of land averaged over 3-5 year period (per crop)

B. Standard deviations of annual yields over 3-5 year period

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[7] *A. Data for objectives should be compiled at Mission level. The selection of core indicators will, for the most part, depend on interventions/programs. And in many cases, culture, environment, agro-ecological contexts and other norms of the country/region/ethnic group will need to be taken into account. All indicators should include numbers of people compared to target population affected- to provide perspective on the degree dimension of impact.*

B. Indicators quantified with data from household surveys will need extra budget considerations, or require obtaining data from secondary sources.

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Frankenberger, Timothy R. 1992. " Indicators and Data Collection Methods for Assessing Household Food Security," in Simon Maxwell and Timothy R. Frankenberger, Household Food Security: Concepts, Indicators, Measurements. A Technical Review. New York and Rome: UNICEF and IFAD.

Maxwell, Daniel. 1995. Monitoring Food Security in a Complex Emergency: A Decentralized Food Security Information System for CARE/Sierra Leone. CARE-USA. Atlanta.

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Specific Points:

- Weigh indicator relative to country/region situation (in some cases progress, can mean stabilizing yields, e.g reverse or halt declining yields)
- Collect annual data, observe trend over 3-5 years

Measure[8]*:*

C. Weighted yield gap analysis:
Yield gap is the difference between actual and potential yield

Specific Point:

- Weighted yield gap of crops produced, averaged over crops for a single indicator

3. Area Under Improved Natural Resource Management Practices

Indicator Measure:

A. Unit/area - (i.e. hectares- under improved conservation practices at the farm, regional and national levels.) (*e.g. bunding, wind-breaks, agro-forestry, reforestation, organic fertilizer use, water management interventions, etc.)*

Result 1.2 Effective Use of World Markets

Indicators:

1. Rates of Trade Protection

Indicator Measures[9]*:*

A. Producer and consumer subsidies equivalent (PSE & CSE)

B. Nominal Protection Rate (border vs. domestic commodity price)

C. Effective Protection Rate (border vs. domestic commodity price and is corrected for product and input price interventions)

Specific Points:

- Agricultural inputs for food crops and basic food and feed commodities
- Overall trade protection

2. Trade Diversity

---

[8] *In some cases this indicator may be a useful proxy for yields.*

[9] *OECD collects these data routinely for OECD countries*

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Indicator Measure:

A. % total exports to top 1-2 trading partners or top 1-2 commodities

3. Value of Total Trade

Indicator Measures:

A. Value of total imports plus exports

B. Value of total exports

C. Value of total non-traditional exports (NTE) or nontraditional agricultural exports (NTAE)

Result 1.3 Improved Marketing and Distribution Systems for Vulnerable Populations

Indicators:

1. Food Marketing Costs and Margins *(expressed as market margin ratio and as %)*

Indicator Measures:

A. Marketing margins (to be factored with inflation rate) for staples by month or by season (Ratio of retail price and farmgate price in vulnerable areas)

B. Expressed as a % of retail price

I. Difference in retail price at harvest and retail price during the lean season in the major rural deficit market

ii. Difference in retail price at harvest and retail price during the lean season in a major city

2. Costs of Key Agricultural Inputs

Indicator Measure:

A. Retail price for major inputs in major growing areas, e.g. fertilizer, seeds, pesticides

3. Availability of Key Agricultural Inputs

Indicator Measure:

A. Availability of major inputs in major growing areas, e.g. fertilizer, seeds, pesticides *(Quantity/need of inputs compared to market availability)*

Specific Point:

- Quantity/need of inputs is based on demand, determined by many factors that may not be in the manageable interests of the Missions

4. Post-harvest Management Losses *(storage/handling/transport)*

Indicator Measures:

A. Proportion of stored crops lost to pest damage, environment *(expressed as percent of total crops)*

B. Estimated percent of produce lost or unsold for lack of transportation

C. Available transport facility (in tons)/tons of produce to be transited

D. Reduction in processing and/or handling losses

Objective 2 Improved Access to Food for Vulnerable Populations

Indicators:

1. Percent of vulnerable population consuming minimum standards of daily nutrient requirements

Indicator Measures[10]*:*

A. 24 hour recall survey

B. Food frequency survey

C. No. meals/day and food diversity[11]

Specific Points:

- Country defines which nutrients should be examined (e.g. calories, protein, micronutrients)
- May want to disaggregate by gender and age for programs dealing with intra-household allocation issues that do not also have a food utilization program focus

2. Percent of targeted population in poverty *(based on 2 or 3 indicator measures)*

Indicator Measures:

A. Based on absolute poverty (determined by cost of food basket for caloric adequacy calculation)

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[10] *Conduct small validation surveys first.*

[11] *Food Diversity is defined as number of different foods or food groups consumed.*

B. Severity of poverty [12]

C. Percent < 5 year old population below <-2 SD height-for-age

Result 2.1 Increased level of real household income for vulnerable populations

Indicators:

1. Real per capita income (national, regional and local program levels)

2. Real per capita expenditure (national, regional and local program levels)

3. Value of household assets

Proxy:

4. Percent of children in school

Indicator Measure:

A. At 3rd-6th grade at the community level; compared with % total child population of school age (disaggregate by gender)

Result 2.2 Increased access to and control of resources by women

Preferred Indicators:

1. Increase in household income earned by women (*in their own account enterprises*)

2. Women's effective rights to use, own, and inherit land and other production assets

Indicator Measures:

A. Percent women who have acquired a joint or separate land titles

B. Percent women who have acquired production assets

Specific Point:

- Disaggregate % farms with recognized title for men and for women (*This is important to both genders for differing reasons)*

---

[12] *FTG squared poverty gap equation*

Proxies:

3. Percent of all small loans given to and repaid by women

4. Percent of all girls completing primary education[13]

Indicator Measure:

A. Number of girls enrolled at grade 1 compared to number of girls graduated at grade 6 (or normal year of graduation)

Result 2.3 Improved safety-net for food insecure populations[14]

Note: Many types of safety-nets exist: welfare, structural adjustment, emergency, seasonal, other focus here is not on welfare, nor emergency.

Indicators:

1. Safety-Net Effectiveness

Indicator Measures:

A. % of targeted poor who receive assistance (% of target beneficiaries who are not in the program but should be) AND

B. % of the program or safety-net beneficiaries who do not meet targeting criteria

Specific Point:

- Programs determine denominator

2. % of safety-net funded from domestic sources[15]

Indicator Measure:

A. Tracking estimates in % of in-kind (transfers) and cash from government to beneficiaries

3. % beneficiaries reaching pre-determined cut-offs for nutritional status[16]

Indicator Measure:

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[13] *Longer-term, important relation to food security. Other indicators to be developed at country/program level*

[14] *Respondents were not content with the indicators derived from the workshop for safety-nets. Discussion of these indicators was carried out by the technical review group however, further work may be needed.*

[15] *Measure of host government safety-net efficiency*

[16] *Evidence of an "Exit strategy"*

A. Weight-for-age by age category (<3, <5 yrs.) (<-2, <-3 SD cutoffs)

4. % population receiving safety-net assistance

Objective 3 Improved Utilization of Food by the Vulnerable Population

Definition of Utilization[17]:
Revised definition: ***"Food utilization is the proper biological use of food, requiring a diet providing sufficient energy and essential nutrients, potable water, and adequate sanitation. Effective food utilization depends in large measure on practice within the household of food storage and processing techniques, basic principles of nutrition and health, and proper maternal and child care."***

Indicators:

Nutritional Status[18]:

1. Height-for-Age *(stunting)*

Indicator Measure:
A. < five year old population (disaggregated by gender)

Specific Points:
- Recommended primary indicator for long-term impact on food security
- Also good indicator for poverty and for use in targeting programs

2. Weight-for-Age *(undernutrition)*

Indicator Measure:
A. < three year old or other age groupings- (e.g. <6-36 mos. and 36-60 mos.) (disaggregate by gender)

Specific Points:
- Measure age grouping which is most appropriate for field situation; priority given to under three year olds
- Age categories are required in presentation if the prevalence or means due to influences of stunting in older children makes the interpretation difficult

---

[17] *Revised definition arose from December workshop which differs from PD 19. It is a working definition only, and is a tool to help explain the mix of indicators below.*
[18] *Measures should be mean Z scores AND % of children below a given cut-off (<-2). This will give greater precision than the latter alone, esp. when sample size is small (WHO 1995).*

Sub-objective:

Indicator:

1. Diarrheal episodes per child per year

Indicator Measure:

A. Algorithm to calculate annual basis from survey question: "*Did the infant child less than 24 months have diarrhea in the last two weeks?*"

Specific Points:

- Best composite indicator of water and sanitation programs and child feeding practices
- Blood in stools and severity of persistent diarrhea are better indicators, however not as commonly used
- Conduct surveys during the dry season

Other Activity:

Note: Complimentary activity for food security programs. (Important longer term indicator of food insecurity)

2. % of infants/children less than 24 months old after previous birth[19]

Specific Points:

- Reflective of mother and child nutritional state, time allocation of mother, population control, and health service access and use related to food security

Result 3.1 Sustained improvements of dietary intake in vulnerable individuals/populations

Indicators:

Preferred Indicator:

1. % of vulnerable population consuming minimum standards of required intake/diet (disaggregated by age and gender)

Indicator Measures[20]*:*

A. 24 hour recall survey

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[19] *An additional proxy indicator for longer-term food security is* ***Total Fertility Rate.*** *Reduced population growth also has linkages to access to food and availability of food.*

[20] *Conduct small validation surveys first.*

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B. Food frequencies survey

Specific Point:

- Gold standard— this would be ideal, however it should be optional to obtain, depending on programs and resources

2. Meal/food frequency
   No. of meals per day and food diversity (two indicators)[21]

Indicator Measures:

A. 24 hour recalls survey
B. Food frequency survey

Specific Points:

- No. of meals/per day is good indicator of food insecurity
- Proxy indicator for caloric consumption

3. Frequency of consumption of local index foods reflective of adequate amounts of micronutrients

Indicator Measure:

A. Food frequency of six index vegetables[22] (*region specific*)

B. Alternative indicators for micronutrient deficiencies, program specific:
   - % of children 6-60 mos. who received vitamin A capsule (VAC) in past six months
   - % of all mothers of infants <12 mos. who received VAC within 8 weeks of delivery
   - % of pregnant women receiving iron supplement
   - Proportion of households using iodized salt
   - % of households using fortified food

Specific Point:

- Program specific; indicator should not be in core set unless program is addressing micronutrient(s) deficiencies

4. Appropriate mother and infant/child feeding practices

Indicator Measures:

A. Exclusive breast-feeding from birth to 6 months (*key indicator)*

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[21] *Food diversity is defined as 'number of different food or food groups consumed'* .

[22] *John Hopkins University index for vitamin A rich-foods*

B. Initiation of breast-feeding (introduction of colostrum) within 8 hours of birth (within one hour of birth is gold standard) *(important indicator)*

C. Prevalence of adequate weaning practices (infants fed complementary foods: % of infants between 6 and 10 months, who are being fed complementary foods in addition to breastmilk) (*important indicator)*

D. % infants/children < 24 mos. given continued foods and breastmilk during diarrheal episode

E. % infants/children < 24 mos. given extra food (one extra meal/day) and breastmilk following a diarrheal episode for at least two weeks *"catch up growth"*

F. Other improved food/feeding practices

Result 3.2 Improved absorption and utilization of nutrients of vulnerable individuals/populations

Indicators:

1. <u>% of measles immunization at 12 months</u>

Indicator Measure:

A. Measles coverage by card: % of children 12 to 23 months who received measles vaccine (preferred proxy for immunization coverage)

2. <u>% of mothers continuing infant/child feeding during diarrhea</u>

Indicator Measures:

A. % infants/children < 24 mos. given continued foods and breastmilk during diarrheal episode

B. % infants/children < 24 mos. given extra food (one extra meal/day) and breastmilk following a diarrheal episode for at least two weeks *"catch up growth"*

3. <u>Average personal water consumption</u>

Indicator Measure:

A. Liters/per person/day

Specific Points:

- Preferred indicator for water and sanitation access and use
- Reflects most important part of the equation for use of water - quantity
- Households with unlimited use of water should be excluded from the calculation or be given a high value
- Measure is more sensitive if surveys are conducted during the dry season

4. % of target population with access to potable water for drinking and sanitation

Specific Points:

- At national level, generally found from secondary data sources
- Most commonly collected indicator and can be compared to other situations (with some caveats)
- Process indicator; proxy for average personal water consumption

5. % of households with functioning sanitation facilities in household

Optional Indicators for Sanitation:

6. % population with appropriate hand washing behavior/practices

Indicator Measures:

A. Washing hands after defecation *(key indicator)*
B. Washing hands before food consumption *(key indicator)*
C. Washing hands after child defecation by mother/caregiver
D. Washing hands before meal preparation by mother/caregiver

Specific Points:

- Gold standard — is to collect all four indicator measures of hand-washing behavior
- Is relatively new indicator with limited field testing

7. % households possessing soap

Specific Points:

- Proxy for more difficult to obtain indicators on hand-washing behaviors

MEMO

To: Members of the Task Force on Agency-level Food Security Indicators
From: Steve Gale, CDIE/PME and Margie Ferris-Morris, PRISM Project
Subject: Final Agency-level Food Security Indicators and Supporting Documents
Date: September 9th, 1996

The last meeting of the Task Force on Agency-level indicators for food security was held on June 21st, 1996. A number of people were absent, however the group did come to agreement on the final list of indicators attached.

Briefly, there was general agreement that the indicator on Birth Spacing *(percent of infants/children less that 24 months after birth)* would be a good indicator to include representing population issues related to food security, in addition to the reflection of food security of mothers and infants.

The group had a long discussion about the inclusion of an indicator representing the importance of a democratic state and its relation to food security and an indicator of short-term food insecurity, such as number and percent of displaced persons. There was universal agreement that some indicator or indicators representing the above two situations or combination thereof, would be advantageous and should be further discussed, however not be included this year.

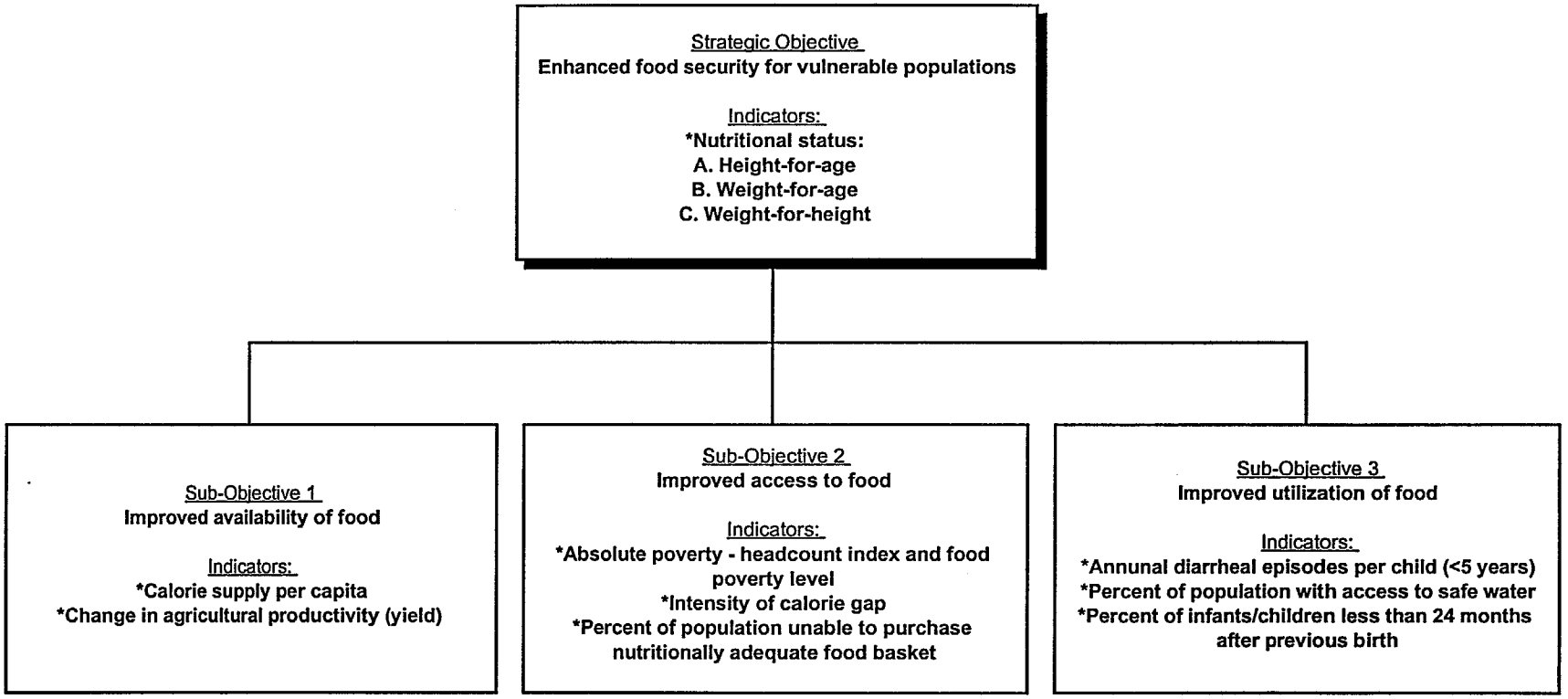
Task Force members also discussed the terminology concerning the "minimum food basket". The group moved to adapt a more accurate term "food poverty level". There was agreement upon using two measures — *percent of population unable to purchase a nutritionally adequate food basket* and *intensity of the calorie gap,* to elaborate information on the food poverty level. These are presently calculated by USDA/Economic Research Service.

Margie distributed seven figures highlighting linkages of food security with the Agency Strategic Framework, as requested and agreed upon by the group (see attached figures). The shaded boxes represent areas of linkages. Indicators in italics <u>without</u> an asterisk are indicators presently in the Strategic Framework and Agency-level indicators for food security. The indicators <u>with</u> an asterisk represent unique indicators for tracking food security at the Agency-level. A set of figures showing overlap of food security indicators with Agency Program Approaches was also distributed, however time was insufficient time to discuss them in detail.

The attached document and figures represents then, the final product of the Task Force on Agency-level indicators. Items for discussion and follow-up include: 1)an indicator for democracy and/or short-term food insecurity; 2) how the work of USDA/ERS will be integrated into tracking of food security at the Agency level; and 3) who will track the Agency-level indicators for food security and present reports to Congress and to the Agency.

We wish to acknowledge Mike Rechcigl and all the work he has put into this task force and food security issues over the past year. Until CDIE/PME designates a staff member to follow-up on food security, please direct any comments and questions to either Margie or myself.
Thank you again, for your participation and productive efforts.

FIGURE I
CONCEPTUAL FRAMEWORK FOR FOOD SECURITY



Food Security Indicators at the Agency Level
Recommendations by the inter-agency Task Force

Background:

In the fall of last year, an Agency-wide working group was organized to assist with preparations of the workshop on Performance Measurement for Food Security held in December 1995. During the organizational meeting, it was decided to have the workshop focus on operational level indicators. Furthermore, the working group recommended that a separate Task Force be formed to work concurrently on Agency level indicators.

This Task Force comprised the following members: *Coordinators*: Mike Rechcigl PPC/CDIE/PME, and Margie Ferris-Morris PPC/CDIE/PRISM Project; *Participants:* Gerald Britan PPC/CDIE/PME, Eunyong Chung G/PHN/HN, Bruce Cogill IMPACT Project, Ralph Cummings, Jr. G/EG/AFS/FP, Nils Daulaire PPC/PHD, Carl Mabbs-Zeno PPC/ECON, Francesca Nelson BHR/PPE, Shirley Pryor G/EG/AFS/FP, Lisa Smith PPC/PHD, Roberta van Haeften LAC/DR, Kimberly van Wagner PPC/CDIE/DI, Jim Vermillion PPC/DEM, Carolyn Weiskirch PPC/HR, and Dan Whyner PPC/ENV.

Various indicators were proposed, discussed and researched in relation to the objective of showing trends in country's performance towards enhancing food security for their populations. A number of internal and external discussions of the proposed indicators took place over the past few months. External experts, including persons from the World Bank, IFPRI, USDA, WHO, UNICEF were consulted. Their input, along with additional technical information was brought into the Task Force deliberations. The Task Force considered the best indicators that are reflective of improved food security in a broad context — encompassing the objective of improved availability, access, and utilization of food, as well as sustainability aspects. It was felt that the final list of indicators should be limited to a broader set reflecting food security, bearing in mind factors such as ease of data collection, accuracy, availability of data, etc. The group recognized that there are specific indicators for environment and humanitarian assistance relating to food security. However, they were not included because the Task Force felt humanitarian assistance indicators reflect short-term food insecurity and to some extent the diarrheal disease and safe water indicator would reflect some aspects of the environment. In the final meeting of the Task Force, indicators for democracy were deliberated. Recognizing the importance of democracy and the stability of the State were important, yet complex factors to consider for food security, the Task Force decided to footnote this in this list of indicators. It will be further explored over the next few months.

The basis for selection of these indicators was the desirability to develop a core set of common indicators that could be tracked and compared across countries to compare progress towards enhanced food security. It is understood that these indicators would not necessarily reflect the performance of USAID's programs alone since other donors are involved.

The recommended indicators:

The recommended indicators are listed below followed by a brief description of their rationale for selection.

Overall indicator:
Nutritional status:
Under 5's and under 3's nutritional status:

- Height-for-age
- Weight-for-age
- Weight-for-height

Sub-objective level indicators:
Calorie Supply per Capita
Absolute Poverty: Headcount Index
Absolute Poverty: Food Poverty Level
- Percent population unable to purchase nutritionally adequate food basket
- Intensity of the Calorie Gap

Percent of Population with Access to Safe Water
Annual Diarrheal Episodes per Child (< 5 years)
Percent of Infants/children less than 24 mos. after Previous Birth
Change in Agricultural Productivity

Nutritional status in children are expressed by a combination of measurements: height, weight, and age. Height-for-Age (stunting) is the best reflection of long-term food insecurity (chronic malnutrition, whereas Weight-for-Height (wasting) best represent short-term food insecurity (acute malnutrition). The most commonly reported measure for nutritional status is Weight-for-Age which reflects the combination of chronic and acute food insecurity, and predictor of mortality (in non-emergency situations).

Calorie supply per capita is a widely indicator of trends in aggregate food supply at the national level. In addition to in country production, it takes into account food imports and exports.

Absolute Poverty - Headcount Index
The values for absolute poverty as calculated by the World Bank will be used for the present. Headcount index is the most common poverty measure to compare across countries. USDA/ERS is calculating absolute poverty based on a food poverty level (minimum cost nutritionally adequate food basket) for about 20 African countries (funded by the Africa Bureau). This need arose as a result of recent reviews of food aid needs, and the inherent problems with aggregate data masking real need. ERS will calculate the poverty line based on local food prices - not world market prices, and food consumption data (where available) or, where actual food consumption data is not available, they would use an estimation of a nutritionally adequate diet using typical grains, pulses and fats consumed in each country. This methodology is laid out in Attachments 1 and is further explained in Attachment 2.

Absolute Poverty - Food Poverty Level
Two measures which further elaborate information on absolute poverty have been calculated by USDA/ERS: e.g. *percent population unable to purchase a nutritionally adequate food basket* and *intensity of the calorie gap.* USDA/ERS calculates calorie distribution and intensity of the calorie gap information based on income distribution from per capita income (PCI) data and FAO food balance sheets. Methodology for calculation is laid out in Attachment 1 and Attachment 1—Tables C and D.

Percent of population with access to safe water is commonly reported and data, although of mixed quality, are available for select years. The Task Force recognized, however, that prevalence of diarrheal disease yields more information on food security, particularly if safe water activities and water infrastructure improvements were having impact.

Prevalence of diarrheal disease is a very good overall indicator for the impact of a number of health-related interventions, including water and sanitation and diarrheal disease linkages to nutritional status. Difficulties with accuracy and availability of diarrheal data were noted, however most Task Force members felt it was worth collecting.

Percent of Infants/children less than 24 mos. after Previous Birth (from the same mother) has an important longer-term relationship to food security. Population programs help reduce unwanted pregnancies and contribute to the ability of women to control family resources. Reduction in unwanted pregnancies also helps reduce the need for food production. This also represents aspects of food security of the mother and newborn.

Change in agricultural productivity is a good indicator that must, however, be reviewed in the context of each country. It provides a 'sustainability' component to food security. It is a commonly used indicator for food security.

Some Task Force members made a suggestion to also include information on *food aid imports* for cereals and wheat and wheat flours. Because food security is a complex and overriding phenomenon, no one indicator can give an accurate picture. Further analysis may be needed to ascertain the basis for the trends in the data reported in terms of understanding their impact on food security. The Task Force felt that the above indicators would provide USAID with a good picture of how countries are faring overall, in regards to their ability to enhance food security.

Attachments:

Table 1 provides specific information for each indicator for tracking food security, including data sources, their availability, as well as further definitions, limitations and other comments.
Table 1A provides information on the internally displaced persons indicator under consideration by the Task Force.

Table 2 provides illustrative data on selected countries for which information was readily available utilizing sources as indicated. Additional sources could be tapped to provide more data, particularly for nutritional status and diarrhea.

Attachment 1 provides a sample of some work USDA/Economic Research Service has compiled to calculate absolute poverty based on a food poverty level. Data for actual minimum food basket calculations and percent of population able to purchase this basket have not yet been calculated for all countries.

Attachment 2 defines poverty indicators.

Attachment 3 depicts Demographic Health Survey data available (and the age of data) world-wide for three commonly used social indicators. (UNICEF, *Progress of the Nations* 1995)

TABLE 1: Notes on Sources and Availability of Proposed USAID Food Security Indicators

Indicators	Data Sources	Data Availability	Notes/Defn.
Overall: Under 5 and under 3 nutritional status (three indicators): • Height-for-age (stunting) • Weight-for-age (undernutrition) • Weight-for-height (wasting)	Demographic Health Surveys (DHS); USAID Center for Int'l Health Information (CIHI); World Health Organiz. (WHO)/UN Admin. Com. on Coordination /Subcommittee on Nutrition (ACC/SCN) National Surveys; UNICEF; World Bank-Global Indicators of Nutritional Risk	Other than DHS, databanks not readily available	Data generally reported as <-2 SD and <-3 SD
Food Availability: Calorie Supply per Capita	FAO, FAOSTAT/PC (Food Balance Sheets: Consumption) World Bank- World Tables, and World Bank *STARS* (Production of Food per Capita)	FAO data available, most countries, 1961-92. World Bank data available for 1965-1993	FAO reports caloric supply per capita World Bank reports production of food per capita
Food Access: Absolute Poverty - Headcount Index Food Poverty Level *-Percent population unable to purchase a nutritionally adequate food basket* *-Intensity of calorie gap*	World Bank-Social Indicators of Development *STARS* USDA/Economic Research Service	Data available for about 25 countries Current data available through USDA/Economic Research Service for about 60 countries	Poverty indicator - per capita income by income group quintile USDA/ERS calculations on absolute poverty line- Food Poverty Level (based on minimum cost nutritionally adequate food basket) will be available in the future from USDA/ERS for around 20 African countries.
Food Utilization: Percent of population with access to safe water	WHO International Drinking Water and Supply and Sanitation Decade Series; WHO, Health for All Database World Resources, 1994/95; Human Development Report/UNDP; World Bank-Social Indicators of Development *STARS*; UNICEF & UNICEF Cluster Surveys; DHS	World Bank data since 1960s available for most countries: specific years 1980, 1983, 1985, 1988, 1990, 1991 DHS data available for > 60 countries	Methods of measuring this indicator differ by country. Definition for measurement is taken from WHO.
Diarrheal Episodes Per Child Per Year (<5 years olds)	World Health Organization; Demographic Health Surveys; UNICEF; National Surveys, Primary Data Sources	Available only for those countries that have been surveyed (DHS - 51 countries) (WHO - periodically; for most LDCs)	Good indicator for food security; other than DHS, databanks not readily available for diarrheal disease. Indicator generally takes seasonality of diarrhea into account.
Percent of infants/children less than 24 months after previous birth	DHS Surveys USAID/CIHI UNICEF	Available periodically for most countries	Longer-term, important relationship to food security
Sustainability: Change in Agricultural Productivity	FAO, FAOSTAT/PC (Agricultural Productivity for Cereals and Wheat Flour)	Available through 1994	Yields per hectare

TABLE 2

USAID Food Security Indicators

Prepared by the Economic and Social Data Service (ESDS), PPC/CDIE/DI and PRISM Project

Example data from select countries

Nutritional Status

Predicted prevalence of underweight children, (below <-2 SD W/A), (0-59 months)
The Second Report on the World Nutrition Situation ACC/SCN 1993;
The State of the World's Children 1996

	1975	1980	1985	1990	1992	1994a	1994
Bangladesh	84.4	70.1	70.9	65.8		67	
Cote d'Ivoire	18.2	14.1	11.4	12.3		12	
Haiti	25.7	25.3	23.8	24.4		27	
Honduras	22.6	21.2	20.7	19.8		21	
Indonesia	51.3	45.7	40.5	38.0		40	
Kenya	24.8	21.1	17.5	17.4		22	
Zaire	28.1	27.9	31.9	33.2		28	

a (From State of the World's Children, percent of children 1980-1994 moderate & severe)

Predicted prevalence of stunting, (below <-2 SD H/A), (24-59 months)
The State of the World's Children 1991, 1996

	1975	1980	1985	1990a	1992	1994b
Bangladesh				70		63
Cote d'Ivoire				20		17
Haiti				51		34
Honduras				34		39
Indonesia				46		n.a.
Kenya				42		33
Zaire				n.a.		43

a (percent of children 1980-1989)
b (From State of the World's Children, percent of children 1980-1994 moderate & severe)

Predicted prevalence of wasting, (below <-2 SD W/H), (12-23 months)
The State of the World's Children 1991,1996

	1975	1980	1985	1990a	1992	1994b
Bangladesh				28		17
Cote d'Ivoire				17		9
Haiti				17		5
Honduras				2		2
Indonesia				11		n.a.
Kenya				10		6
Zaire				n.a.		5

a (percent of children 1980-1989)
b (From State of the World's Children 1996, percent of children 1980-1994 moderate & severe)

TABLE 2

USAID Food Security Indicators

Prepared by the Economic and Social Data Service (ESDS), PPC/CDIE/DI and PRISM Project

Example data from select countries

Per Capita Calorie Supply

Source: FAO, FAOSTAT/PC, Food Balance Sheets 1995

	1976	1981	1986	1991	1992	1993	1994	1995
Bangladesh	1,977	1,874	1,936	1,971	2,019			
Cote d'Ivoire	2,530	2,857	2,682	2,447	2,491			
Haiti	2,052	2,062	1,994	1,733	1,706			
Honduras	2,146	2,106	2,108	2,318	2,306			
Indonesia	2,144	2,532	2,632	2,685	2,752			
Kenya	2,256	2,132	2,125	1,919	2,075			
Zaire	2,183	2,065	2,124	2,116	2,060			

Upper poverty line, headcount index (% of pop)

World Bank, Social Indicators for Development, 1995

	1976	1980	1982	1986	1990	1992	1993	1994	1995
Bangladesh			78.8	52.0		47.5			
Cote d'Ivoire									
Haiti									
Honduras									
Indonesia		44.6			16.7				
Kenya						37.0			
Zaire									

Lower poverty line, headcount index (% of pop)

World Bank, Social Indicators for Development, 1995

	1976	1980	1982	1986	1990	1992	1993	1994	1995
Bangladesh			54.1	22.0		28.0			
Cote d'Ivoire									
Haiti									
Honduras									
Indonesia		28.6			18.1				
Kenya									
Zaire									

TABLE 2

USAID Food Security Indicators

Prepared by the Economic and Social Data Service (ESDS), PPC/CDIE/DI and PRISM Project

Example data from select countries

Percent of population with access to safe water

WB, Social Indicators of Development, 1995

	1975	1981	1983	1985	1991	1992	1993	1994	1995
Bangladesh	56.0		40.6		78.2				
Cote d'Ivoire*	44.0		17.1		82.8				
Haiti	12.0		33.0	37.3	41.8				
Honduras	41.0			51.7					
Indonesia	11.0		31.6	37.8	41.6				
Kenya	17.0		27.9	28.4					
Zaire	19.0		18.3	32.1	34.2				

* 1970 data are used for 1975.

Annual Diarrheal Episodes per <5 Child

WHO, Table 1, September 25, 1995

	1976	1981	1986	1991	1992	1993	1994	1995
Bangladesh							3.5	
Cote d'Ivoire							5.0	
Haiti							7.0	
Honduras							4.0	
Indonesia							1.9	
Kenya							4.3	
Zaire							5.9	

Note: Estimates of annual episodes are taken from the CDR/WHO Household Survey for 1994.
For Haiti and Honduras, CDR/WHO estimates are used if judged reasonable.
Note:Additional data exists on annual diarrheal episodes than reported here.

Agricultural Productivity: Cereals (MT/hectare)

Source: FAO, FAOSTAT/PC, Agricultural Production 1995

	1976	1981	1986	1991	1992	1993	1994	1995
Bangladesh	1.77	1.94	2.15	2.60	2.64	2.61	2.72	
Cote d'Ivoire	0.75	0.91	0.86	0.89	0.90	1.14	1.05	
Haiti	1.24	1.05	0.99	0.99	0.95	0.93	0.93	
Honduras	1.00	1.38	1.36	1.32	1.33	1.33	1.37	
Indonesia	2.47	3.02	3.48	3.86	3.82	3.92	3.86	
Kenya	1.58	1.56	1.88	1.52	1.51	1.22	1.88	
Zaire	0.75	0.82	0.79	0.80	0.81	0.89	0.91	

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TABLE: 2

USAID Food Security Indicators

Prepared by the Economic and Social Data Service (ESDS), PPC/CDIE/DI and PRISM Project

Example data from select countries

Food Aid Imports (MT)
FAO, FAOSTAT/PC, 1995.

	1976	1981	1986	1991	1992	1993	1994	1995
Bangladesh								
Cereals	1,001,800	1,005,460	1,588,862	1,354,130	719,357	776,936	776,936	
Wheat & Wheat flour	904,400	953,160	1,450,955	1,330,980	699,327	769,719	769,719	
Cote d'Ivoire								
Cereals	290	877	0	36,464	40,639	51,198	51,198	
Wheat and wheat flour	100	600	0	0	0	4,695	4,695	
Haiti								
Cereals	66,700	89,930	89,122	49,904	73,730	113,302	113,302	
Wheat and wheat flour	44,100	49,000	65,875	27,764	33,389	67,466	67,466	
Honduras								
Cereals	30,500	33,710	137,283	156,072	63,923	146,106	146,106	
Wheat and wheat flour	24,600	27,160	101,977	149,207	48,919	120,782	120,782	
Indonesia								
Cereals	801,100	106,650	378,749	58,563	39,627	53,993	53,993	
Wheat and wheat flour	331,100	74,230	361,207	43,463	27,837	46,693	46,693	
Kenya								
Cereals	8,300	127,230	106,597	166,167	286,703	290,189	290,189	
Wheat and wheat flour	6,600	73,360	83,600	147,986	125,615	117,300	117,300	
Zaire								
Cereals	14,500	97,450	56,153	121,201	26,921	54,731	54,731	
Wheat & wheat flour	4,000	93,450	49,900	112,812	0	3,000	3,000	

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ATTACHMENT 1

Special Article

Income-Nutrition Relationships in Developing Countries

by
Linda Scott and Shahla Shapouri

Abstract: Chronic undernutrition in developing countries is closely linked to poverty and income distribution. In the last decade, per capita income growth in the developing world has stagnated or declined. A "Food Purchasing Power (FPP) Threshold" was calculated by estimating the income needed to purchase a nutritionally adequate food basket. Just over 1 billion people, or 52 percent of the population of the 60 developing countries studied, are too poor to meet their minimum food needs. Income would need to grow an average of 9 percent a year during the next 10 years to bring the poorest 20 percent of the population above the FPP threshold.

Keywords: Nutrition, undernutrition, income growth, purchasing power, developing countries, consumption requirements.

Malnutrition in Developing Countries

Global food supplies are adequate to meet the food requirements of the world's population. Malnutrition, however, is widespread in many developing countries. Lack of purchasing power due to low incomes, high food prices, highly skewed income distribution, and poor access to productive resources with which to grow food are the most frequent causes of chronic undernutrition in these countries.

These factors are often compounded by other indicators of poverty that affect nutritional status, including poor health and sanitary conditions, disease, and low educational levels. This paper measures the lowest income needed to support a minimal nutritional standard, given current world food prices, and determines the number of people who lack the purchasing power to satisfy their nutritional needs.

One way to measure the impact of declining income growth on the nutritional status of the poor is to use a consumption-based poverty threshold (18). This threshold measures the extent to which per capita incomes are adequate to meet minimum nutritional needs. Such information can assist policymakers in designing nutrition-sensitive agricultural policies and targeting nutrition interventions and food aid to the most vulnerable groups.

Nutrition and Poverty Linkages: An Overview

Because agriculture is the primary source of income in most developing countries, malnutrition occurs most frequently in those countries and regions where arable land and other agricultural resources are limited and agricultural productivity is low (18). Small-scale subsistence farmers and landless agricultural laborers are most vulnerable to inadequate food intake. Food access for these groups may be significantly reduced by drought-induced fluctuations in crop and livestock production, natural disasters, or civil conflict. Seasonal fluctuations in food consumption due to crop cycles can also seriously affect nutritional levels, particularly in rural areas.

There is a lack of consensus on the most effective way to alleviate chronic undernutrition. However, most agree that chronic undernutrition is closely linked to poverty and income distribution. The debate over the impact of income on nutritional status has intensified in the last decade as income growth in much of the developing world has stagnated or declined.

In 1992, per capita incomes in the world's lowest income countries averaged $370, compared with $2,490 in middle income countries such as Turkey and Poland, and $22,160 in the developed world (18). Meanwhile, income distribution has been skewed in favor of a small percentage of the population. In many low income countries, the top 20 percent of the population controls more than 50 percent of total income on average, while the poorest 20 percent controls less than 6 percent of GDP. In most high income developed countries, the wealthiest 20 percent of the population controls between 35 and 40 percent of total GDP.

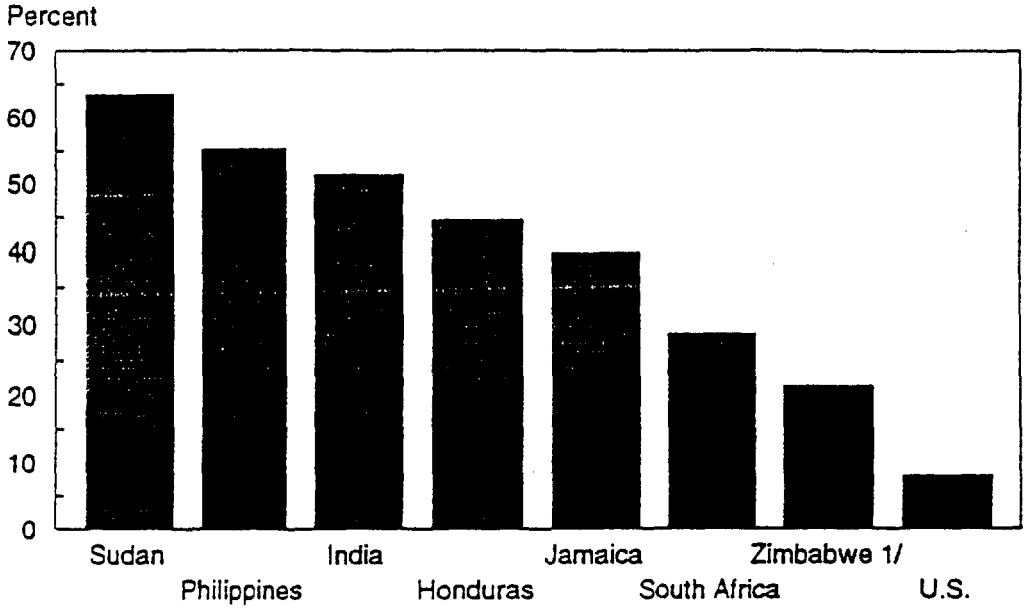
At the same time, rapid population growth and declining agricultural productivity have caused a steady decline in per capita agricultural output and consumption. Falling per capita production means that people must purchase a greater percentage of their food requirements in the marketplace. Declining per capita incomes mean that fewer people have the purchasing power to do so. In many developing countries, households spend two-thirds or more of their incomes on food and are still unable to meet their minimum nutritional requirements (figure 17). In this situation, a domino effect occurs: increased malnutrition leads to declining health and productivity, which in turn has an additional negative impact on nutritional levels.

The Food Purchasing Power Threshold

A "Food Purchasing Power Threshold" (FPP threshold) was calculated by estimating the income required to purchase a nutritionally adequate food basket. By comparing per capita incomes in 60 developing countries with the cost of such a diet, it is possible to determine the number of people who

Figure 17

Food Expenditures as Share of Personal Consumption, Selected Countries



1/ Food prices in Zimbabwe have historically been heavily subsidized.
Source: Putnam, Judith Jones and Jane E. Allshouse. "Food Consumption, Prices and Expenditures, 1970-92. Statistical Bulletin Number 867. Economic Research Service, 1993.

lack the purchasing power to satisfy their nutritional needs (see table 37 for list of countries). The degree to which incomes fell below the threshold was estimated by distributing per capita GDP across five income quintiles using income distribution data from the World Bank. Where actual data were unavailable for an individual country, income distribution was assumed to be comparable to that of countries with similar per capita incomes.

A daily per capita intake of 2,200 calories was used to build the food basket. This intake level was derived by averaging country-specific minimum daily caloric intake standards recommended by the UN Food and Agriculture Organization, across all developing country regions. The caloric requirements are those necessary to sustain life with minimum food-gathering activity and are based on several variables, including the age and sex distribution of the population and the physical size of the people. The requirements are comparable to the activity level for a refugee in that they do not allow for play, work, or any activity other than food gathering. The requirements also do not account for the special nutritional needs of infants and children, pregnant and lactating women, or those associated with infectious disease.

To estimate the purchase price of the food basket, the 2,200 calories were distributed among specific food and nutrient groups according to several criteria. These criteria included typical developing country food consumption patterns, FAO/WHO nutritional guidelines for developing countries, and the U.S. Recommended Daily Allowances for specific nutrients (2). The diet is largely plant-based, consisting of 65 percent carbohydrates, 15 percent protein, and 20 percent fat. No attempt was made to analyze the adequacy of micronutrients such as iron or Vitamin A in the diet. However, low calorie intake is typically closely related to the reduced consumption of a wide range of essential vitamins and minerals.

The price and commodity composition of each nutrient group was based on the share of specific foods in the average diet for all developing countries during 1985-90 (figure 18). Cereals were assumed to be the major source of carbohydrates while protein was obtained from a combination of cereals, pulses, tree nuts and animal products. Animal products accounted for less than 10 percent of total caloric intake. Vegetable oils were the primary source of fat.

World market prices for 1992 were used to estimate the cost of each commodity, although this may overstate food costs in those countries where basic food staples are heavily subsidized by the government. A 100-percent margin for marketing, transportation and processing costs was added to all commodity prices to approximate actual consumer costs. This is a modest assumption: In the United States, average retail food prices are typically 3-5 times higher than farm values. For staple foods such as bread, rice, and wheat flour, retail prices are typically 8-20 times higher than farm values (5).

Results

The Food Purchasing Power Threshold was estimated at $0.44 per day or $162 per capita annually. Assuming an individual spends 60 percent of his income on food and the remainder on such essential non-food items as housing, clothing, and cooking fuel, an annual income of $271 would be necessary to purchase the minimum food basket described above.

Households could increase their food purchasing power by reducing their non-food expenditures or by substituting less

Figure 18

Developing Country Food Consumption, 1985-90

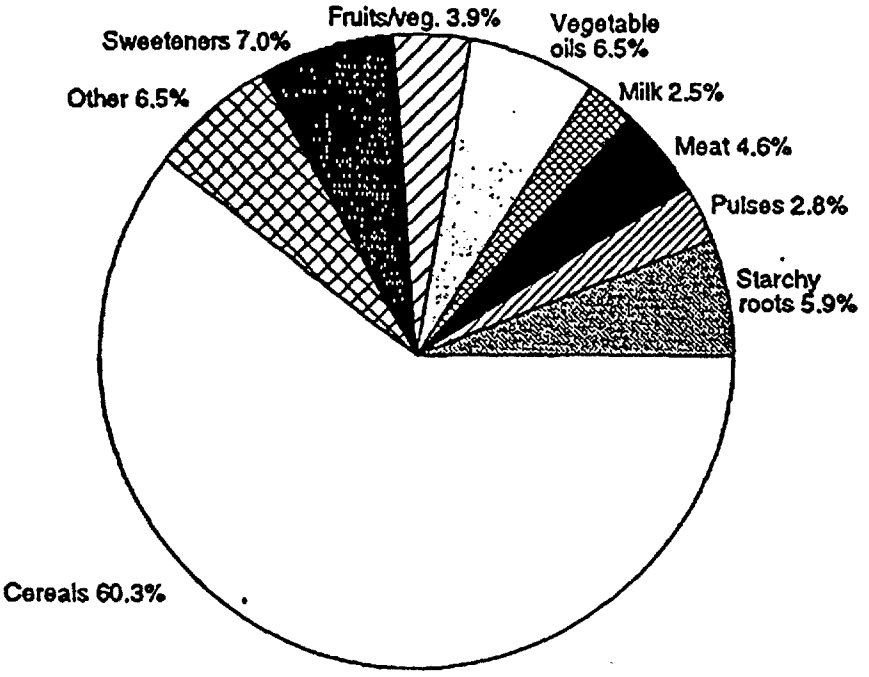


Figure 19

Number of People Below the FPP Threshold

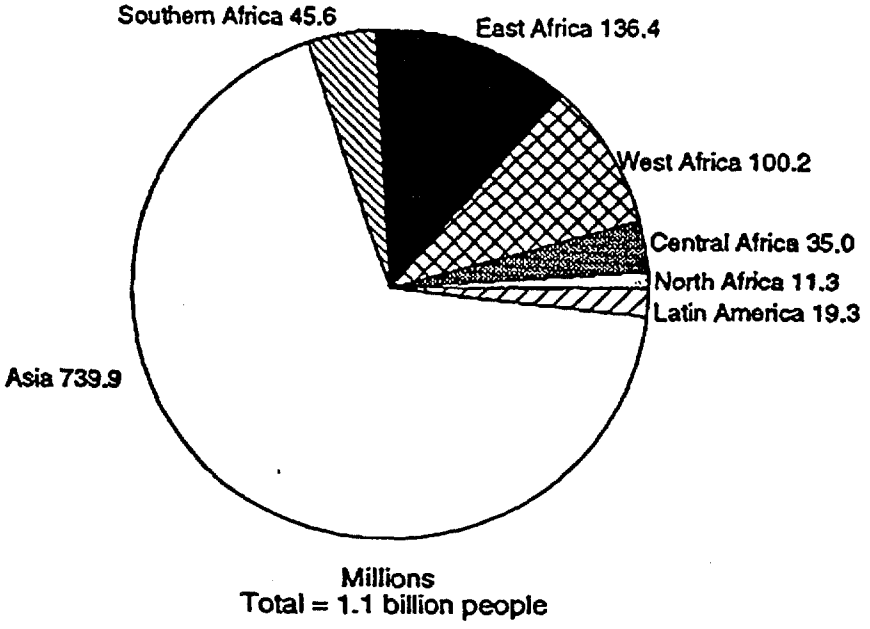


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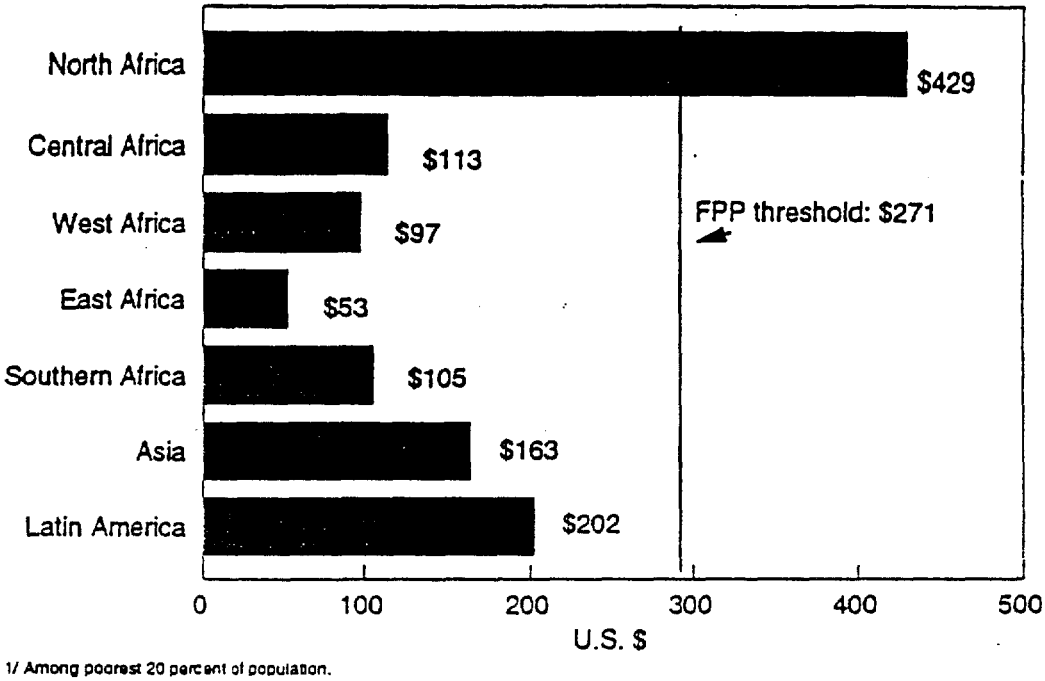
Figure 20

Per Capita Incomes Compared to FPP Threshold 1/



1/ Among poorest 20 percent of population.

expensive sources of nutrients for some commodities in the food basket. Studies have shown that at very low income levels commonly referred to as "absolute poverty," individuals can spend as much as 80 percent of their incomes on food while still being unable to meet their food needs (9). By spending only 20 percent of their incomes on non-food items, they could purchase the minimum food basket with an annual income of $203.

However, such limited expenditures on non-food items are likely to have additional negative impacts on nutritional status by reducing access to clean water, sanitation and health care, and increasing morbidity. Similarly, there is room within the food basket for the substitution of less expensive sources of nutrients. However, depending on the specific foods involved, such a diet may be deficient in calories and/or essential micronutrients and too bulky for young children.

Just over 1 billion people, or 52 percent of the total population of the 60 developing countries included in this analysis, have incomes that fall below the FPP threshold and are therefore too poor to meet their minimum food needs (figure 19). East and Central Africa had the greatest percentage of their populations below the FPP threshold, while food purchasing power was strongest in North Africa and Latin America. Nearly three-quarters of East Africa's population lacks the income to meet its nutritional needs. In all regions, the percentage of the population below the FPP threshold was greatest in the lowest income quintile. However, in many countries in Sub-Saharan Africa and in several countries in Asia, 80 percent of the population had incomes too low to afford the minimum food basket. Many of these countries have historically depended on food aid to meet their food needs.

Figure 20 indicates the magnitude of the income deficit among the poorest 20 percent of the population in different developing country regions. On average, incomes were 40 percent below the FPP threshold across all developing countries, while incomes in East and West Africa were most deficient at 80 and 74 percent below the threshold. In East Africa, annual incomes were $200 short of required levels. Incomes were most deficient in Tanzania and Mozambique, where the poorest individuals have only 5 percent of the resources needed to meet their food needs. In Ethiopia and Mozambique, incomes were still well below the FPP threshold even among the wealthiest 20 percent of the population. Only in North Africa were people in the lowest income group able to exceed the FPP threshold.

Given the extent of the income deficit in most of the study countries, average annual incomes would have to grow 9 percent over a 10-year period to move the poorest 20 percent of the population above the FPP threshold (table 37).[6] An annual growth rate of nearly 17 percent would be needed in East Africa, while a growth rate of less than 2 percent would bring purchasing power among Egypt's poorest up to the nutrition target.

More than half of the countries, nearly all of them in Sub-Saharan Africa, required annual income growth rates in excess of 10 percent to meet nutritional needs. In four African

[6] The annual average growth rate required to raise incomes above the FPP threshold over 10 years was $G = (\ln y^* - \ln y)/t$ where G = the growth in income needed to meet the nutrition target, t = time period in which the target is to be met, y = actual per capita GNP in 1992 in each income quintile, and y^* = Food Purchasing Power Threshold (4).

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Table 37--Per capita income growth rates, historical and rates needed to reach FPP threshold

Country/region	1992 per capita GNP 1/	Real per capita income growth 1970-92 1987$	Per capita annual growth needed to meet FPP threshold in 10 years in different income quintiles: Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest 20%
Growth rate for lowest income group	U.S.$	Percent					
15-20 percent							
Mozambique*	80	-3.25	30.75	24.96	20.31	15.42	4.54
Tanzania	100	--	30.20	21.55	15.54	9.67	--
Guinea-Bissau	180	-0.81	24.61	13.31	7.18	1.77	--
Somalia*	110	--	21.00	16.39	12.89	9.16	--
Sierra Leone*	210	-0.47	19.78	12.72	8.58	4.55	--
Liberia*	160	--	19.78	12.72	8.58	4.55	--
Malawi*	230	-0.43	18.22	12.43	7.78	2.89	--
Ethiopia	120	--	17.44	13.54	10.98	8.46	1.75
Madagascar*	210	-3.42	17.31	11.52	6.87	1.98	--
Zaire*	220	-2.25	16.59	9.53	5.39	1.36	--
Chad*	210	-0.67	16.59	9.53	5.39	1.36	--
Kenya	340	0.09	16.36	9.57	4.89	0.09	--
10-15 percent							
Niger*	300	-3.22	14.18	7.12	2.98	--	--
Nicaragua	460	-5.56	13.99	2.41	2.41	--	--
Burkina Faso*	290	1.37	13.49	6.43	2.29	--	--
Uganda	170	--	13.20	9.67	6.88	3.92	--
Mali*	280	-1.26	13.16	6.10	1.97	--	--
Haiti	370	-5.84	13.14	1.57	1.57	--	--
Nigeria	340	0.81	12.85	5.79	1.65	--	--
Nepal	180	--	12.52	9.03	6.45	3.78	--
Honduras	580	0.40	12.40	--	--	--	--
Sudan*	280	--	11.58	6.98	3.48	--	--
Lesotho	580	3.50	11.51	3.60	--	--	--
Gambia*	360	-3.22	11.39	4.33	0.20	--	--
Zambia	310	-5.13	11.37	5.98	2.06	--	--
Togo*	410	-0.44	10.87	3.81	--	--	--
Mauritania	510	-0.50	10.71	0.00	--	--	--
Vietnam*	220	--	10.56	6.83	4.12	1.32	--
Afghanistan*	220	--	10.56	6.83	4.12	1.32	--
C.A.R.*	390	-1.57	10.37	3.31	--	--	--
Benin*	380	-0.58	10.37	3.31	--	--	--
5-10 percent							
Guatemala	930	-0.17	9.67	--	--	--	--
Bangladesh	220	0.80	9.51	6.07	3.69	1.30	--
Zimbabwe	650	0.04	8.64	4.10	--	--	--
Guinea*	460	--	8.18	1.13	--	--	--
Rwanda	270	0.00	8.03	5.02	2.59	0.02	--
India	330	2.12	6.85	3.34	0.75	--	--
Senegal	720	-0.44	6.84	--	--	--	--
Ghana	400	-0.78	5.41	0.62	--	--	--
0-5 percent							
Pakistan	400	2.21	4.28	--	--	--	--
Bolivia*	650	-1.29	3.51	--	--	--	--
Cameroon*	850	0.64	3.44	--	--	--	--
Cape Verde*	750	7.08	3.08	--	--	--	--
Angola*	1.055	--	2.08	--	--	--	--
Dominican Republic	940	1.49	2.05	--	--	--	--
Egypt*	610	2.90	1.89	--	--	--	--
Swaziland*	1.050	1.31	1.75	--	--	--	--
El Salvador*	1.080	-0.85	1.63	--	--	--	--
Peru	1.070	-1.65	1.50	--	--	--	--
Sri Lanka	500	2.89	1.19	--	--	--	--
Panama	2.130	0.22	1.11	--	--	--	--
Cote d'Ivoire	690	-2.69	1.01	--	--	--	--
Philippines	730	2.21	0.78	--	--	--	--
Tunisia	1.500	2.68	--	--	--	--	--
Morocco	1.030	2.11	--	--	--	--	--
Jamaica	1.380	-3.36	--	--	--	--	--
Indonesia	610	5.40	--	--	--	--	--
Costa Rica	1.850	-1.29	--	--	--	--	--
Algeria	1.980	2.29	--	--	--	--	--
Burundi*	210	1.56	--	--	--	--	--
Average: 60 countries	574	-0.15	12.15	8.16	5.48	3.00	0.65

-- = Incomes already at or above FPP threshold; * = Income distribution estimated by ERS.
1/ FPP threshold is based on total GNP distributed among different income quintiles.
Sources: World Bank, ERS estimates.

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countries, Mozambique, Ethiopia, Somalia, and Guinea-Bissau, growth rates of more than 20 percent annually would be necessary.

In Asia, incomes would have to grow more than 10 percent a year for the poorest segment of the population in Bangladesh and Nepal to meet their food needs. Although the growth rates required to bring income groups up to the FPP threshold declined in the higher income quintiles across all regions, a 4.5-percent annual growth in income was needed to bring those in the fourth highest income group in East Africa up to the FPP threshold.

These estimates compare very unfavorably to actual growth in real per capita income levels realized by most of the 60 countries over the past two decades. Between 1970 and 1992, real per capita growth in GDP in the study countries declined .3 percent on average, more than 8 percentage points below the growth rate required to meet the FPP threshold. More than half of all countries experienced negative per capita growth rates during this period. Even at positive current growth rates, it would be decades before many in the lowest income groups have sufficient incomes, at current prices, to meet their minimum nutritional needs.

Policy Implications

A wide variety of factors is responsible for the low, stagnating income growth that has caused nutritional deprivation in developing countries over the past two decades. Among these are declining terms of trade, falling world demand and prices for primary commodities such as oil, tea, coffee, and cocoa, and copper. Agricultural policies that have favored urban consumers over rural producers have held down domestic commodity prices and farm incomes and have slowed production growth. Macroeconomic and trade policies encouraged import substitution and reduced efficiency and growth (10).

During the 1980's, many developing countries, with the support of the World Bank and International Monetary Fund, enacted economic reforms under broad-based structural adjustment measures designed to reverse these trends. These included exchange rate adjustments, liberalization of agricultural marketing, decontrol of producer and consumer prices, and the removal of input subsidies. Although in the long run, these measures are expected to stabilize macroeconomic imbalances, reduce debt burdens and budget deficits, and lead to increased economic growth, in the short term, such measures have had a negative impact on the nutritional status of poor households (3).

Because they influence food purchasing power through changes in income, access to food producing resources, and food prices and availability, agricultural policy changes associated with structural adjustment often have a significant impact on nutritional status (11). In many countries, structural adjustment measures to improve income growth have significantly affected food prices, through the reduction or elimination of food subsidies, and farmer incomes through changes in producer prices and input costs and availability. The devaluation of exchange rates undertaken by many governments to increase export growth and reduce imports has, in many cases, resulted in sharply higher food prices. Real increases in producer prices associated with structural adjustment can improve nutritional status by increasing farmer incomes. But because most producers are net purchasers of food, this positive effect may be offset by higher retail food prices.

To cushion the short-term impact on the poorest households of higher food prices associated with structural adjustment, some middle and upper middle income developing countries have begun to incorporate nutritional considerations into agricultural, social, and macroeconomic policies. These measures have combined macroeconomic adjustments designed to improve long-term economic growth with social "safety net" measures to improve nutritional status. These include the provision of direct income support to vulnerable households, the targeting of food subsidies by geographic region or socio-economic group, the reduction of prices on lower quality foods most frequently consumed by the poor, and the improvement of social conditions associated with poverty including housing, sanitation, and provision of clean water supplies. Direct nutrition interventions, such as feeding centers, fair-price shops, food rationing, and food stamps, can be effective in improving food intake in certain cases. However, in most low-income countries, budget constraints and lack of administrative capacity limit the implementation of such policies (16).

In the short term, food aid can be helpful in alleviating acute food shortages associated with sudden and severe losses of food availability and purchasing power due to drought, civil strife, or similar disruptions in crop production. However, in the long term, increasing the purchasing power of the poor while improving related social conditions that affect nutritional status, can be the most effective way to raise food intake and reduce nutritional deficits in vulnerable groups (10).

Raising agricultural productivity and increasing food availability through improved marketing systems can increase food purchasing power by raising farmer incomes and reducing consumer food prices. However, studies have shown that even among the poorest households, increases in income are often used to increase the consumption of higher quality but less nutrient-dense foods (9,12). Improving women's access to financial resources, educating food providers about appropriate food choices, and improving women's educational levels can affect the way in which increases in incomes are used to improve the nutritional quality of the diet (8,16).

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ATTACHMENT 1

Minimum Food Basket

Methodology:

To estimate the food purchasing power of different income groups, a "Food Purchasing Power Threshold" (FPP threshold) will be calculated. FPP estimates the income required to purchase a nutritionally adequate basket of food. By comparing per capita incomes with the cost of such a diet, it is possible to determine the number of people who lack the purchasing power to satisfy their basic nutritional needs. Income distribution data will be used to estimate the degree to which incomes fall below the threshold.

A daily per capita of 2,100 to 2,200 calories will be used to build the food basket. These intake levels will be derived from country specific minimum caloric standards recommended by the UN Food and Agriculture Organization (FAO). The caloric requirements are those necessary to sustain life with minimum activity and are based on several variables, including the age and sex distribution of the population and the physical size of the people. The requirements are comparable to the activity level for a refugee, in that they do not allow for play, work, or any activity other than food gathering. They also do not account for the special nutritional needs of infants and children, pregnant and lactating women, or those with infectious diseases.

To estimate the cost of the food basket, the recommended calories will be distributed among specific nutrient groups (carbohydrates, protein, and fat) according to several criteria. These criteria include country food consumption patterns, FAO nutritional guidelines for developing countries, and the U.S. Recommended Daily Allowances for specific nutrients. The diet will be largely plant-based, consisting of 65 percent carbohydrates, 15 percent protein, and 20 percent fat. No attempt will be made to analyze the adequacy of micronutrients such as iron or Vitamin A in the diet. However, low calorie intake is typically closely related to reduced consumption of a wide range of essential vitamins and minerals.

Depending on the diet of the countries, one or a few commodities will be selected to represent each nutrient group. For example wheat and rice, or rice and corn will be selected to represent

the carbohydrate group, meat (red and white meat) and/or pulses to represent protein, and vegetable oils (cottonseed, sunflower, palm, or soy oil) to represent fat. Where consumer price data are not available, weighted import unit values plus transportation costs will be used to estimate the cost of each nutrient group in each country. In addition, a 100-percent margin for marketing and processing costs will be added to all commodity prices to approximate actual consumer costs. This is a modest assumption. In the United States, average retail food prices are typically 3-5 times higher than farm values. For staple foods such as bread and wheat flour, retail prices are typically 8-20 times higher than farm values.

For countries where consumer price data are available, the ratio of commodity border prices (world prices adjusted for transportation costs) to domestic consumer prices can be used as an indicator of regional (country) food scarcity, marketing efficiency, and market intervention. With the cooperation of agencies with field staff we should be able to compile price data for some countries. This additional information will be the unique contribution of the project. These data also can be used to estimate the quantities of imports (or exports) required to reduce (or increase) domestic prices. The estimation will be based on the price flexibility concept--often treated as the inverse of the price elasticity--which gives the percentage change in price associated with a one-percent change in quantity.

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Table A--Per capita income by income group

Country	Per capita GNP $1993	Population	Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest 20%
Asia:							
Afghanistan	200	17.7	57	97	141	206	500
Bangladesh	220	115.2	105	147	187	238	425
India	300	898.2	132	188	243	320	620
Indonesia	740	187.2	322	448	588	781	1565
Nepal	190	20.8	86	123	159	207	375
Pakistan	430	122.8	181	277	363	475	854
Philippines	850	64.8	276	429	612	901	2032
Sri Lanka	600	17.9	267	393	507	651	1179
Viet Nam	170	71.3	66	97	131	182	374
Latin America:							
Bolivia	760	7.1	160	304	479	756	2101
Colombia	1400	35.7	252	532	882	1428	3906
Costa Rica	2150	3.3	742	1183	1602	2225	4999
Dominican R.	1230	7.5	258	486	769	1212	3419
Ecuador	1200	11	252	474	750	1182	3336
El Salvador	1320	5.5	277	521	825	1300	3670
Haiti	500	6.9	105	200	315	498	1383
Honduras	600	5.3	81	180	306	528	1905
Jamaica	1440	2.4	432	713	1044	1534	3485
Guatemala	1100	10	116	319	578	1023	3465
Nicaragua	340	4.1	71	136	214	338	940
Panama	2600	2.5	260	819	1508	2639	7774
Peru	1490	22.9	365	685	1021	1565	3829
North Africa:							
Algeria	1780	26.7	614	979	1326	1842	4139
Egypt	660	56.4	218	347	495	716	1528
Morocco	1040	25.9	343	546	780	1128	2408
Tunisia	1720	8.7	507	894	1316	1901	3982

Country	Per capita GNP 1993	Population	Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest 20%
Sub-Saharan Africa:							
Angola	1200	10.3	340	581	844	1237	2998
Benin	430	5.1	122	208	303	443	1074
Burkina Faso	300	9.7	85	145	211	309	750
Burundi	180	6	51	87	127	186	450
Cameroon	820	12.5	279	459	648	910	1808
Cape Verde	920	0.4	313	515	727	1021	2029
Chad	210	6	59	102	148	216	525
CAR	400	3.2	113	194	281	412	999
Cote d'Ivoire	630	13.3	214	353	498	699	1389
Ethiopia	100	51.9	43	64	82	106	207
Gambia	350	1	119	196	277	389	772
Ghana	430	16.4	151	243	340	469	948
Guinea	500	6.3	53	163	300	515	1473
Guinea-Bissau	240	1	25	78	144	247	707
Kenya	270	25.3	46	90	144	234	834
Lesotho	650	1.9	94	208	367	634	1950
Liberia	200	2.8	24	57	104	187	627
Mauritania	500	2.2	88	268	405	583	1158
Madagascar	220	13.9	107	144	184	238	428
Malawi	200	10.5	97	131	167	216	389
Mali	270	10.1	47	144	219	315	625
Mozambique	90	15.1	13	29	51	88	270
Niger	270	8.6	47	144	219	315	625
Nigeria	300	105.3	77	152	222	315	735
Rwanda	210	7.6	102	138	175	227	408
Senegal	750	7.9	131	401	608	874	1736
Sierra Leone	150	4.5	18	43	78	140	470
Somalia	200	9	24	57	104	187	627
Sudan	200	26.6	24	57	104	187	627
Swaziland	1190	1.0	173	381	672	1160	3570
Tanzania	90	28	11	26	47	84	282
Togo	340	3.9	60	182	275	396	787
Uganda	180	18	77	109	144	194	377
Zaire	300	41.2	36	86	156	281	941
Zambia	380	8.9	106	182	270	399	944
Zimbabwe	520	10.7	104	164	260	452	1620

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Table B-Per capita calorie consumption distribution (income calorie elasticity = 0.3)

Country	Average calorie con	Popula-tion	Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest 20%
Asia:							
Afghanistan	1523	17.7	1196	1287	1388	1537	2208
Bangladesh	2019	115.2	1701	1819	1928	2067	2582
India	2395	898.2	1993	2126	2258	2442	3160
Indonesia	2755	187.2	2288	2429	2586	2800	3677
Nepal	1957	20.8	1637	1749	1860	2010	2529
Pakistan	2316	122.8	1913	2069	2208	2389	3000
Philippines	2258	64.8	1801	1923	2068	2299	3200
Sri Lanka	2275	17.9	1896	2040	2169	2333	2934
Viet Nam	2250	71.3	1838	1960	2095	2297	3060
Latin America:							
Bolivia	2100	7.1	1602	1722	1867	2097	3212
Colombia	2678	35.7	2019	2180	2381	2694	4116
Costa Rica	2889	3.3	2321	2499	2668	2919	4037
Dominican R.	2500	7.5	1908	2046	2219	2489	3835
Ecuador	2587	11	1974	2117	2296	2575	3968
El Salvador	2663	5.5	2032	2180	2363	2651	4085
Haiti	1707	6.9	1302	1400	1518	1704	2611
Honduras	2306	5.3	1708	1822	1967	2223	3811
Jamaica	2306	2.4	1822	1957	2116	2351	3288
Guatemala	2255	10	1650	1775	1934	2208	3709
Nicaragua	2100	4.1	1602	1722	1867	2097	3212
Panama	2239	2.5	1634	1779	1957	2249	3576
Peru	1883	22.9	1457	1578	1705	1911	2770
North Africa:							
Algeria	2897	26.7	2328	2506	2675	2927	4049
Egypt	3336	56.4	2665	2861	3086	3421	4652
Morocco	2985	25.9	2385	2560	2761	3061	4163
Tunisia	3333	8.7	2628	2853	3098	3438	4648

Country	Average calorie co	Popula-tion	Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest 20%
Sub-Saharan Africa:							
Angola	1840	10.3	1444	1555	1676	1857	2667
Benin	2532	5.1	1988	2140	2307	2555	3670
Burkina Faso	2387	9.7	1874	2017	2175	2409	3460
Burundi	1941	6	1524	1640	1768	1959	2814
Cameroon	1981	12.5	1589	1720	1856	2046	2697
Cape Verde	2200	0.4	1764	1910	2061	2273	2995
Chad	1989	6	1561	1681	1812	2007	2883
CAR	1691	3.2	1327	1429	1541	1707	2451
Cote d'Ivoire	2491	13.3	1998	2162	2334	2573	3391
Ethiopia	1610	51.9	1335	1434	1523	1637	2124
Gambia	2360	1	1893	2048	2211	2438	3213
Ghana	2206	16.4	1776	1918	2067	2266	3003
Guinea	2390	6.3	1748	1906	2103	2412	3785
Guinea-Bissau	2556	1	1870	2038	2249	2579	4047
Kenya	2075	25.3	1558	1661	1786	1991	3376
Lesotho	2201	1.9	1636	1752	1914	2184	3522
Liberia	1640	2.8	1207	1288	1404	1608	2690
Mauritania	2685	2.2	2020	2310	2532	2818	3744
Madagascar	2135	13.9	1805	1914	2029	2186	2740
Malawi	1827	10.5	1545	1638	1737	1871	2345
Mali	2279	10.1	1715	1961	2149	2392	3178
Mozambique	1680	15.1	1249	1337	1461	1667	2688
Niger	2257	8.6	1698	1942	2128	2369	3147
Nigeria	2125	105.3	1650	1809	1959	2157	3049
Rwanda	1821	7.6	1540	1633	1731	1865	2337
Senegal	2265	7.9	1704	1949	2136	2377	3159
Sierra Leone	1695	4.5	1248	1331	1451	1662	2781
Somalia	1505	9	1108	1182	1288	1476	2469
Sudan	2202	26.6	1621	1730	1885	2159	3612
Swaziland	2706	1.0	2012	2154	2353	2686	4330
Tanzania	2021	28	1487	1587	1730	1982	3315
Togo	2243	3.9	1688	1930	2115	2354	3128
Uganda	2162	18	1789	1906	2032	2211	2872
Zaire	2060	41.2	1516	1618	1763	2020	3379
Zambia	1931	8.9	1514	1630	1763	1960	2791
Zimbabwe	1989	10.7	1512	1580	1691	1911	3251

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Table C--Number of hungry people by region (consuming less that 2100 calorie per capita per day)

Country	Average calorie con.	Popula-tion	Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest 20%
Grand Total		834	391	197	157	90	0
Asia: # hungry	2194	441	266	86	58	31	0
Afghanistan	1523	18	4	4	4	4	0
Bangladesh	2019	115	23	23	23	23	0
India	2395	898	180	0	0	0	0
Indonesia	2755	187	0	0	0	0	0
Nepal	1957	21	4	4	4	4	0
Pakistan	2316	123	25	25	0	0	0
Philippines	2258	65	13	13	13	0	0
Sri Lanka	2275	18	4	4	0	0	0
Viet Nam	2250	71	14	14	14	0	0
Lat Am: # hungr	2324	58	24	14	12	8	0
Bolivia	2100	7	1	1	1	1	0
Colombia	2678	36	7	0	0	0	0
Costa Rica	2889	3	0	0	0	0	0
Dominican R.	2500	8	2	2	0	0	0
Ecuador	2587	11	2	0	0	0	0
El Salvador	2663	6	1	0	0	0	0
Haiti	1707	7	1	1	1	1	0
Honduras	2306	5	1	1	1	0	0
Jamaica	2306	2	0	0	0	0	0
Guatemala	2255	10	2	2	2	0	0
Nicaragua	2100	4	1	1	1	1	0
Panama	2239	3	1	1	1	0	0
Peru	1883	23	5	5	5	5	0
N Africa:# hungr	3138	0	0	0	0	0	0
Algeria	2897	27	0	0	0	0	0
Egypt	3336	56	0	0	0	0	0
Morocco	2985	26	0	0	0	0	0
Tunisia	3333	9	0	0	0	0	0

Country	Average calorie con.	Popula-tion	Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest 20%
SSA: # hungry	2102	336	101	97	87	51	0
Angola	1840	10	2	2	2	2	0
Benin	2532	5	1	0	0	0	0
Burkina Faso	2387	10	2	2	0	0	0
Burundi	1941	6	1	1	1	1	0
Cameroon	1981	13	3	3	3	3	0
Cape Verde	2200	0	0	0	0	0	0
Chad	1989	6	1	1	1	1	0
CAR	1691	3	1	1	1	1	0
Cote d'Ivoire	2491	13	3	0	0	0	0
Ethiopia	1610	52	10	10	10	10	0
Gambia	2360	1	0	0	0	0	0
Ghana	2206	16	3	3	3	0	0
Guinea	2390	6	1	1	0	0	0
Guinea-Bissau	2556	1	0	0	0	0	0
Kenya	2075	25	5	5	5	5	0
Lesotho	2201	2	0	0	0	0	0
Liberia	1640	3	1	1	1	1	0
Mauritania	2685	2	0	0	0	0	0
Madagascar	2135	14	3	3	3	0	0
Malawi	1827	11	2	2	2	2	0
Mali	2279	10	2	2	0	0	0
Mozambique	1680	15	3	3	3	3	0
Niger	2257	9	2	2	0	0	0
Nigeria	2125	105	21	21	21	0	0
Rwanda	1821	8	2	2	2	2	0
Senegal	2265	8	2	2	0	0	0
Sierra Leone	1695	5	1	1	1	1	0
Somalia	1505	9	2	2	2	2	0
Sudan	2202	27	5	5	5	0	0
Swaziland	2706	1	0	0	0	0	0
Tanzania	2021	28	6	6	6	6	0
Togo	2243	4	1	1	0	0	0
Uganda	2162	18	4	4	4	0	0
Zaire	2060	41	8	8	8	8	0
Zambia	1931	9	2	2	2	2	0
Zimbabwe	1989	11	2	2	2	2	0

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Table D--Intensity of Calorie Gap (calorie consumption ratio to requirement--2100 calorie per capita per day)

Country	Average calorie co	Popula-tion	Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest 20%
			percent				
Asia: total	2194	1,515.9	82.1	87.9	93.7	101.9	133.1
Afghanistan	1523	17.7	54	59	63	70	100
Bangladesh	2019	115.2	77	83	88	94	117
India	2395	898.2	91	97	103	111	144
Indonesia	2755	187.2	104	110	118	127	167
Nepal	1957	20.8	74	79	85	91	115
Pakistan	2316	122.8	87	94	100	109	136
Philippines	2258	64.8	82	87	94	104	145
Sri Lanka	2275	17.9	86	93	99	106	133
Viet Nam	2250	71.3	84	89	95	104	139
Lat Am: total	2324	84.7	84.3	90.5	97.9	109.6	166.5
Bolivia	2100	7.1	73	78	85	95	146
Colombia	2678	35.7	92	99	108	122	187
Costa Rica	2889	3.3	106	114	121	133	184
Dominican R.	2500	7.5	87	93	101	113	174
Ecuador	2587	11	90	96	104	117	180
El Salvador	2663	5.5	92	99	107	121	186
Haiti	1707	6.9	59	64	69	77	119
Honduras	2306	5.3	78	83	89	101	173
Jamaica	2306	2.4	83	89	96	107	149
Guatemala	2255	10	75	81	88	100	169
Nicaragua	2100	4.1	73	78	85	95	146
Panama	2239	2.5	74	81	89	102	163
Peru	1883	22.9	66	72	78	87	126
N Africa: total	3138	117.7	113.7	122.5	132.0	146.0	199.0
Algeria	2897	26.7	106	114	122	133	184
Egypt	3336	56.4	121	130	140	156	211
Morocco	2985	25.9	108	116	126	139	189
Tunisia	3333	8.7	119	130	141	156	211

Country	Average calorie co	Popula-tion	Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest 20%
			percent				
SSA: total	2102	506.1	73.9	80.1	86.8	96.7	140.3
Angola	1840	10.3	66	71	76	84	121
Benin	2532	5.1	90	97	105	116	167
Burkina Faso	2387	9.7	85	92	99	109	157
Burundi	1941	6	69	75	80	89	128
Cameroon	1981	12.5	72	78	84	93	123
Cape Verde	2200	0.4	80	87	94	103	136
Chad	1989	6	71	76	82	91	131
CAR	1691	3.2	60	65	70	78	111
Cote d'Ivoire	2491	13.3	91	98	106	117	154
Ethiopia	1610	51.9	61	65	69	74	97
Gambia	2360	1	86	93	101	111	146
Ghana	2206	16.4	81	87	94	103	137
Guinea	2390	6.3	79	87	96	110	172
Guinea-Bissau	2556	1	85	93	102	117	184
Kenya	2075	25.3	71	76	81	90	153
Lesotho	2201	1.9	74	80	87	99	160
Liberia	1640	2.8	55	59	64	73	122
Mauritania	2685	2.2	92	105	115	128	170
Madagascar	2135	13.9	82	87	92	99	125
Malawi	1827	10.5	70	74	79	85	107
Mali	2279	10.1	78	89	98	109	144
Mozambique	1680	15.1	57	61	66	76	122
Niger	2257	8.6	77	88	97	108	143
Nigeria	2125	105.3	75	82	89	98	139
Rwanda	1821	7.6	70	74	79	85	106
Senegal	2265	7.9	77	89	97	108	144
Sierra Leone	1695	4.5	57	61	66	76	126
Somalia	1505	9	50	54	59	67	112
Sudan	2202	26.6	74	79	86	98	164
Swaziland	2706	1.0	91	98	107	122	197
Tanzania	2021	28	68	72	79	90	151
Togo	2243	3.9	77	88	96	107	142
Uganda	2162	18	81	87	92	100	131
Zaire	2060	41.2	69	74	80	92	154
Zambia	1931	8.9	69	74	80	89	127
Zimbabwe	1989	10.7	69	72	77	87	148

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Table D--Intensity of Calorie Gap (calorie consumption ratio to requirement--2100 calorie per capita per day)

Country	Average calorie co	Popula-tion	Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest 20%
			percent				
Asia: total	2194	1,515.9	82.1	87.9	93.7	101.9	133.1
Afghanistan	1523	17.7	54	59	63	70	100
Bangladesh	2019	115.2	77	83	88	94	117
India	2395	898.2	91	97	103	111	144
Indonesia	2755	187.2	104	110	118	127	167
Nepal	1957	20.8	74	79	85	91	115
Pakistan	2316	122.8	87	94	100	109	136
Philippines	2258	64.8	82	87	94	104	145
Sri Lanka	2275	17.9	86	93	99	106	133
Viet Nam	2250	71.3	84	89	95	104	139
Lat Am: total	2324	84.7	84.3	90.5	97.9	109.6	166.5
Bolivia	2100	7.1	73	78	85	95	146
Colombia	2678	35.7	92	99	108	122	187
Costa Rica	2889	3.3	106	114	121	133	184
Dominican R.	2500	7.5	87	93	101	113	174
Ecuador	2587	11	90	96	104	117	180
El Salvador	2663	5.5	92	99	107	121	186
Haiti	1707	6.9	59	64	69	77	119
Honduras	2306	5.3	78	83	89	101	173
Jamaica	2306	2.4	83	89	96	107	149
Guatemala	2255	10	75	81	88	100	169
Nicaragua	2100	4.1	73	78	85	95	146
Panama	2239	2.5	74	81	89	102	163
Peru	1863	22.9	66	72	78	87	126
N Africa: total	3138	117.7	113.7	122.5	132.0	146.0	199.0
Algeria	2897	26.7	106	114	122	133	184
Egypt	3336	56.4	121	130	140	156	211
Morocco	2985	25.9	108	116	126	139	189
Tunisia	3333	8.7	119	130	141	156	211

Country	Average calorie co	Popula-tion	Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest 20%
			percent				
SSA: total	2102	506.1	73.9	80.1	86.8	96.7	140.3
Angola	1840	10.3	66	71	76	84	121
Benin	2532	5.1	90	97	105	116	167
Burkina Faso	2387	9.7	85	92	99	109	157
Burundi	1941	6	69	75	80	89	128
Cameroon	1981	12.5	72	78	84	93	123
Cape Verde	2200	0.4	80	87	94	103	136
Chad	1989	6	71	76	82	91	131
CAR	1691	3.2	60	65	70	78	111
Cote d'Ivoire	2491	13.3	91	98	106	117	154
Ethiopia	1610	51.9	61	65	69	74	97
Gambia	2360	1	86	93	101	111	146
Ghana	2206	16.4	81	87	94	103	137
Guinea	2390	6.3	79	87	96	110	172
Guinea-Bissau	2556	1	85	93	102	117	184
Kenya	2075	25.3	71	76	81	90	153
Lesotho	2201	1.9	74	80	87	99	160
Liberia	1640	2.8	55	59	64	73	122
Mauritania	2685	2.2	92	105	115	128	170
Madagascar	2135	13.9	82	87	92	99	125
Malawi	1827	10.5	70	74	79	85	107
Mali	2279	10.1	78	89	98	109	144
Mozambique	1680	15.1	57	61	66	76	122
Niger	2257	8.6	77	88	97	108	143
Nigeria	2125	105.3	75	82	89	98	139
Rwanda	1821	7.6	70	74	79	85	106
Senegal	2265	7.9	77	89	97	108	144
Sierra Leone	1695	4.5	57	61	66	76	126
Somalia	1505	9	50	54	59	67	112
Sudan	2202	26.6	74	79	86	98	164
Swaziland	2706	1.0	91	98	107	122	197
Tanzania	2021	28	68	72	79	90	151
Togo	2243	3.9	77	88	96	107	142
Uganda	2162	18	81	87	92	100	131
Zaire	2060	41.2	69	74	80	92	154
Zambia	1931	8.9	69	74	80	89	127
Zimbabwe	1989	10.7	69	72	77	87	148

ATTACHMENT 2

Economic and Social Data Service
Agency for International Development
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Poverty Indices and Summary Welfare Measures

Some Basic Arithmetic

This short note describes the methodology behind four variables: [1] the poverty headcount index (HC); [2] the poverty gap index (PG); [3] the human development index (HDI); [4] the physical quality of life index (PQLI). Only the first two variables are directly indicators of poverty status; the latter two indices are attempts to quantify the socioeconomic well-being of a society.[1] An appendix presents summary data for all four indicators.

Poverty Headcount Index

This is the most basic indicator which addresses poverty. It is simply a measure of how many people, or what percent of the total population, are impoverished. The headcount index, as well as the poverty gap index, uses either an income- or expenditure-based norm to set a poverty line.

One approach was taken by the World Bank's *World Development Report* for 1990. There are two parts to setting the poverty line.[2] First, the income or expenditure needed to acquire a minimum standard of nutrition and other basic necessities is estimated. This can be done by analyzing the diets of low-income people, and then looking at the prices for those basic necessities. Second, an additional amount of income or expenditure is estimated- that which varies from country to country and reflects the cost of participating in everyday society. This is a much more subjective measurement than the first part of the poverty. For example, in some societies basic telephone service is seen as a necessity, but it is an

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[1] In order to make the HDI and the PQLI conceptually comparable to the two poverty indices, the data must be disaggregated by economic class. However, this cut of the data is often not readily available.

[2] See pages 26-27. In the *WDR*, an expenditure- or consumption-based poverty line is used. The same logic would apply to an income-based line.

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extravagance in others.

Another approach is to adopt a less rigorous approach to estimating the poverty line. In some cases, the shortage or unreliability of data have prompted the use of relative measures of poverty lines, *e.g.*, a marker set at thirty percent of the mean household income. The resort to a "percentage-based" poverty line might also be useful in the cross-country-comparison context. When such markers have been adopted, however, it is important to differentiate between studies of poverty itself, and the closely-related, but not equivalent, problem of inequality.

After the poverty line, or multiple poverty lines[3], have been determined, the next step is simply to estimate the number of individuals falling below that line. An adjustment must be made for household size, a factor with obvious implications for the cost of attaining nutritional minimums and basic necessities.

Household surveys are a common method for estimating the number of people living below the poverty line(s), although there are also other methodologies employed. Once the estimate is made, the arithmetic of the headcount index is extremely simple. Letting ρ represent the number of poor, and **n** the total population, then the headcount index (HC) is defined as:

$$HC = \frac{\rho}{n}$$

Of course, ρ itself is an indicator of poverty, but not in percentage terms. Because **n**, the population size, is readily available for virtually every country, it is a simple matter to calculate **HC** once ρ has been estimated.

For cross-country comparisons of the headcount index, the biggest problem is that poverty lines are typically specific to each country and measured in local currency. The World Bank developed a poverty line of $370 for all countries, with the dollar-units being adjusted for purchasing power parities. Although this global benchmark is useful from a trends-analysis

[3] The World Bank uses "upper' and "lower" poverty lines to measure poverty and extreme poverty.

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perspective, it has less utility as a policy evaluation measure in the country-specific context.

A commonly-cited flaw of the headcount index is its failure to estimate the depth or severity of poverty. For example, if the worst-off households fall even further below the poverty line, the headcount index is unchanged. However, poverty has unarguably increased. By juggling a combination of two or more poverty lines, an analyst can only make a partial assessment.

Poverty Gap Index[4]

This indicator addresses the question of the depth of the poverty in a country or region. The poverty gap index is defined as the headcount index multiplied by the gap between the mean income of the poor and the poverty line. The gap is expressed as the ratio of the mean income gap of the poor to the poverty line, *e.g.*, if mean income is three hundred dollars and the poverty line is four hundred dollars, then the gap would be 0.25.

There are several parts to the calculation of the poverty gap index. Because the headcount index is part of the formula for estimating the poverty gap index, all of the steps in the first section of this note must be carried out. To estimate the "poverty gap ratio," incomes or expenditures must be arrayed in ascending order, with the lowest income or expenditure listed first. We can define this lowest value as y_1 and the poverty line as l. The "poverty gap ratio" (*PG*) is then measured as:

$$PG = \frac{1}{n} \sum_{i=1}^{p} \left[\frac{l-y_i}{l}\right]$$

(Note: for incomes above the poverty line, y_i is not included in the summation.) The poverty gap ratio represents the mean proportionate poverty gap across the population.

The right-hand term in the equation for PG includes the

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[4] In this section, I am borrowing heavily from Martin Ravallion's 1992 monograph, "Poverty Comparisons: A Guide to Concepts and Methods," *LSMS Working Paper Number 88*, The World Bank, pages 36-40.

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calculation of the "total income gap" for those in poverty. That calculation can also be expressed as the "mean income gap" multiplied by the number of those in poverty, which we have defined as ρ. Why not just use the "mean income gap" as our indicator? As Ravallion points out, this is a flawed indicator.[5] If economic changes pushed the least poor above the poverty line (*i.e.*, closed their "gap") while leaving everyone else the same, then the "mean income gap" will increase. The situation will appear to have worsened, even though the only change is that some households got lifted out of poverty. By multiplying the "mean income gap" by either ρ or the headcount index, the indicator signals the improvement.

The "mean income gap" multiplied by ρ is a measure of the transfer that would bring every poor person up to the poverty line, assuming that transfers could be perfectly targeted. (From a policy-analytic perspective, it is often useful to express this transfer as a percentage of GDP.) By contrast, if transfers cannot be targeted at all, then the transfer needed to bring every poor person up to the poverty line is simply the poverty line income multiplied by the number of people in the entire population. As Ravallion notes, these can be interpreted as the minimum and maximum costs of eliminating poverty.[6]

With the poverty gap index, we no longer have the problem of not knowing the *depth* of poverty. However, what World Bank and other analysts call the *severity* of poverty remains unmeasured. In response to this need, the **squared poverty gap index** has been devised.[7] The insight behind the squared poverty gap, for which we use the shorthand **SPG**, is that the worst-off poor are proportionately more "impoverished' than the group of poor near

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[5] *ibid.*, page 37.

[6] See Appendix II for the mathematical expression of these concepts.

[7] This concept has a long background in the literature. Among the key articles are: Amartya Sen's "Poverty: An Ordinal Approach to Measurement," *Econometrica*, (44) March 1976, pages 219-231, and *Poverty and Famines: An Essay on Entitlement and Deprivation*, OUP, 1981; Nanak Kakwani, "On a Class of Poverty Measures," *Econometrica*, (48) March 1980, pages 437-446; James Foster, J. Greer, and E. Thorbecke, "A Class of Decomposable Poverty Measures," *Econometrica*, (52) 1984, pages 761-765; Ravallion's 1992 monograph, *op. cit.*; and, Soniya Carvalho and Howard White, "Indicators for Monitoring Poverty Reduction," *World Bank Discussion Papers*, Number 254, 1995.

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but still below the poverty line.

It seems at least plausible that transfers or changes in fortune *within the poverty population* should have an impact on the measure of poverty. Under either the headcount index or the poverty gap index (unsquared), these economic changes do not affect the poverty measure.

A hypothetical example illustrates this point. Assume that the poverty line is five hundred dollars, and poor households are either at two hundred- or three hundred-dollar-income levels. In the next period, all the two hundred-dollar-income households are pushed down to the one hundred-dollar-level; all the formerly three hundred-dollar incomes are now four hundred-dollar-income levels. (The groups are the same size.) What happens to the poverty measures? The number of poor is unchanged, so the headcount index is also unchanged. The average poverty gap is unchanged, so the poverty gap index is unchanged. However, the squared poverty gap index picks up this development, and registers an uptick in poverty as measured.

The squared poverty gap index is defined as:

$$SPG = \frac{1}{n} \sum_{i=1}^{\rho} \left[\frac{l-y_i}{l}\right]^2$$

with variables as above in the poverty gap index. It gives more weight to the poverty gap of the least well-off. Although **SPG** does provide an estimate of the severity of poverty, changes in the index might be hard to interpret. Ravallion suggests that the index can be thought of as having two inputs or sources:

- the poverty gap itself; and
- inequality among the poor.

In the case of perfect equality among the poor, the squared poverty gap index becomes comparable to the poverty gap index. The greater the inequality of income among the poor population, the higher will be the squared poverty gap index. At a given *average* poverty gap, greater inequality implies the presence of more households at even lower incomes among the poor population. So long as we hold the view that income or expenditure

,ɔ of data

ɜ table below gives the average age of the latest internat-
ally available data for three key social indicators – the under-
ɜ mortality rate, the percentage of children who reach grade
and the percentage of children who are malnourished.
The more up-to-date statistics used by most governments
d all international organizations are often interpolated
d/or extrapolated from past surveys. The table shows the
nber of years that have elapsed, on average, between the last
ional on-the-ground surveys and the year 1995.
n some cases, governments may have more recent statistics
t have not yet been made available to the United Nations.
The average age of data has recently been sharply reduced in
47 countries with published DHS surveys. (See box this page.)
ɜ small number of countries have no known data at all under
tain headings. Published data for such countries usually
resent estimates based on neighbouring countries at similar
els of GNP per capita.

rage age of data (in years) on three social indicators

SAHARAN AFRICA					
ia	14.0	Congo	9.3	Mauritius	5.0
alia	12.7	Côte d'Ivoire	9.3	Zambia	5.0
ea-Bissau	12.3	South Africa	9.3	Malawi	4.7
a	12.0	Mali	7.7	Niger	4.7
on	12.0	Ethiopia	7.0	Tanzania	4.7
ola	11.7	Ghana	7.0	Mauritania	4.3
n	11.3	Togo	7.0	Namibia	4.0
tral African Rep.	11.3	Uganda	7.0	Rwanda	4.0
ea	11.3	Botswana	6.7	Senegal	3.7
	11.3	Burundi	6.0	Burkina Faso	3.3
ambique	10.7	Zimbabwe	6.0	Kenya	3.3
a Leone	10.7	Nigeria	5.3	Madagascar	3.3
ho	10.3	Cameroon	5.0	Eritrea	–
DLE EAST and NORTH AFRICA					
	15.0*	Syria	8.0	Iraq	4.3
non	12.3	Kuwait	6.3	Jordan	4.3
	9.7	Sudan	6.3	Morocco	3.7
di Arabia	9.3	Tunisia	5.7	Egypt	3.3
d Arab Emirates	9.0	Algeria	5.3	Turkey	3.0
an	8.3	Yemen	4.7		
TH ASIA					
anistan	12.0	Pakistan	5.3	Sri Lanka	4.0
al	9.7	Bangladesh	5.0		
an	8.0	India	5.0		
T ASIA and PACIFIC					
a, Dem.	12.7	Hong Kong	8.3	Viet Nam	6.3
bodia	10.3	Lao Rep.	8.0	Philippines	6.0
a New Guinea	9.7	Mongolia	8.0	Indonesia	5.7
a, Rep.	9.3	Singapore	8.0	China	4.3
nmar	8.7	Thailand	6.7	Malaysia	3.7
N AMERICA and CARIBBEAN					
ntina	11.7	Mexico	6.7	Uruguay	4.7
aragua	9.0	Cuba	6.3	Bolivia	3.0
ama	8.3	Costa Rica	6.0		
ador	7.7	Jamaica	6.0		
auras	7.3	Peru	6.0		
temala	7.0	Chile	5.0		
dad/Tobago	7.0	Colombia	5.0		
il	6.7	Paraguay	5.0		
ivador	6.7	Venezuela	5.0		
	6.7	Dominican Rep.	4.7		

a sum or average age of 15 years or more.

Dates of DHS surveys

The DHS surveys drawn upon for pages 26-27 and 42-43 of *The Progress of Nations 1995* have been undertaken in a total of 47 countries over the last decade. The dates of each country survey are given below.

The DHS programme is funded by the United States Agency for International Development (USAID) and administered by Macro International, Inc., Maryland, USA.

1985	*El Salvador*
1986	*Brazil, Liberia*
1987	*Burundi, Ecuador, Guatemala, Mali, Mexico, Sri Lanka, Thailand, Trinidad/Tobago*
1988	*Botswana, Ghana, Togo, Tunisia, Uganda (1988/89), Zimbabwe (1988/89)*
1989	*Sudan (1989/90)*
1990	*Colombia, Jordan, Nigeria, Pakistan (1990/91), Paraguay*
1991	*Cameroon, Dominican Rep., Indonesia, Peru (1991/92), Tanzania (1991/92), Yemen (1991/92)*
1992	*Egypt, Madagascar, Malawi, Morocco, Namibia, Niger, Rwanda, Senegal (1992/93), Zambia*
1993	*Bangladesh (1993/94), Burkina Faso, Kenya, Philippines, Turkey*
1994	*Bolivia*

Additional surveys cited: Guinea 1992, Mohamed Lamine Keita and others, *Enquête démographique et de santé, Guinée 1992*; [illegible] Nationale de la Statistique et de l'Informatisation 1994; Nepal 1991: Ministry of Health, *Family, family planning and health survey* [illegible] 1993; Viet Nam 1988: National Committee for Population and Family Planning, *Demographic and health survey 1988*, 1990.

Abbreviations

ACC/SCN	United Nations Administrative Committee on Coordination/Subcommittee on Nutrition
AIDS	acquired immunodeficiency syndrome
CNN	Cable News Network
DHS	Demographic and Health Surveys
GNP	gross national product
HIV	human immunodeficiency virus
ICFTU	International Confederation of Free Trade Unions
ILO	International Labour Organisation
IQ	intelligence quotient
IUD	intra-uterine device
MP	Member of Parliament
NGO	non-governmental organization
NPG	national performance gap
OECD	Organisation for Economic Cooperation and Development
ORT	oral rehydration therapy
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
VAD	vitamin A deficiency
WHO	World Health Organization

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Frontispiece photos by:
Jørgen Schytte (pages 2, 10, 18,); Laura Samsom Rous (pages 22, 28, 44); Peter Williams (page 36); Susi Lindig (girl representing countries in transition).

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ANNEX II

Papers from Speakers:

Luther Tweeten

Bea Rogers

Tim Frankenberger

Measuring Food Security Performance of the U.S. Agency for International Development

by
Luther Tweeten

The Government Performance and Results Act of 1993 (GPRA) calling for quantitative measures of performance poses special challenges when applied to food security. The problem is not a shortage of aggregate measures of food security and insecurity as evident from the following numbers mostly from the International Food Policy Research Institute (IFPRI, October 1995, pp. 8, 9).

In 1995, some 800 million people were chronically food insecure, defined as long-term utilization of too little food for an active, healthy life. Numbers were down from 950 million people in 1970. Progress came especially by cutting numbers of food insecure people in East Asia by half. Globally, at least another quarter billion people suffer acute food insecurity, defined as transitory utilization of too little food for an active, healthy life.

South Asia is home to the most hungry people (270 million) followed by Africa (175 million). But numbers of food insecure people are growing most rapidly in Africa ! 45 percent since 1970 (IFPRI, October 1995, p. 8). Trends are much more favorable in other regions. A reduction in child malnutrition is expected in all regions from 1990 to 2020 except Sub-Saharan Africa where numbers are expected to increase 50 percent to 43 million children. Protein and calorie deficiencies are widespread as noted above, but in addition nearly 2 billion people worldwide are deficient in iron, 125 million school children suffer from vitamin A deficiency, and 600 million people have iodine deficiency.

Although the number of food insecure people is declining, the problem of income disparity between the rich and the poor is widening. The share of global income received by the poorest 20 percent of the world's population fell from 2.5 percent in 1960 to 1.3 percent in 1990 (IFPRI, October 1995, p. 10). Problems again are especially acute in Sub-Saharan Africa where food production per capita is likely to continue to fall, per capita income will remain nearly static, and civil unrest will persist if current trends continue.

Food security is often viewed in the context of food availability (necessary aggregate food supplies are available from production, commercial imports, or other sources), food access (individuals have adequate income or help from families and others to maintain an adequate diet) and food utilization (individuals with access to food are not inhibited by ignorance, habit, custom, or health from realizing nourishment). My assignment is to emphasize the measurement of performance in food access.

Measuring food access is challenging for several reasons. Ideally, a performance measure is unidimensional (include only one phenomenon for measurement), direct (include only one quantifiable goal or objective, and avoid proxy or indirect indicators), relevant (substantially influenced by USAID), useful (inform agency administrators so they can make wise decisions), cost-effective (indicator available at reasonable cost), periodic (available regularly and prior to the

need for decisions), and objective (clear, widely understood, and replicable). Many of these ideals cannot be met in judging food security performance. The challenge is to select a set of indicators that, though not necessarily ideal, can lead to better decisions by USAID.

Despite apocalyptic forecasts by some of worldwide pestilence, environmental degradation, and an end to technological cornucopia, the problem of the next century is unlikely to be global food unavailability. Food production per capita has been increasing nearly one-half percent per year on average since 1950 and production per capita likely will be greater in year 2100 than in year 2000.

Food access will be a much greater problem. Hundreds of millions of people will command too few resources to produce their own food or to enter the market to purchase food. Many of these food insecure individuals will not be able to rely on family, neighbors, friends, or private charities for adequate food supplies. Agencies such as USAID will need to perform well to fill food gaps as fully as possible.

Ten Food Security Principles

Perhaps the major challenge in measuring performance is that food security is difficult to quantify. And many of the most reliable measures of food insecurity come too late for USAID to make timely decisions. Thus much reliance must be placed on proxy indicators. The following set of conclusions give principles and background for choosing food security performance indicators. Several of the "ten commandments" of food security are from a Food Discussion Paper (Tweeten et al.) prepared for the U.S. Agency for International Development.

1. Food inaccessibility is a greater source of food insecurity than is food unavailability, as indicated earlier, but food availability and accessibility cannot be separated. A region characterized by lack of food availability is almost certainly also a region where people do not produce enough food or other goods and services to generate purchasing power to buy or barter food.

2. Food inaccessibility stems primarily from poverty and of people lacking resources and technology to produce or purchase food for themselves and others.

3. The most effective means to alleviate poverty is by economic growth. Economic growth directly lifts persons out of poverty and provides wealth which can be used to fund food transfers and other services.

4. Transitory food insecurity is also the result of poverty, but wars, tribal conflict, and other sources of violence and civil unrest play a major role. I do not have the numbers, but I suspect more people in the last two decades have starved from upheavals caused by armed conflict than from other sources of food insecurity.

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5. General poverty (as opposed to case, scattered poverty) is primarily the result of public policy failure that brings slow economic growth. Man, not nature, is the principal source of general poverty and hence of chronic food insecurity.

6. Proper economic policy can assure economic growth. The most important economic happening during my career has been empirical verification of a standard model of public policy that will bring economic development (see Annex). Barring war, any nation that follows that standard model of broad-based sustainable development assures itself of food self reliance, defined as food security either from domestic food production or from exports sufficient to pay for food imports.

7. The second requirement for food security besides economic development is a safety net. The latter is for food transfers to those unable to provide for themselves.

8. An imperfect political system, ignorance, greed, and apathy are the principal impediments to the standard model (see Annex) and hence to economic growth, reduced poverty, and increased food security. Even egregiously bad economic and social policies (including those that bring civil unrest and wars) tend to benefit someone. If in a position of power and authority, those served by unfavorable policies maintain them. Hence food security, poverty, and economic growth cannot be separated from politics. In general, food security is best served by democracy because it can help to reduce civil unrest, war, greed, and ignorance while creating the continuity of government needed for markets to work.

9. It is best to address food crises before they emerge. Famine can exacerbate the civil strife or other conditions from which it arose.

10. Severe food insecurity (famine) is often best addressed in the short run by food aid, in the intermediate run by broad-based sustainable (BBS) economic development, and in the long run by lower birth rates and population growth. Families are more food secure when they know their infants are likely to survive to adulthood, they are protected in old age by social security, and they are able to control conception so as to have no more children than they desire or can care for.

11. Sustainable development required for food security requires protection of the environment. The environment will not be cared for by the market alone ! proper public policy is essential. Food insecure people cause deforestation, decertification, erosion, eradication of species, and other environmental degradation in their desperate search for food and firewood.

Thus food security depends on economic growth, health and population, democracy, environment, and humanitarian assistance ! all priorities of USAID. This interdependence means that all USAID performance indicators directly or indirectly relate to food security.

Food Security Performance Indicators

In this section I list indicators of food access proposed by USAID (1995a,c) and discuss their usefulness. I will also list and comment on USAID proposed indicators of food utilization and availability because these indicators are difficult to separate from those measuring food access. Finally, I list and discuss additional performance indicators of potential value to USAID.

Indicator (Proposed by USAID)	**Availability of Indicator**	**Aggregation**	**Comments**
Food availability	Available	National	Need calorie supply per capita without USAID contribution as well as with USAID contribution to measure performance

Further comments: Estimates of past and forecast food balances are available for major staples. Balances include carrying stocks, production, and imports on the supply side and consumption, exports, and carry out on the utilization side of the balance. Production can be estimated from forecasting of crop/livestock yield and area/animal units. Yield and production over time are especially important in measuring the success of research and extension to improve agricultural technology and practices.

Food Access

Safety Net	?	?	Noncomparable, qualitative
Absolute poverty	Belated	?	Important indicator. Need number of persons and percent of population in poverty
Real GDP/Capita	Yes	National	Important indicator
Purchasing Power Parity (Real exchange rate)	Yes	National	Not as good measure of performance
% of population of displaced persons	Yes	National	Not as good measure of performance

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Indicator (Proposed by USAID)	Availability Of Indicator	Aggregation	Comments
Food utilization			
% of population consuming 80% (or 70%) of calorie requirements	?	National/Regional Local	Useful measure of under consumption.
% of population with access requirements to safe water	Available Local	National/Regional	Useful to measure Chronic food insecurity
Under 5 mortality rate	Available Local	Regional/Village/	Data not always reliable
Height/age mother	?	Village	Not good indicator of current situation
Policy			
Privatization of agriculture	?	National	Partial indicator of sound policy
% of government budget spent on military	?	National	Partial indicator of sound policy
% of government budget spent on social services	?	National	Weak indicator of sound policy
Other			
Dependency ratio (worker %of population)	?	National	Weak indicator of food security
% of female headed households	?	National	Useful, but can mislead if father working elsewhere and Sending money to family

I suggest several other indicators of chronic food insecurity of children obtainable from schools and health clinics:

1. Weight and height by age to compute weight/height, weight/age, and height/age ratios. Time series of ratios can indicate food security performance.

2. Current food prices, along with the level, trend, and variability of prices over time for key markets.

3. Improved input use including fertilizer, irrigation, and superior variety seeds over time.

4. Food aid imports over time.

The Food and Agriculture Organization of the United Nations has prepared a food security index derived from four measures:

a. the proportion of population without sufficient food to maintain body weight and support light activity.
b. the food gap shortfall of the undernourished in (a) below the national average requirement for dietary energy.
c. the extent of risk associated with facing temporary annual shortfalls in dietary energy supplies, and
d. the effects of cereal food aid shipments.

The importance of economic development and humanitarian assistance for food security prompts more in-depth attention to these indicators.

Economic Development

Many of the above performance indicators measure only the end product (poverty and GDP) of policy reform, investments in infrastructure and human capital, agricultural research and extension, etc. essential for broad-based sustainable economic development. Several years may go by before these intermediate indicators express themselves in poverty rates and real GDP per capita. While it may be important to measure intermediate objectives such as policy reform, these measures of performance perhaps can be "borrowed" from other bureaus within USAID measuring economic growth, the environment, democracy, and health and population.

Another shortcoming is that the highest priority for chronic food security (obtaining proper economic policies) traditionally has been mainly the responsibility of the International Monetary Fund and World Bank rather than USAID. USAID could do more in this regard, but it does not have much leverage.

Many donors in addition to USAID contribute to chronic food security through investment in human capital, infrastructure, agricultural research and extension, protection of the environment, family planning, health promotion, and furtherance of democracy and rights for all including women. Overall efforts of necessity are far more ambitious than USAID can undertake alone. USAID can work with PVOs, NGOs, and public agencies to measure and improve performance in those important areas for food security that indigenous governments and markets will not do for themselves. In this regard, I submit that the comparative advantage of USAID lies in improving agricultural technology, practices, and management through supporting agricultural research and extension. The fruits of that effort should be apparent in (1) increased crop yields and production, (2) falling real food prices, and (3) less malnutrition. These measures of performance can be documented.

Humanitarian Assistance, Food Safety Nets, and Early Warning Systems

Food insecurity changes almost day to day among households and regions in low-income developing countries. The above indicators mostly focus on progress to end chronic food insecurity but are not sufficiently sensitive and timely to warn of imminent transitory food shortages. Anticipation of such shortages can trigger critical immediate remedial policies such as interregional or international food transfers.

Alternatives to forecast food shortages include crop reporting throughout the growing season by the Ministry of Agriculture, Agricultural Extension Service, or other public agencies. In addition, private voluntary organizations, non-government organizations, churches, schools, health clinics, and other agencies and individuals scattered throughout the country can provide early warning of crop failure or other sources of impending food shortages. Only local observers are likely to spot pockets of acute malnutrition in vulnerable groups such as landless peasants, minorities, displaced persons, migrant workers, and the like.

The food security officer at the USAID mission or other food security authority needs to coordinate timely intelligence from the field to sketch as full a picture as possible of impending food shortages, the means available to address the shortage, and the coordination necessary to respond to the need.

Humanitarian assistance is a key contribution of USAID. It may gain in importance because humanitarian assistance is likely to continue even as funds are cut for other activities and even if countries do not have acceptable economic, social, and human rights policies to warrant other donor assistance. (However, short-term humanitarian assistance will not treat the larger problem of chronic food insecurity.)

The above early warning system suggests how to respond but does not measure performance. Possible measures of performance include:

1. Proportion of transitory food insecurity correctly predicted in advance and the proportion incorrectly predicted forecast to occur but did not occur. The timeliness of prediction of a poor harvest of other problems is of concern.

2. Reaction time. Speed in getting food and other supplies to needy people after the early warning systems predicted food shortages.

3. Success in targeting vulnerable people to reduce morbidity and mortality in affected areas. Health clinics and schools can be especially useful in documenting trends in malnutrition including energy, protein, iron, vitamin A, and iodine deficiencies, and in recording the performance of USAID in reducing or avoiding these deficiencies.

An Alternative Approach to Judge Performance

My considered judgment is that some measures of payoff not ordinarily considered to be performance indicators can provide some of the most reliable guides to where USAID can best invest its resources to promote food security. I refer to social rates of return on investment in public goods and services. A series of papers have been prepared by various authors (see McClelland) on the payoff from policy reform, land reform, and from investments in infrastructure, agricultural services (e.g., credit), agricultural technology creation and diffusion, and sustainable agricultural methods. To this series I have recently added papers on human resource investments, emphasizing education, and on food security.

Rates of return are difficult to compute for policy reform but, because it is a precondition for a high payoff from almost any other investment, I give reform highest priority. Investments offering very high payoff for USAID or other donors include human resources, agricultural technology development and diffusion, and infrastructure. We can feel quite confident that USAID's performance will be high investing in any of these efforts, but comparative advantage probably rests with agricultural technology development and diffusion and human resource development.

Humanitarian emergency assistance to avoid famine may be justified even for countries unwilling to follow core elements of the standard model (see Annex). Thus humanitarian assistance for food security also receives high priority but for equity rather than for cost-effectiveness in promoting economic development.

Conclusions

Contributions of USAID or any other agency to food security are not easily measured for many reasons. While poverty, economic growth, and food consumption per capita, stunting, wasting, and the like can be useful measures, it may sometimes be helpful to include intermediate or proxy measures of progress towards food security.

These latter performance measure could include, for example, increases in food production per hectare where USAID has devoted resources to applied and adaptive research and extension to improve agricultural productivity and marketing costs. Or accuracy and timeliness in predicting food shortages and responding with food aid may be appropriate performance indicators in countries that have faced food shortages and have needed humanitarian assistance.

Finally, I appeal for use of careful studies of the payoffs from alternative development strategies (see final section) as performance measures. The strength of these scientific studies is that they are mostly rigorous efforts with appropriate controls. The weakness is that they are mostly not from USAID experience, and may not generalize to USAID programs.

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ANNEX

The Standard Model

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.

The seminal economic revelation of the past five decades is the triumph of the standard model for prescriptive economic policy. The standard model is neoclassical macroeconomics at its core but with a patina of monetarism and Keynesianism recognizing the public role in providing sound macroeconomic policy essential for an efficient private sector.

It has triumphed not because of its neat conceptual foundation dating to Adam Smith and others, but because it works as evident from experience ranging from Hong Kong to Chile. Meanwhile, competing systems have failed spectacularly as evident from the experiences of Cuba, North Korea, and the Soviet Union.

The standard model is deceptively simple. Its essential elements are so straightforward and few that they can be written on the back of an envelope. The model does not represent the end of economics ! refinements will occur over time. Not all elements of the standard model need be fulfilled; even the economically most successful countries do not meet all requirements, but failure to honor key elements relegates countries to poverty and food insecurity. On the other hand, meeting the elements ensures economic growth to provide the wherewithal essential for food security, although rates of progress will differ among countries due to varied endowments of natural resources, institutions, and cultures (work ethic, entrepreneurial zeal, savings rate, etc.).

The overriding current issue is not what works but how to progress from current systems to the standard model. That requires knowledge of how to change dysfunctional cultures and institutions including political systems. No social or any other kind of scientist is much good at that, partly because the prescription for cultural and institutional change has neither the elegant theory nor experience underlying the standard model. No attempt here is made to address that great task of developing a workable prescription for change (perhaps it is a job for religion) but the elements required for a successful economy are outlined.

Worldwide experience provides telling evidence that a dynamic, growing economy capable of meeting food and other needs of people must rely mainly on the private sector, on markets, and the price incentive system for most economic decisions and activity. Markets work best where goods are rival, exclusionary, and transparent. Where these characteristics are sufficiently absent, the government is needed to provide public goods or direct incentives for the private sector to act in the public interest.

The conclusion of the World Bank in their World Development Report, 1990 exposition on poverty was that countries most successfully reducing poverty have induced economic growth 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-size but effective public sector is essential for a well-functioning private sector. The public sector needs to perform well

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several activities for economic development.

1. Provide a supportive, stable macroeconomic environment where long-term investments can be planned and carried through.
   - Establish rules of the economic game. That includes an institutional system of property rights with official commitment to respect private property, including that owned by foreign farms. Rules need to avoid monopoly power of private or public firms; natural monopolies regulated as necessary. Openness to foreign trade and investment is one of the best protections against exploitation by concentrated domestic industries. Parastatals (state owned and operated industries) should be avoided. The economy needs to be as open and free of market distortions as possible consistent with collection of taxes to support essential functions. These functions need to be supported or guided by the public sector, but are often performed most efficiently by private firms.
   - Security, law, and order (democracy?). This must be accompanied by a judicial system to adjudicate conflicts and protect human rights.
   - Fiscal responsibility. Long-term balanced current account. A capital account deficit (borrowing) is justified only where returns are sufficient to leave a social dividend after paying interest and principal.
   - Monetary restraint. Increase money supply no faster than growth in real output. A key ingredient is a central bank as independent of politics as possible and with one overriding mission: stabilization of the general price level.

2. Infrastructure such as road, bridge, seaport, airport, and major irrigation facilities.

3. Social services such as common schooling, agricultural research, extension, information systems, grades and standards, primary health clinics (e.g. immunization, family planning), and sanitary water supplies. The most critical of all these functions is broad-based human resource development, with major emphasis on universal elementary education upgraded as resources allow to secondary and higher education. Education and opportunity for women is a special need in many countries.

4. Protection of the environment.

5. Fair taxation (e.g., sales, valued added, graduated property tax). High deadweight taxes such as on exports or profits should be avoided if possible.

In conclusion, a development policy for food security must be broad-based, sustainable, and market oriented (BBS). 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 serve the food insecure lacking resources to meet basic needs.

The standard model for economic development provides considerable scope for tradeoff between goals of economic growth, equity, and stability. The appropriate tradeoffs are best chosen by representative, informed governments. A useful rule of thumb for governments is to pursue policies and investments that raise real national income. Ordinarily, it is inappropriate to intervene in the operation of efficient, competitive markets to promote equity. But one component must be added to make necessary conditions sufficient for food security as a safety net. Thus the standard model in a BBS system is necessary but not sufficient for food security.

Food and Income Transfer Safety Net

A safety net is required for those unable to achieve a socially acceptable level of well-being by depending on the market, family, and other sources. Examples of vulnerable groups include landless peasants, small landholders, and the urban poor. These groups often have underdeveloped human resources, have few material resources, and are therefore prone to food insecurity.

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 lunches 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. 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.

Safety net efforts can be public or private sector initiatives. Public efforts to address short-term food insecurity can promote development and need not be solely redistributional transfers. With proper advance planning, public works projects can be initiated to build or repair roads that raise private agricultural efficiency. Private voluntary organizations frequently provide early warning of famine and take the lead in distributing food supplied by the public sector.

Many people can be made food insecure in the short run by sound economic policies to restrain money supply, balance government budgets, downsize bureaucracy, privatize, and end a nation's living beyond its means. Here, a food safety net to help the disadvantaged can cushion structural adjustment pains. However, persons released from overstaffed government bureaucracies and state owned enterprises usually have more human and material assets than the average worker, and most can adjust without assistance to more productive (if not more remunerative) private employment or business opportunities.

Food Security Performance Measurement Workshop Paper: Indicators of Improved Food Utilization as an Element of Food Security

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Program evaluators make a critical distinction between process evaluation and impact evaluation. The process evaluation determines whether the program or intervention is successfully implementing the activities which were planned; this is measured by the production of project outputs (to use AID terminology). In the design phase of a project, outputs are identified which are judged to be important to achieving the impact or outcome (again, to use AID terminology) intended by the project.

The distinction between process and impact assessment, and between output and outcome is central to performance evaluation. The critical elements in performance evaluation are: to determine whether the desired change in outcome occurred; and to be able to attribute that the change to the influence of the project (Riely et al., 1995). An intervention may fail to achieve its impact because (a) it was not implemented successfully, or (b) though successfully implemented, it was not sufficient to effect the desired outcome. In the second case, the problem diagnosis may have been incorrect, or simply incomplete (that is, one genuine barrier to the desired outcome was successfully removed, but others remain). Equally important for performance evaluation, a desired outcome may occur, but it may not be clearly associated with the intervention.

This means that, no matter how strongly we believe that a particular output (clean water, for example) is likely to produce a particular outcome (e.g., reduced diarrhea), the performance evaluation must measure the outcome, in case (to continue the hypothetical example) the morbidity in this setting is due to consumption of inadequately reheated food, and not to unsanitary water at all. Process evaluations can monitor the increased availability of clean water, but this is not sufficient for a performance evaluation of a program intended to reduce morbidity.

Performance evaluation is central to AID's current strategy for allocating resources. According to the 1992 USAID Policy Directive (#19), all projects should be evaluated in their final year, presumably to determine whether they should continue to receive funds and resources. Evaluation is distinct from monitoring, which is an ongoing effort to collect data on project implementation and the achievement of outputs. By contrast, performance evaluation includes assessment of outputs, but goes beyond this, to measuring the achievement of the planned outcomes.

Evaluation is an occasional event, not an ongoing process. Because the allocation of millions of dollars worth of resources depends on the performance evaluation, sufficient resources should be devoted to such evaluation to permit informed and accurate judgments to be made. A performance indicator should not be rejected out of hand because it is time-consuming or costly; less expensive and simpler indicators should be seriously considered, but if they are in fact not valid indicators of the outcome itself, the more valid and accurate measure should be used. A

corollary is that evaluations should be comprehensive, covering the entire range of intended project outcomes to the extent possible. Otherwise, the risk is that the project's accomplishments will be underestimated because some will be omitted.

Indicators useful for performance evaluation are conceptually different from those which might be used for program targeting or needs assessment. For the latter purposes, the indicator should be a characteristic associated with food and nutrition insecurity, whether or not it is an actual measure or proxy for the outcome of interest. For example, household size and (in many cases) region of the country are useful indicators to identify the food insecure (Haddad et al., 1994). Obviously, neither household size nor location would be useful indicators of having achieved a change in food insecurity or food utilization as the result of a project.

1. Conceptual Frameworks for Food Security

The determinants of food security have been diagramed in schematic form in various ways, but the differences among the conceptual frameworks tend to be minor compared to their similarities, a matter of emphasis more than of the underlying analysis.

One main difference among the frameworks is whether the concept of Nutrition Security is considered a separate objective, or whether it is included in the basic concept of Food Security. The AID 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" (AID, 1995 FSPP), emphasizes availability and access, but the official definition of food security adds a third element central to the attainment of food security: utilization, defined as "the proper biological use of food, requiring a diet providing sufficient energy and essential nutrients, potable water, and adequate sanitation", and notes, "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". This element of Food Security in the AID framework would be defined as Nutrition Security in, for example, the IFPRI (Haddad et al., 1994) or CARE (Frankenberger, 1994) frameworks.

Figure 1 shows a compilation of the conceptual frameworks showing the determinants of effective utilization of food (also called Nutrition Security). As can be seen, the critical elements shown in the framework are adequate dietary intake (of macro and micronutrients) and adequate nutrient retention or biological use.

The retention of nutrients is shown to be a result of the level of health or morbidity of the individual (including infections and parasite infestation which sap energy and raise the body's demand for nutrients); and work burden or activity level. Work burden is a determinant of nutrient needs, and it is also an outcome of the level of adequacy of dietary intake. Work output is clearly a choice variable: individuals can decide to conserve calories by lowering the duration and the energy intensity of their work or leisure activities. However, to some degree work output is also a determinant of "nutrient (i.e., calorie) retention": for most household members, there may be some unavoidable level of energy expenditure required for essential household activities. (For example, grain pounding, carrying water and fuel, and agricultural tasks may be activities which

cannot be avoided, so the caloric requirement is a constraint on the adequacy of dietary intake.)

Morbidity is generally recognized to be a function of the sanitary environment (access to and use of adequate quantities of clean water; safe preparation and storage of food including infant weaning foods; and the safe disposal of personal and household waste). For children, morbidity is in part determined by the attentiveness and quality of care given them by their mothers or other caretakers; this in turn is a function of the caretaker's time constraints and caretaking behavior. Constraints on the mother's time are, of course, a function of her paid and unpaid work obligations; household composition is another important determinant, specifically the number of young children (to be cared for) and the number of older girls and adult women (to assist in caretaking). The quality of caretaking is determined by the caretaker's knowledge and awareness of correct practice, and her ability to perform it. Caretaking behavior has been shown in many studies to be associated with higher levels of formal education, independent of specific nutrition education or mothercraft training.

The adequacy of the diet consumed by the individual is a result of the way in which the household's supply of food (determined by availability and access) is distributed among household members. Many studies have demonstrated that adequate food availability at the household level is not a guarantee of adequate consumption by any given individual (e.g.., García and Pinstrup-Andersen, 1990), although the more the household's food exceeds its minimum needs, the more likely it is that all members will get enough. Many factors determine the degree to which an individual receives a greater or lesser share of the household's food, including not only age and sex, but more complex factors such as particular role within the household. (For example, an unpublished study from Bangladesh found that married women living in their husbands' households received a less adequate share of household food if they had not yet borne children than if they had had children. Women as a group were not disadvantaged relative to other members, but this one category of women was [Chaudhury, 1982].)

The effects of characteristics such as age and sex are not consistent, but vary with the cultural context. Gender discrimination in the allocation of food, for example, is not universally documented. Discrimination against girls and women has been documented in many studies in South and East Asia, but not often in Latin America nor in Sub-Saharan Africa. In some studies, children appear to be disproportionately favored in times of scarcity; in others, children receive a less adequate share of family food than adults. One factor in intrahousehold allocation patterns is the degree to which resources are controlled by particular members: there is evidence from many studies that, at the same level of household food adequacy, children in households where women exercise control do better in terms of their health and growth (e.g.., Rogers, 1996; Johnson and Rogers, 1993).

There is some evidence as well that discrimination against girls in the allocation of household food is lower where women have perceived economic value (for example, where a brideprice rather than a dowry is paid [Svedberg, 1988], or where there are income-earning opportunities for women [e.g.., Rosenzweig and Schultz, 1982]).

This relationship between economic roles of women and their consumption of household food as girls is a good example of the risk inherent in managing by performance evaluation discussed

by Tweeten (1995): the time lag between generating earnings opportunities for women and the measurable effect on intrahousehold allocation to girls is likely to be much longer than the typical five year project period. (Other examples include the effect of school feeding, by keeping more children in school longer and improving their achievement, on the health and nutrition of their own children in the next generation.)

Dietary adequacy is determined not only by the quantity of food the individual consumes, but by the degree to which nutrients in the food have been preserved. Food storage and preparation practices may reduce the micronutrient content of food or its bioavailability; consumption patterns may result in reduced bioavailability (as when iron from vegetable sources is consumed at the same time as tea or coffee, or of whole wheat, which contains phytates).

The binding constraint(s) on effective food utilization are different in different contexts. Further, any given program or intervention may address some of the constraints on food utilization but leave others unaffected. This is precisely the reason why performance evaluation must collect information on process (outputs) as well as impact (outcomes): so that the evaluation can provide guidance on whether to eliminate an ineffective program or to expand a successful program so that it can address additional constraints.

2. The Concept of Utilization of Food

The best and most directly interpretable variables reflecting improved food utilization are direct measures of nutritional status and health. As one moves further away from these outcomes in the conceptual framework (Fig 1), the indicators of the less proximate causes of nutrition security require more and more assumptions if they are to be interpreted as indicators of the outcome. If the assumptions are well verified for a given setting, changing an underlying or basic cause of nutrition insecurity might be chosen as the goal of the project, rather than nutrition security itself. In such a case, evaluators may decide that only the achievement of the specific goal is required for a project's performance evaluation, but this means that nutrition security has not been measured.

Conceptually, the three components of food security, availability, access, and utilization, have important measurement differences, notably the level at which they are measured. Food availability is typically measured at the community and household levels; access, at the household level. Utilization, as defined in the AID PD, is measurable as an outcome only at the level of the individual. No matter how much food a household has, only the individual member can make biological use of it. Thus the key indicators of the utilization component of food security must be measured at the level of the individual.

The working group on utilization at the Performance Measurement Workshop subtly altered the definition of Utilization from that defined in AID's PD. The definition agreed to by the group is: "the proper biological use of food, requiring a diet providing sufficient energy and essential nutrients, potable water, and adequate sanitation. Effective food utilization depends in large measure on practice within the household of food storage and processing techniques, basic principles of nutrition and health, and proper maternal and child care." This change from

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"knowledge" to "practice" emphasizes that what matters for measuring food security outcomes is actual behavior, not the knowledge and attitudes which may, but might not result in the behavior. Actual practice should be measured whenever possible, in preference to variables which are believed to be related to the behavior of interest.

3. Measures of Improved Utilization

Indicators of change in food utilization include: anthropometric status, dietary intake, and health status, measured at the level of the individual. For the evaluation of a project, results will be reported in terms of changed percentages of the target population reaching a certain level, but the data themselves must be aggregated from individual measurements taken on a statistically representative sample of the target population. Whether the intervention of interest is a change in macro policy such as exchange rate liberalization or the freeing of food prices to be determined by the market, or whether it is a targeted program such as the distribution of supplementary food in maternal and child health clinics, the impact on nutrition security or food utilization is only directly measurable with reference to the status (health, nutrition, diet) of individuals.

3.1 Anthropometric Status

The clearest indicator of improved food utilization (contingent on adequate food availability and access) is that all adults and children are healthy and well-nourished, as indicated by their patterns of morbidity and their anthropometric and nutritional status. Satisfactory anthropometric status (achieved growth) is a summary indicator of adequate nutrition: adequate food intake and the ability to make use of the food biologically. Furthermore, it is interpretable without reference to geographic or cultural differences. That is why improved anthropometric status of children and adults is a good summary indicator of food utilization.

There are three widely used measures of the adequacy of anthropometric status of children, standardized on a large population of well-nourished children, so that they are generally comparable across geographic settings. These are height for age, weight for height, and weight for age, usually calculated in terms of standard deviations from the population mean (NCHS or WHO standards). Height-for-age is a measure of stunting, and is usually taken to reflect long-term nutritional status (that is, long term adequacy of food intake and its biological utilization). Weight for height is a measure of wasting, or current adequacy of food intake and use. Weight for age combines the effects of stunting and wasting, and thus is less useful for distinguishing between changes in acute versus chronic problems of food consumption and biological use. Its chief advantage is that, in field situations, it may be more difficult to measure height and weight than to measure weight alone, because an extra piece of equipment is needed (and scales are usually more readily available than height boards).

Among children under six, it is reasonable to expect height as well as weight to respond to project-induced changes within the two-to-five year time frame of a typical project, since children up to this age are still growing rapidly, and in fact may experience catch-up growth if their health and diet improve. Weight-for-height of children is quite variable in the short term: in emergency situations of food shortage, changes in the percentage of children with low weight for height may be good indicators of improved utilization, but this measure is subject to short term variations in

health status and/or food availability which may obscure longer term improvements in nutrition reflected in height. (Of course, in a truly food secure population, wasting would not be observed at any time.)

The measurement of anthropometric status in adults has only recently begun to receive attention equal to that which has been given to children for decades (James et al., 1988). The most widely used measure of satisfactory anthropometric status in adults is BMI: body mass index, which is calculated from weight and height (weight in kg divided by height in meters squared). Clear cut-offs for adequacy and obesity are not universally recognized, but it is generally agreed that a BMI below 16 represents severe undernutrition for both men and women, and a cut-off of 18.5 has been suggested for defining normal status (James, 1994). Logistically, the measurement of adult height and weight requires different height boards and weighing scales than are used for children, so that measuring BMI of adults adds to the difficulty of a performance evaluation survey. But a critical element of improved food utilization is improvement among adults. In any evaluation, performance will be judged on the outcomes chosen for measurement. To ensure that improvements in adult food utilization are recognized, the status of adults must be measured as well as that of children.

Recent work by WHO has investigated the establishment of standards of anthropometry for pregnant women. This work suggests that weight-for-height at seven months of pregnancy may be a reliable indicator of nutritional status. This could be a valuable indicator of improved food utilization, reflecting food consumption and its use in these women, and possibly also indicating improvements in food allocation practices (since in many parts of the world pregnant women do not increase their food intake or reduce their activity levels sufficiently to accommodate the increased nutrient demands of pregnancy). To the extent that a project focuses on improving the food utilization of pregnant women specifically, this measure may be useful in a performance evaluation. In a general population, though, there may be problems of measurement: ensuring that the month of pregnancy is accurately estimated, and finding enough women in the population who are in their seventh month.

All of these anthropometric measures have the clear advantage of representing the actual outcome of interest in an evaluation of food utilization. They show the combined effects on individual nutritional status of dietary adequacy and biological use of nutrients, and reflect whatever processes of food allocation, health promotion and disease prevention, and (for children) appropriate child care produced the outcome. To interpret the anthropometric information, it is useful to have complementary data on the processes, but anthropometric status is the closest variable to the outcome programs intend to affect.

Anthropometric measurements are quicker and simpler to perform than more lengthy surveys covering morbidity by recall, dietary intake, or health care practices. Careful training and standardization are required (UN, 1986), but the time to weigh and measure several household members is considerably less than that required to conduct household and individual interviews. Statistically valid measurement of anthropometry, though, does require a population based sample, so that the logistic requirements of conducting a household survey are not eliminated by the choice of anthropometry as the key measure of food utilization.

3.2 Micronutrient Status

Anthropometric status largely reflects adequacy of macronutrient intake and its biological use. Improvements in micronutrient status can be most directly measured by clinical or biochemical assessment. These assessments, like anthropometry for macronutrients, have the advantage of representing directly the outcome of interest, in a way that dietary intake measurement does not. (For example, adequate iron intake may not produce adequate iron nutriture in the presence of a high parasite load or inflammatory disease.)

The appropriate measures may be difficult to take, however. Assessment of iron status requires a finger-stick blood sample, which in turn requires fairly complex logistics to ensure that the blood draw is safe both for the subjects being studied and for the workers. Compliance (willingness to allow the sample to be taken) may pose a problem in some settings. The assessment of vitamin A is even more difficult. Serum vitamin A is relatively invariant over a very wide range of levels of vitamin A adequacy, so that a very large change (or improvement from a very low level) would be needed for the change to be observed by means of serum vitamin A. Furthermore, it is difficult to measure serum vitamin A under field conditions. This means that, in addition to the complex logistics of collecting blood in the field, the cold chain must be maintained between the field and a laboratory where the blood can be reliably analyzed. Still, these direct assessments are the most valid way to determine whether micronutrient status as an outcome has improved.

If the project being evaluated is clinic-based (as with maternal and child supplementary feeding, for example), there might be an inclination to overcome the logistical barriers to biochemical and clinical assessment in the field by simply measuring the status of clinic attenders (using non-project clinics as a control group), but of course this would produce a biased sample which could not be used to judge the effect of the program on the population at large.

3.3 Dietary Intakes of Individuals

Anthropometric status is a good proxy for dietary adequacy: improved anthropometry suggests improvement in dietary intake. As shown in the conceptual framework, though, there are at least two other pathways besides diet—reduced morbidity, reduced energy expenditure—by which individuals may improve their rate of growth. To attribute anthropometric change to dietary improvement, direct measurement of individual diets is essential. Furthermore, a project which successfully improves the dietary adequacy of individuals is very likely having an impact on overall food security. "Sustained improvements of dietary intake of individuals" is one of two project results central to the achievement of improved food utilization.

The key indicator of improved dietary intake suggested by the working group on utilization is the percent of the population consuming 80% or more of requirements (based on WHO standards). This kind of indicator depends on accurate, quantitative data on total food consumed by individuals.

3.3.1 Direct Measurement of Consumption

24-Hour Recall

Measurement of dietary intake is most commonly done through the 24-hour recall, a procedure in which trained interviewers ask respondents to describe exactly what they ate in the previous 24 hours, with estimates of quantities. An alternative approach sometimes used is for data collectors to measure the foods prepared in the household by weighing them as they are being prepared, and then to measure the plate waste and leftovers afterward, to obtain an accurate estimate of the quantities of food actually consumed.

The latter method—measuring dietary intake concurrently rather than by recall—may be more accurate in estimating what is consumed on the measurement day. But because of its intrusiveness and the burden it imposes on respondent households, it is quite likely to be a less valid measure of usual diet than recall would be. Concurrent measurement is logistically more difficult, since enumerators must be present at mealtimes; it is also much more time consuming: a recall can be performed in 20 to 45 minutes, while it take the whole day to measure intake on the spot. This of course greatly reduces the number of households whose intake can be measured in a given period of time. One final note on the use of recall versus concurrent measurement: in either case, foods consumed away from home must be estimated using recall. These considerations suggest that the recall approach is preferable: the possible loss in accuracy of measurement is compensated by the probably greater validity and considerably lower time and logistic burden.

My own work and that of colleagues in several household surveys (see, Rogers and Swindale; Johnson, 1987; Swindale et al., 1995) has demonstrated the feasibility of performing 24 hour recalls to measure both household and individual food consumption using volumetric estimates, not weighed estimates of quantities consumed. Respondents estimate quantities in their own containers using raw rice or beans as a model of the food they are estimating; the rice is then transferred to laboratory beakers to be recorded in milliliters. The conversion from volume to weight in grams is easily performed by computer. Water can be used in the same way to estimate quantities of liquids. We have used cardboard, two-dimensional models for estimating sizes of solid foods such as plantain or cassava; clay, measured volumetrically by the water-displacement method, can be used for smaller volumes such as pieces of meat or cheese.

Careful training of interviewers is an essential part of this or any dietary measurement approach. With training and a couple of weeks of experience, data on consumption at the household level can be obtained (as mentioned above) in 20 to 45 minutes. Using the household level data as a point of departure, it is relatively easy to obtain quantitative estimates of individual consumption from each dish consumed in the household. Others have also reported success in using recalls with estimates rather than direct weighing (Gibson et al.).

While the recall method can be applied directly to individual consumption, there are advantages to having information on both the household and the individual level. One, of course, is that dietary intake at the household level is needed to estimate the value of total consumption if this is used as a proxy for income. Another is that having household as well as individual intake estimates permits a determination whether individual intake deficits are due to a shortfall in the entire household, or to inequity in distribution among members.

Among nutritionists it is generally recognized that a single 24-hour recall is a poor indicator of an individual's usual dietary intake, because the day-to-day variation in an individual's diet is as great as the variability between one person and another (Gibson, 1990). The same would apply to households' diets. Thus for an accurate measure of diet to be used in the assessment of an individual person or household, the recommendation is to collect at least three or four non-consecutive dietary recalls. The more variable the intake of a nutrient, the more days of recall would be needed to obtain a valid measure of an individual's usual intake. In a performance evaluation, the concern is with changes in the population affected by the project, in comparison with a population not receiving project benefits. Thus identification of the dietary status of individual persons or households is not necessary.

Multiple 24-hour recalls on a single household will reduce the variability in the estimate of household intake, so that a smaller sample is needed to draw conclusions with the same degree of statistical confidence. But it is a budgetary and logistical question whether to perform a single 24-hour recall on a larger sample, or to obtain a more accurate (less variable) estimate of dietary intake by performing multiple 24-hour recalls on a smaller sample. One advantage of performing multiple recalls is that there is some evidence of upward bias in the reporting of diet in the first of a series of interviews (Ohri, 1994; 1995). Unfortunately, it is not possible to start with the second interview! In large scale household income, expenditure and consumption surveys, questionnaires may be quite long, and may require multiple visits to ensure that all respondents within a household are contacted. In such cases, performing more than one 24-hour recall may not greatly increase the cost and logistical complexity of a survey. If only one household visit is possible, valid conclusions regarding diet can still be drawn for comparison among groups of households.

Food Frequency Questionnaires

The food frequency approach asks respondents to estimate themselves what their consumption patterns are over a longer period of time than the previous 24 hours. If reported correctly, the food frequency should in theory obtain a more valid estimate of an individual's usual consumption than any single 24-hour recall. Food frequencies can be used to divide a sample into categories of consumption such as high, medium, and low for a particular nutrient or type of food, but they are difficult to use for precise quantitative estimates of differences in caloric intake. There is also a risk, in asking respondents about their "usual" consumption, that the respondents will provide a normative answer, reflecting at least to some degree what they believe or wish to be true, rather than their actual consumption. Tying responses to a very specific and recent period of recall makes it less likely that respondents will unintentionally distort their reported consumption behavior.

Food frequency questionnaires should take less time to administer than 24-hour recalls, though in practice this depends on the level of detail and the ability of respondents to self-administer the questionnaire. They do have the advantage of being more representative of the usual pattern of intake, but only if the respondent can answer correctly. In performance evaluations, though, representativeness can also be readily achieved through the aggregation of data on many households.

Food frequencies have the advantage that they can be focused on a particular set of foods such as those providing a particular nutrient. For example, to evaluate the effect of a project on consumption of vitamin A and its precursors, information can be collected only on foods which are good sources of these nutrients. If the outcome of interest is limited to a single nutrient, and especially in the case of nutrients which can be stored in the body, a focused food frequency is likely to be a more efficient way to obtain evaluation information than a 24-hour recall. If the nutrient of interest is calories, the food frequency can be simplified by leaving out foods (such as green leaves) which are nutritionally important, but which are not significant calorie sources (although leaving out such foods may result in forgetting high-calorie accompaniments such as oil or fat consumed on vegetables). In an unpublished study in the US, food frequency questionnaires consistently resulted in higher estimates of caloric intake than 24-hour recalls. More important, the difference was not constant, but increased as estimated calorie intake increased (Goldberg, 1992).

Food frequency questionnaires to be used for the assessment of intake of a particular nutrient need to be developed and calibrated for the local diet and food practices.

Measures Relevant to Infants

Quantifying the dietary intake of infants who are being breast-fed is virtually impossible in a field situation. Evaluation of improved dietary intake of infants therefore needs to focus on appropriate practices relating to breast-feeding, weaning, and feeding during illness episodes. "Appropriate" practices include the following.

- Exclusive breastfeeding up to four months
- Initiation of breastfeeding within 8 hours of birth
- Introduction of complementary foods by six months
- Continued feeding (breast-milk, complementary foods, fluids) during episodes of diarrhea

Evaluation measures would be the percent of children in each age group who benefit from the appropriate practice. Age at weaning was found to be a reliable predictor of nutrition insecurity of children in a study of multiple data sets by Haddad et al. (1994). Of course proxies always involve a sacrifice of information in the service of low cost and greater efficiency. In the case of complementary feeding, for instance, some quantitative estimate of the amount of complementary foods provided would be useful. (A study in Korea, for example, found that the proportion of mothers offering complementary foods to infants was extremely high, but the amount of food offered was nutritionally insignificant [Choi, 1990]). In the case of feeding during diarrhea, the measure would be the percent of those suffering from diarrhea who received continued feeding. These measures must be obtained by report of the infant's mother or caretaker, by means of an interview.

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3.3.2 Proxies

Quantitative estimates of individual food intake are useful because they permit the analysis of both macro and micronutrient adequacy. If complete quantitative information on diet is available, evaluators can experiment with various alternative cut-offs for defining adequacy (eg., both 70% and 80% of WHO recommended levels have been suggested as useful indicators for identifying the proportion of individuals consuming inadequate diets). They can decide after the fact to examine additional nutrients not originally included in the evaluation. This flexibility may be an expensive luxury, however, if proxies can be identified. Proxies, though, must be validated for each setting, while dietary intake, like anthropometric status, has the same meaning and interpretation in every cultural setting and geographic location—a major advantage.

One of the proxies suggested as a marker of improved individual dietary intake is an increase in the number of meals consumed (or an increase in the percentage of individuals reporting three meals). Such a measure is appropriate only in settings where significant number of people were consuming fewer meals at the time the project was initiated, and of course would need to be verified for its relevance and meaningfulness in the specific setting. Number of meals is likely a sensitive indicator in certain cases, but risks missing changes in meal size and composition and in snacks. Demographic groups at particular risk (women, children) may be more likely to obtain a high proportion of their food outside of regular meals, in snacks and during food preparation (eg., Harbert and Scandizzo).

Haddad and colleagues (1994) suggest that a better proxy for nutritional security than number of meals is the number of unique foods or food groups consumed. This information would be much less time consuming to collect than quantitative intake estimates, and could demonstrate improved intake based on two factors: greater dietary variety increases the likelihood of micronutrient adequacy, and variety is an indicator of relaxed economic constraints (since, by implication, variety reflects the incorporation of foods which are not the least expensive macronutrient sources), suggesting that caloric adequacy is at least close to being achieved.

3.4 Health Status

Along with dietary intake, the ability of the body to retain and use nutrients is a function of illness (infection, infestation) and of energy expenditure.

3.4.1 Morbidity

As with dietary intake, so with morbidity: the most valid indicator of morbidity is the direct measure. A two-week recall of diarrheal disease and acute infection among the target population, adjusted for season, is probably the best basis for comparison in determining the effectiveness of a project. Such data must be collected on a representative sample of the affected population and a comparison group, presumably in the context of a population based survey. Direct measure of morbidity prevalence (percent of each population group suffering from illness during the recall

period) applies to children and adults, and it is directly interpretable across cultural and geographic settings.

The working group suggested a number of proxies for reduced morbidity. These proxies fell into two groups: those which reflect use of health services, and those which reflect environmental sanitation.

The proxies reflecting use of health services include the following.

- Percent of children 12 months of age who are fully immunized
- Percent of children 12-23 months of age who are immunized against measles
- Percent of mothers of children with diarrhea who used oral rehydration therapy
- Percent of children with diarrhea who received continued feeding of fluids, food, and/or breastmilk as appropriate
- Time spent, distance traveled to health clinics

The first two indicators (immunization levels) are probably good indicators of the coverage of the health care system. They would reflect nutrient retention in cases where the diseases prevented by immunization were responsible for significant nutrient loss at the initiation of the project, and where immunization was effective in reducing disease incidence. Measles is suggested as a proxy for full immunization because in most settings, if children receive the measles immunization, they probably have received the others. This must, however, be verified in the local setting. Note that immunization as defined is relevant only to the nutrition security or food utilization of children, not adults.

Distance to the clinic and time spent traveling there are very indirect indicators of morbidity or improved child care practices, and their usefulness in many settings is questionable. If poor immunization coverage or low awareness of good child care practice is observed, distance to clinics may be an important explanation, but there are too many intervening variables (time constraints of the mother or caretaker, cultural barriers to use, poor quality of clinic services) to make this a good indicator of health.

Two of these indicators refer to appropriate child feeding during diarrhea: continued feeding of food and fluids, and use of ORT. The first of these was suggested as a useful indicator of dietary adequacy of infants. This one and the second, use of ORT, might be good proxies for mothers' awareness of good child care practices, but once again is not a proximate indicator of the outcome, which is illness, though it is an important output of a project aimed at improving such practices. Many variables affect the use of ORT. Its use is time-consuming, so that some caretakers who know of it may still not use it; caretakers close to a hospital or clinic may choose to seek medical care rather than attempt to use ORT at home (Marlett). Thus low use of ORT would be difficult to interpret as an indicator of poor nutrient retention.

The indicators of environmental sanitation proposed by the working group were the following.

- Percent of population with access to potable water for drinking and for sanitation

- Percent of population with access to sanitation facilities

Measures of the actual use of safe water and proper waste disposal practices, obtained by interview or observation, would be better indicators that the more easily obtained information on access, defined in terms of distance, time, or presence in the house or compound. If direct survey information is not collected as part of a performance evaluation, then access to water and to a latrine are useful indicators of the presumed preconditions to achieving reduced morbidity. Once again, access is the output, presumed (but not proved) to be related to the desired outcome.

3.4.2 Activity Level and Work Burden

Activity level is an essential component of the conceptual framework linking behavioral and environmental factors with the outcome of improved food utilization. Measures of energy expenditure are difficult to implement in field situations. There are biological methods for determining calorie expenditure quite accurately (using doubly labeled water, for example), but for performance evaluation calorie expenditure is not really the outcome of interest, since its interpretation is problematic. (It can be both determinant and a result of nutritional adequacy.) Projects which address work burden as a constraint to nutritional adequacy are most likely concerned with unavoidable energy expenditure in home production and other work activities. Specific task frequency or time spent in specific tasks might be useful indicators of this required level of work output. If labor saving technologies have been introduced, time spent or frequency of use of these and the alternative technologies (manual grain milling rather than pounding, for example) would be an appropriate indicator, if placed in the context of overall time use. In certain settings, distance or time spent collecting fuel or water or walking with a load (eg., to the field or market) might be useful indicators of work burden.

4. Performance Evaluation Design

The foregoing discussion demonstrates that the best indicators of food utilization as an outcome are those which are collected at the level of the individual, and which directly reflect the outcome (nutritional status) or its proximate determinants (dietary intake, health, activity level). It is these indicators that distinguish performance evaluation from process evaluation or monitoring. Indicators of the accomplishment of project outputs are critical to the ability to attribute improved outcomes to the influence of the project, or, in cases where the outcomes did not improve as much as planned, to understand why. But if possible, a performance evaluation should not rely on output indicators to indicate improvements in the outcome itself. If direct indicators of anthropometric and micronutrient status, dietary intake, and health are not collected, evaluators must recognize that their results are suggestive and interpretive rather than conclusive.

Collection of this kind of information requires a population-based survey approach, performed on a representative sample of the population intended to be reached by the project and compared with a baseline and with an appropriate comparison group. Compared with the analysis of secondary data or routine monitoring data, such approaches are costly in human and monetary resources and in time. If programming decisions are to be shifted to a performance basis, this increased investment in collecting performance evaluation data is essential.

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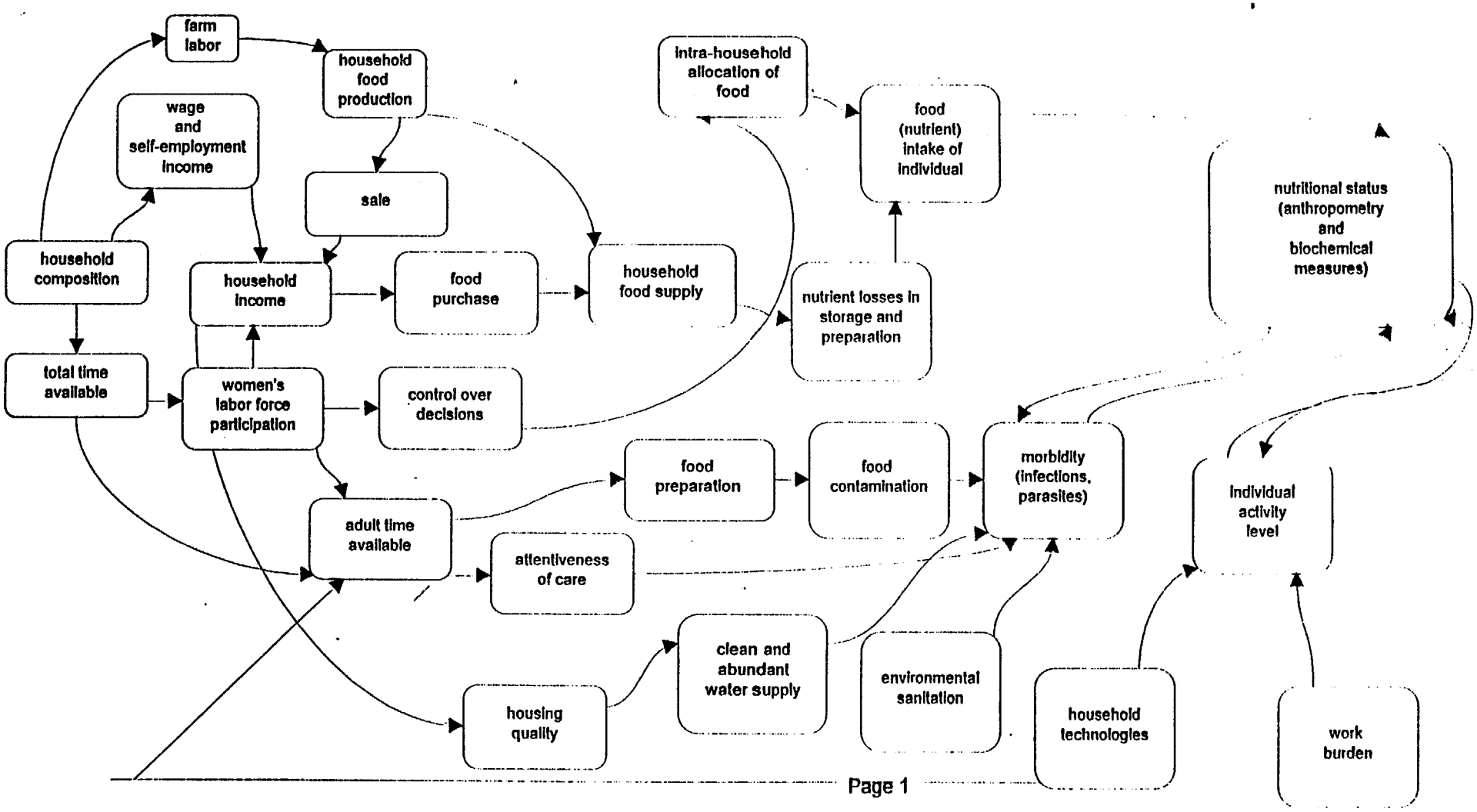
Food Security Fig. 1



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Food Security Indicators: Issues of Targeting, Monitoring and Evaluation

A Presentation Prepared for the USAID Food Security Performance Workshop

By

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December 10, 1995

Introduction

To pursue positive, measurable changes in food security, a number of issues need to be addressed by USAID in its development planning efforts. These issues revolve around strategies for targeting development assistance, as well as monitoring and evaluation systems established for measuring impact.

Food Security Indicators are used for a variety of purposes: they can be used for identifying particular vulnerable groups of people; they can be used as criteria for selection of certain households or individuals to include in project activities or as recipients of direct food assistance; they can be used for monitoring transitory food security changes as part of an early warning system for famine detection; and they can be used to evaluate projects and programs that are intended to have some beneficial impact on food security. Thus, in selecting the type of food security indicator to use, it is important to know what the purpose of the indicator is, the decision that will be based on the use of the indicator, the level of specificity required, and how quickly the information is needed.

This paper addresses these issues and discusses a number of examples of indicators that can be used for food security targeting and impact monitoring.

Targeting Issues

One of the most important factors to take into account in food security programming is the issue of targeting. Because USAID funded activities span the relief to development continuum, a range of targeting decisions are facing each Country Office. These targeting decisions are not mutually exclusive, and may include: 1) targeting food and other resources to populations that are facing emergency conditions and their survival is threatened; 2) targeting food and other resources to populations in absolute poverty that are eroding their livelihood base; 3) targeting non-food resources to poor populations to improve their food access and utilization; and 4) targeting non-food resources for improved national food availability. All of these objectives could be critical to food security and should be considered in the strategic planning exercises of Country Offices. In many cases, a Mission will take on a number of these activities

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simultaneously. What is usually missing in this planning effort is an understanding of the importance of linking these various objectives in targeting decisions.

For example, a synergistic effect can be obtained by targeting low potential areas where chronic food security is prevalent with food assistance programs to address food access, and adjacent high potential areas with dollar resources to address food availability. In this way, jobs that are created in the high potential area through increased productivity can be filled by people from the low potential area. Programs in the low potential areas can focus on human capital development to provide a viable labor force.

Another example of targeting to achieve synergy that has great potential in addressing food insecurity is to combine non-food resource targeting with food resource targeting in the same area. In many food insecure areas, food access is related to food available to the household in the short-term and income access in the long-term. The types of interventions that will bring about an improvement in the food security status of households should not be restricted to those related to agricultural productivity and nutritional interventions. More concern should be given to identifying the food insecure populations and the constraints that are causing the food insecurity. This will allow us to target resources more effectively and to choose the intervention that is most appropriate to the given context.

A dilemma currently facing USAID in its targeting of food security development assistance relates to the emphasis placed on performance management. Given the cost and inefficiency of addressing the food security needs of the absolute poor in low potential areas, higher rates of return are likely to be obtained from investment in regions where the infrastructure is already in place and the resource potential is high. Unfortunately, these are not normally the locations where the most vulnerable populations live. Thus there is a targeting dilemma as to where the PVOs are targeting there food assistance projects and where the Regional Bureaus want to target dollar resources. This has serious implications as to what indicators are used for measuring Mission performance, and what indicators are used for measuring PVO performance.

To overcome this dilemma, weighted criteria can be developed for targeting and impact assessments, so that vulnerable areas receive adequate attention in Mission portfolios. In addition, higher potential areas can be selected in close proximity to vulnerable areas to create synergistic linkages.

Targeting Indicators

Targeting indicators should help designate chronically food insecure populations. These may include static or structural indicators such as access to resources, socioeconomic status, dependency ratio, gender, etc. Targeting indicators may also be defined on the basis of specific measures of well-being, such as income or nutritional status. Such indicators will be important to the development of food security profiles for countries and regions within countries. Since food security has become one of the primary development objectives of USAID, it is justifiable to develop food security profiles in every country that USAID works. Food and nutrition

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insecurity are excellent proxies for poverty, and could serve as criteria for focusing USAID programs.

Surveillance (Transitory Food Security Monitoring)

Early warning systems must be designed to take into account changes in food security circumstances so that a timely response is possible before conditions worsen. USAID has helped pioneer such systems in Africa through the FEWS project. FAO has also contributed substantially to the development of national early warning systems.

Because these systems are operational at the higher aggregate level, it is difficult for such systems to identify pockets of vulnerability within regions. For this reason, PVOs/NGOs can play an important role in detecting vulnerable areas at regional and sub-regional levels and developing contingency plans to address food security problems should they arise. An example of such an NGO system is the CARE Ethiopia Food Information System. National level systems are not substitutes for decentralized food security monitoring systems. These should be viewed as complementary.

Indicators for Surveillance

A number of indicators can be used for monitoring food security changes. Such indicators are important for early warning systems, and can be categorized according to their temporal relationship to food security crises: leading indicators, concurrent indicators, and trailing indicators (Frankenberger, 1992). Leading indicators give warning of future crises (perhaps not very far in the future): rainfall, estimates of crop production, changes in terms of trade, or in the wage increases to inflation, etc. Concurrent indicators provide information about what is happening at the current time, and include measures of food consumption, asset sales, increased coping strategies such as eating wild foods, reducing or rationing food, use of short-term credit for consumption, etc. (Maxwell, 1995). Trailing indicators give information about the extent and impact of crises that have already begun, or may even be past. They include nutritional status assessments, migration or displacement, etc.

There is some debate as to the usefulness of nutritional assessments in food security monitoring (Maxwell 1995). It is widely believed that nutritional assessment is useful only in evaluating the extent of damage already done. Kelly (1992) and Galvin (1988) both argue that, if information is collected on a timely basis, nutritional assessments can be used to detect food security crises in-the-making, before they have become severe (and indeed before there is evidence of other concurrent indicators). The key, however, is regular and timely collection and reporting of information, if it is to be used for early warning purposes.

Food Security Impact Monitoring

Two critical questions to take into account in evaluating the food security impact of projects and programs are: 1) is the impact calibrated to the appropriate population unit; and 2) is the change being measured attributable to the activities of the program. Often times the indicators being monitored to determine impact may be at an aggregate level that is too high to be sensitive to the location specific interventions being implemented. For example, the DHS information is not disaggregated to the level that is relevant for many of the PVO/NGO projects to measure impact. Similarly, if a USAID Mission uses national level data to monitor and evaluate program impact in a country that is quite large and the USAID program is quite small, it is unrealistic to expect measurable change attributable to the program. Measurements should be disaggregated to the appropriate level.

It is also important to be realistic about the changes that can be brought about by a given project. For example, if an agricultural project improves food access, this may not bring about a corresponding change in nutritional status due to limited access to health facilities or inadequate child care. This does not mean that nutritional status should not be measured. It only means that the success of the project will not be judged on such measures.

Indicators for Impact Monitoring

Food security indicators may evaluate specific programmatic inputs, or they may evaluate program outcomes. An example of the former (with regard to food security) would include monitoring and verification of feeding programs; an example of the latter would include measures of food consumption or nutritional status (Maxwell 1995).

In designing monitoring and evaluation systems using a food security perspective, indicators will need to be identified at three levels. The first two levels will be project and site specific, while the third level will apply across projects. The first level will consist of indicators that measure project delivery and output. These indicators measure the results of project activities (e.g. goods and services), and are usually quantified and timeframed. The second level consists of indicators that measure the effect of the project (e.g. intermediate goal level). These are changes in knowledge, attitudes or practices that result from the use of goods and services provided by the project. The third level will consist of indicators that measure fundamental change in human conditions or "well being". This is the final goal level for most CARE projects. The same set of indicators can be used across projects because conditional changes can be brought about by improved access to services or improved access to income and resources. Proxy indicators can be used for measuring improvements in well-being or food and livelihood security, such as improvements in nutritional status, consumption, health status, access to income etc. By measuring these standardized well-being or food and nutrition security indicators across projects, we can monitor program impact.

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If improvements occur at the outcome and effect level but are not recorded at the conditional level, then additional interventions may be required to address the constraints not being dealt with by the existing projects. These interventions can be either at the micro or macro level.

Summary

To ensure that positive food security changes are brought about by USAID funded projects and programs, the following issues must be taken into account. First, the Country Missions must target their programs in such a way to address short-term food access and long-term food availability in the same regions. Similarly, food and non-food resources must be combined to bring about a synergistic effect on the food insecure in the target area. Second, decentralized food security monitoring systems operated by NGOs must be seen as complementary to national early warning systems such as those being developed and maintained by FEWS. They are not redundant systems. Third, impact measures must be calibrated to the appropriate population unit and must be attributable to the activities being promoted by the project.

Household Livelihood Security:
A Unifying Conceptual Framework For CARE Programming

by

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September 20, 1995

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Executive Summary

Poor people's basic livelihoods are being threatened the world over as a result of a number of interrelated economic, political, social and environmental change factors taking place globally. Currently, more that 1.3 billion people (more than 20% of the world's population) live in absolute poverty, and are not able to meet their basic needs. Taking this broader socio-economic context of poverty into account, CARE has taken steps to develop a new vision and program strategy that lays out a conceptual framework that pulls the various elements of CARE's programs into a coherent whole. This framework is "Household Livelihood Security".

An emphasis on households as the focus of our development efforts is justified on the grounds that households are the social and economic units within which resources are organized and allocated to meet the basic needs of the household members. Because the livelihood security of a household is determined by the cumulative actions of its members, the rights, responsibilities and tasks of all of the members must be taken into account in project design.

Definition-Household livelihood security is defined, in general terms, as "adequate and sustainable access to income and resources to meet basic needs". These needs may include adequate access to food, potable water, health facilities, educational opportunities, housing, time for community participation, etc. Specifically, livelihoods can be seen to consist of a range of on-farm and off-farm activities which together provide a variety of procurement strategies for food and cash. Food and nutritional security are subsets of livelihood security; food needs are not necessarily more important than other aspects of subsistence and survival within households. Livelihoods are secure when households have secure ownership of, or access to, resources and income earning activities, including reserves and assets, to offset risks, ease shocks, and meet contingencies. The greater the share of resources devoted to food and health service acquisition, the higher the vulnerability of the household to food and nutritional insecurity.

CARE recognizes that poor households are not static in their ability to make a living. Therefore, a range of intervention options needs to be made available for the various circumstances that face poor populations. The livelihood systems approach is based on the notion that relief (livelihood provisioning), rehabilitation/mitigation (livelihood protection), and development (livelihood promotion) are a continuum of related activities-not separate and discrete activities. CARE will put the continuum in practice by applying a broader range of technical expertise in emergency situations (e.g. combining large-scale food logistics with family planning and reproductive health, water and sanitation, HIV/AIDs education etc.); focusing more on the transitional rehabilitation/mitigation portion of the continuum by building livelihood protection and promotion activities into emergency responses at the earliest possible stage; and coordinating livelihood promotion activities across sectors through better program targeting.

To help households meet their basic needs, two sets of interventions will be given emphasis. These are: 1) interventions focusing on expanding the income and resource base of the poor;

and 2) interventions focusing on expanding the access of poor households to basic services. In addition to these micro-focused interventions, Country Offices and CARE Headquarters will give increasing attention to the role of advocacy and broader development initiatives in improving the opportunities of households in meeting their basic needs. It is important to note that households are a unit of analysis, and impact will be measured at this level. However, households are not necessarily the only unit of analysis, level of impact or intervention. Thus, improvements in household livelihood security can be brought about by interventions operating at various levels-at the household or community level through improved access to income, resources or services; at the regional level through improved access to markets, employment and services; at the national level through improved policy changes that affect the poor; and at the international level through improved policy changes of donor governments. The utility of the household livelihood security concept is that basic needs can be met through improving the immediate conditions for participants and their families, strengthening community organizations and local support networks, and/or influencing public policies, practices and attitudes to confront the causes of poverty rather than merely alleviating the symptoms.

Household livelihood security, by definition, incorporates sustainability as an essential element. Of the many potential aspects of sustainability, CARE will accord highest priority to the following three: 1) greater focus on partnerships, institution-building, and other forms of capacity building; 2) sound natural resource management and concern for the protection of the environment; and 3) more explicit focus on issues of social equity, including gender equity.

Strengths-The major strengths of the household livelihood security approach are: 1) it provides a unifying framework and common agenda for CARE programs; 2) its focus on the household as a unit of analysis; 3) it is people/client centered rather that technology centered; 4) CARE as an organization resonates to the concept; 5) it helps determine where CARE should work and who should be targeted; 6) the various sectors can share resources in conducting joint assessments, baselines and measuring program impact; 7) intervention priorities can be established cross-sectorally depending upon the major constraints facing households; 8) sector-specific programs can be targeted to the same regions to obtain a multiplier effect on the beneficiary population; 9) it provides criteria for measuring impact; 10) the framework is compatible with urban programming; and 11) it is perfectly compatible with the emphasis on institutional strengthening and capacity building.

Weaknesses-The major weaknesses and concerns of the approach are: 1) the analytical skills of the organization are not yet developed to the level necessary to effectively use the household livelihood security framework to its fullest potential; 2) the difficulty of coordinating projects cross-sectorally in the same regions; and 3) the current structure of CARE does not always lend itself to a unifying framework. All of these weaknesses can be addressed through careful planning, additional training and better utilization of staff and resources.

Action Steps-A number of steps have been proposed to operationalize the household livelihood security conceptual framework. These action steps help address the weaknesses and concerns discussed previously. These are: 1) the capacity of CARE staff to operationalize the household livelihood security framework will be strengthened through workshops, conferences, and proposal writing sessions; 2) partnership selection and capacity building will take into consideration the livelihood security perspective; 3) the Program Structural Review Committee will address the systems, procedures and structures that need to be in place at both Headquarters and in the Country Offices to implement a household livelihood security strategy; 4) regional strategies are being developed for some regions over the next several months using a livelihood security perspective; 5) a list of key livelihood security questions is being developed by each sector to be incorporated in the problem analysis stage of each Country Offices' Long Range Strategic Plan (LRSP) being carried out over the next year; 6) each sector is providing input in the design of cross-sectoral assessment tools and baselines to create a menu of options for Country Offices; 7) each sector is planning to participate in upcoming rapid livelihood security assessments; and 8) the Technical Assistance Group and the Regional Management Units are attempting to secure resources from various donors to support household livelihood security initiatives.

Household Livelihood Security: A Unifying Conceptual Framework For CARE Programs

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September 20, 1995

I. Introduction

Large scale poverty persists in the world today due to a number of interrelated economic, political, social, and environmental change processes taking place within developing countries and globally. Economic crises experienced in the last two decades have forced many developing countries to make cutbacks in social services, weakening the ability of governments to provide social safety nets for their poor populations. Job creation has not kept pace with population growth, and inequalities in the distribution of income, resources and opportunities have increased. Political changes in the 1980s and 1990s have resulted in instability and military insecurity, contributing to increased global poverty. Complex emergencies having both political and natural dimensions are on the rise, such that 59 million people have been directly affected. In addition, population growth rates have outstripped the environmental carrying capacity in most parts of the world, leading to tremendous environmental degradation. This is manifested in the destruction of tropical forests, the loss of biodiversity, and water and air pollution. These environmental pressures have also increased the intensity and frequency of natural disasters. Finally, the HIV/AIDS pandemic has reached crisis proportion in the developing world. By the Year 2000, 90% of the infections (estimated to be over 90 million cases) will be in the developing world.

As a result of these interrelated factors, poor peoples' basic livelihoods are being threatened the world over, especially in South Asia and Africa. In 1992, 1.3 billion people (more than 20% of the world's population) lived in absolute poverty, and were not able to meet their basic needs in terms of access to adequate food, clean water, shelter, education, and basic health care. Nearly two-thirds of these people live in South Asia or Africa. By the year 2010, the numbers in absolute poverty in the world could reach 1.8 billion.

To help the poor maintain secure livelihoods in order to meet their basic needs, CARE must take into account the broader socio-economic context of poverty. This involves addressing

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the various obstacles confronting households such as poor access to resources and social services , limited employment opportunities, political instability, unchecked population growth and environmental degradation. To address these multifaceted and interrelated problems, CARE's program vision and strategy will need to be comprehensive yet flexible in order to address context specific constraints. Program initiatives will also have to span the relief-development continuum since livelihood systems are not static and are constantly threatened by natural disasters and complex emergencies.

Recent steps have been taken to develop a new vision and program strategy that will help CARE address the array of problems facing poor households. It is being proposed that the central focus of this vision be on sustainable household livelihood security as an organizing principle or integrating framework for CARE's work across the relief-development continuum. This approach does not call for a resurrection of integrated rural development, but rather gives emphasis to the development of strong sector-specific programs that are linked synergistically in a shared framework. The advantages of using a common framework include: 1) the various sectors can share resources in conducting joint assessments and baselines, and measuring program impact; 2) intervention priorities can be established cross-sectorally depending upon the major constraints facing households; and 3) sector-specific programs can be targeted to the same regions to obtain a multiplier effect on the beneficiary population.

To operationalize the household livelihood security conceptual framework for CARE USA, a working group has been established with representatives from the various technical and regional management units. Each technical assistance unit and regional management unit has been asked to help determine how the conceptual framework can be operationalized in sector specific terms, taking regional differences into account. Field Offices have also been asked to provide feedback in this process. Issues being addressed include: 1) what does CARE want to include in the basic human needs element of this concept; 2) how to articulate the assessment and baseline instruments used by the various sectors as a menu of options for collecting data on livelihood systems; 3) outlining a process for identifying what indicators will be used for measuring livelihood impact; 4) reconciling the focus on household livelihood security with CARE's emphasis on partnering; and 5) determining how a focus on livelihood security will inform CARE's approach to advocacy.

This paper begins with a review of the livelihood security conceptual framework as it is currently conceived. This is followed by a discussion of the issues to take into consideration as CARE begins to operationalize the concept in its program activities. The paper concludes with a review of the next steps to be taken by CARE over the coming months as it further develops this framework and implementation strategy.

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II. Household Livelihood Security: A Conceptual Framework

A. A Definition of Household Livelihood Security

Household livelihood security is defined, in general terms, as adequate and sustainable access to income and other resources to enable households to meet basic needs (including adequate access to food, potable water, heath facilities, educational opportunities, housing, time for community participation and social integration, etc.). (See figure 1). More specifically, livelihoods can be seen to consist 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 income, food, health and nutritional insecurity. The greater the share of resources devoted to food and health services acquisition, the higher the vulnerability of the household to food and nutrition 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 1992). Sustainable refers to the maintenance or enhancement of resource productivity on a long-term basis (Chambers 1988:1). Unfortunately, not all households are equal 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, de Waal (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 and nutritional security are subsets of livelihood security; food needs are not necessarily more important than other basic needs or aspects of subsistence and survival within households (See figure 2). Food insecure households juggle among a range of requirements, including immediate consumption and future capacity to produce.

B. Household as a Unit of Analysis

In most societies, the household is the basic unit of social organization[2]. The functions that households normally serve in many societies include regulation over sexual access and procreation, formation of social linkages that provide for material needs, social support and cultural transmission, especially to children, and the creation of bonds with other households and between men and women to have access to labor and resources. The household can be understood as the place where individuals and families attempt to cope with and respond to external social and economic forces.

There are many configurations on the arrangements of households, many of which do not resemble the nuclear family mode found in Europe or North America. Households can consist of polygamous units, extended families or female-headed units with men absent. What often defines households is the pooling or sharing of resources (although not necessarily equitably). Thus, the operational definition of a household will vary by context and cultural setting.

An emphasis on households as the focus of our development efforts is justified on the grounds that households are the social and economic units within which resources are organized and allocated to meet the basic needs of the household members. These needs include food, income, shelter, health, education and leisure time. Because the livelihood security of a household is determined by the cumulative actions of its members, the rights, responsibilities and tasks of all of the members must be taken into account in project design.

Households are not static, corporate units. Social differentiation exists across households and within households within any given community. Communities and households have established systems for social and economic interaction that regulate internally and externally the allocation of resources according to gender, ethnic affiliation, social status or class. Development interventions will contribute to improving the living conditions of all or a few, depending upon how responsive we are to this social differentiation.

Intra-household dynamics are critical to take into account in the design of interventions aimed at improving the livelihood conditions of household members. Households are internally diverse organizations of individuals with different preferences and access to goods and power. Each member faces a different set of constraints that can guide the allocation of resources and the contribution they can make to household livelihood security. Women and men often allocate resources and income differently, having differential impact household welfare. Women's income is more often used to help meet the basic needs of the household.

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[2] Most of this discussion on households is derived from "CARE's Guidelines for Assessing and Enhancing the Impact of Agricultural and Natural Resource Projects", Agricultural and Natural Resources Unit, CARE-USA, 1994.

To improve our understanding of intra-household dynamics, gender analysis can be used to delineate the economic activities, division of labor, and access to and control over resources that exists among members within households. Such an analysis will help overcome conceptual bias and provide insights into the full extent of women's contribution to livelihood security. This information will be critical to project design coupled with other social differentiation criteria; all of which will help insure that no further burden is imposed upon the most disadvantaged groups in society.

Household livelihood security is not a phenomenon that is permanent or fixed. Households have to adapt to new social, economic and biological environments often with different degrees of success. Households not only have to insure that their needs are met in the short run, but also that the strategies for the continuous adaptation to new and changing environments remains strong over time.

C. Household Coping Strategies When Livelihood Security Is Threatened

To weather transitory disturbances to their livelihoods, people in risk-prone areas have developed self-insurance coping strategies to minimize risks to their household 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) (See figure 3). 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 livelihood vulnerability, and should be monitored to detect localized threats to livelihood security that could result in increasing food and nutritional insecurity.

Livelihood systems in many areas of the world are likely to become more structurally vulnerable due to one or a combination of the following factors: 1) increasing population growth out-stripping the carrying capacity of local resources; 2) recurrent droughts; 3) loss of economic opportunities during transitional periods of market liberalization (e.g., structural adjustment measures); and 4) complex emergencies where political instability has increased. In addition, the HIV/AIDS pandemic has taken its toll on the productive members of poor households. 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 income and food shortages are

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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. As a result, livelihood systems in many parts of the world are becoming less sustainable through time.

D. The Relief-Development Continuum

CARE recognizes that poor households are not static in their ability to make a living. A range of intervention options need to be made available for the various circumstances that face poor populations.To enhance the livelihood security of vulnerable populations found at different levels, a three pronged approach can be used. This livelihood systems approach is based on the notion that relief, rehabilitation/mitigation and development interventions are a continuum of related activities, not separate and discrete initiatives (See figure 4). Household food, nutrition and income security can be enhanced 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 (development). 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 (agriculture and natural resource-type measures); 2) creating alternative income generating activities (small economic activity development-type interventions); 3) 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 access to income, food availability and lowering food prices. In addition, livelihood promotion activities could focus on preventive measures that improve the health and sanitation conditions and the population/resource balance to insure that any income and production gains are not lost to disease and unchecked population growth.

Livelihood Protection-involves protecting household livelihood systems to prevent an erosion of productive assets or to assist in their recovery (rehabilitation/mitigation). 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 and other needs. The negative impacts of livelihood insecurity can be reduced by: 1) timely detection of where livelihood and food insecurity are 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 livelihood and food insecurity 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 or cash for-work or some other means, to enhance the longer-term viability and resilience of the communities. Child survival and other timely health interventions that prevent the population from becoming more vulnerable to disease and malnutrition would also fall under this type of intervention approach. Recovery measures such as infrastructure repair and rehabilitation, distribution of seeds and tools, reforestation, and repair of water sites would also be included in this intervention set. The types of interventions pursued would be selected and implemented by the communities themselves.

Livelihood Provisioning-involves providing food and meeting other essential needs for households to maintain nutritional levels and save lives. These types of interventions usually entail food and health relief for people in an emergency or people who are chronically vulnerable. Chronic vulnerability is usually long-term in nature. Targeted food and health relief is critical and should be combined with promotion interventions, where possible, to phase out the food transfers. In relief situations where people have been displaced from their homes (refugees and internally displaced populations) promotion interventions will be limited to those that can be brought to the camps (e.g., health and nutrition education and family planning initiatives). 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 development intervention is to promote sustainable livelihood systems in intervention areas. This has often not been the case with most development agencies which view relief activities as distinct from development. Especially in emergency situations, provisioning of relief food and health measures has tended to be seen as an end in itself, rather than as part of a continuum oriented towards securing beneficiaries' livelihoods.

III. Issues That Need to be Addressed When Operationalizing the Household Livelihood Security Framework In CARE Programming

A. The Current Status of CARE Sectoral Programming

1. Addressing Basic Needs

When one considers CARE's current program portfolio from a household livelihood security perspective, much of the current sectoral work does focus on a range of the basic human needs that concern poor households. CARE has achieved and maintained technical excellence in a number of sectors, including food security, primary health care, agriculture and natural resources, small economic activity development, and population. Recently, girls education has also been brought in as a strategic focus. Across these sectors, CARE is addressing a

number of income generating activities that will help poor households meet their basic needs, as well as addressing the social, political and health constraints that place limits on their resource access and allocation. Household-centered philosophies have also been incorporated into the Food Security, Agriculture and Natural Resource, and Population Unit's program strategies. In addition, the Primary Health Care Unit's HIV/AIDS activities have used multi-sectoral approaches to address disease prevention (See figures 4 and 5).

Using a household livelihood security framework, it is easy to understand how each of the program activities addresses the various causes of poverty for a given beneficiary group. For example, Emergency programs deal primarily with the symptoms and immediate causes of food and nutrition insecurity, which serve as good proxies for poverty for CARE targeting purposes. Health programs can also deal with the immediate causes to some extent, as can the other technical assistance units. With regards to the underlying causes of poverty, the Agriculture and Natural Unit, the Small Economic Activity Development Unit, the Food Security Unit and the Primary Health Care Unit all have something to contribute. In terms of the basic causes of poverty, the Population Unit helps address the potential mismatch between population growth and resource availability. The Agriculture and Natural Resource Unit and some other sectors also can contribute to addressing basic causes related to policy (See figure 6).

In addition, water supplies and sanitation have received a great deal of emphasis in a number of countries in the past, and recent efforts on the part of the Primary Health Care Unit are aimed to increase activities in this area. CARE programs are currently not addressing household access to housing.

Although CARE has done a good job in improving program quality within sectors, more could be done to achieve cross-sectoral coordination and synergy in targeting, program planning and implementation. Recognizing this, efforts along these lines have already been initiated by several of the technical assistance units. For example, the Population Unit is focusing its programming activities in sites where CARE programs are on-going. The Primary Health Care Unit is coordinating its activities with the Agriculture and Natural Resource Unit with regards to HIV/AIDS programming. The Food Security Unit has tried to involve the various other sectors in rapid food/livelihood security assessments that have been carried out in 16 countries.

2. Program Activities Across the Relief-Development Continuum

With regards to the relief-development continuum, CARE is currently engaged in activities that cover the full spectrum of relief, rehabilitation and development. In fact, CARE has a strong comparative advantage when matched up to other similar development organizations with regards to the breadth of its activities. Based on current resource allocation and population served, CARE is predominantly focused on the relief and rehabilitation end of the continuum. In terms of relief, CARE is primarily involved in the area of large scale food logistics. In terms of rehabilitation, CARE is involved in basic infrastructure repair, seeds

and tool distribution, improving water supplies and reforestation. Development activities are primarily sector driven, and address the intervention areas mentioned above.

Using a livelihood security framework, it is apparent that certain sectors of the Technical Assistance Group are better oriented to address particular livelihood interventions across the continuum than others. For example, the Agriculture and Natural Resources Unit seems better positioned to deal with livelihood promotion and protection measures than food provisioning/relief-type interventions. The same holds true for the Small Economic Activity Development Unit. The Emergency Unit's programs are better positioned to deal with provisioning and protection-type activities. The Food Security Unit, the Primary Health Care and Population Units' activities cut across all of the intervention types (See figure 4).

Although CARE's activities span the relief-development spectrum, much more could be done in the emergency response area to help communities increase their resilience and make successful transitions to rehabilitation and development. Rather than only focusing on food logistics and distribution, the emergency response should help poor populations to recover so that they can meet their own basic needs. This could be done by combining livelihood promotion activities with provisioning interventions.

In addition, more attention should be given to the rehabilitation/mitigation portion of the continuum for all sectors. This would involve both assisting populations to recover from emergencies and to protect livelihoods for those populations at risk of sliding back away from sustainable development.

3. Targeting

CARE USA is currently involved in 45 countries: 20 in Africa, 10 in Latin America, 9 in Asia and 6 in the Middle East, Europe, and the NIS. We served 28 million people in 1994, predominantly in rural areas (90%) (However the data used for these calculations are of poor quality). The majority of the people reached by CARE are women and children, primarily through relief and other food distribution efforts.

Currently, CARE does not apply systematic criteria for determining who are the appropriate "target" participants and/or beneficiaries. Although the basic program principle is to "work with the poor", this principle has not been clearly defined and operationalized.

In addition, CARE presently has a limited focus in urban areas, despite the fact that people in developing countries are moving to cities at record rates. At current rates of urbanization, 41% of Africa's population, 76% of Latin America's, and 37% of southeast Asia's population are projected to live in urban areas by the year 2000. To address current trends, CARE needs to seriously consider undertaking more initiatives to deal with urban poverty and food insecurity. A livelihood security approach will be just as appropriate for urban settings as it is for rural areas.

Adopting a household livelihood security approach will help CARE be more strategically focused in its targeting of participants and beneficiaries. By explicitly articulating the targeting criteria in relation to livelihood and/or food insecurity, Country Offices could narrow the focus of their programming activities. It will also help determine what services to deliver and set cross-sectoral priorities.

In adopting such an approach, program planners must realize the trade-offs that exist in reaching beneficiaries through relief (provisioning), and working with participants in livelihood promotion and protection-type activities. Fewer people can be served as the quality of the contact goes up. This has implications for the type of program portfolio CARE wishes to maintain, and will have a determining effect on the segments of the population CARE wants to reach (the poorest of the poor vs. those segments of the poor that sustainable impact is likely to be achieved).

B. Program Initiatives Aimed to Support a Household Livelihood Security Strategy

1. Delineating the Set of Basic Needs

Based on the data gathered in the program priority survey, the "basic needs" on which CARE has chosen to focus over the next five years are: income/employment (on-farm and off-farm); food security; water supply; basic education; and access to basic health and family planning services (See figure 7).

2. Selecting Key Interventions

There are two major clusters for CARE program interventions over the next five years that will help households meet their basic needs. These are: 1) interventions focusing on expanding the income and resource base of the poor; and 2) interventions focusing on expanding the access of poor households to basic services. Under the first category, Small Economic Activity Development and Agricultural Production and Marketing are the key interventions aimed at increasing access to income and resources. Under the second, Maternal Child Health, Education and Population interventions are key. Improved Water Supply and Sanitation, identified as one of CARE's highest priority interventions over the next five years, is seen as straddling these two categories (CARE Draft Program Strategy 1995).

In addition to these micro-focused interventions, Country Offices and CARE Headquarters will give increasing attention to the role of advocacy and broader development initiatives in improving the opportunities of households in meeting their basic needs. Policy changes regarding prices, land tenure, government supported services, or access to credit can have a significant impact on the livelihood systems of the people that CARE serves, and more can be done to influence such changes.

It is important to note that households are a unit of analysis, and impact will be measured at this level. However, households are not necessarily the only unit of analysis, level of impact or intervention. Thus, improvements in household livelihood security can be brought about by interventions operating at various levels-at the household or community level through improved access to income, resources or services; at the regional level through improved access to markets, employment and services; at the national level through improved policy changes that affect the poor; and at the international level through improved policy changes of donor governments. The utility of the household livelihood security concept is that basic needs can be met through improving the immediate conditions for participants and their families, strengthening community organizations and local support networks, and/or influencing public policies, practices and attitudes to confront the causes of poverty rather than merely alleviating the symptoms.

Household livelihood security, by definition, incorporates sustainability as an essential element. Of the many potential aspects of sustainability, CARE will accord highest priority to the following three: 1) greater focus on partnerships, institution-building, and other forms of capacity building; 2) sound natural resource management and concern for the protection of the environment; and 3) more explicit focus on issues of social equity, including gender equity (CARE Draft Program Strategy 1995).

3. Giving More Emphasis to Rehabilitation-Mitigation in the Relief-Development Continuum

In addition to relief and development activities, CARE should give more emphasis to the rehabilitation/mitigation portion of the continuum in future design efforts. This is a program niche which CARE is well suited to fill. In addition to helping populations to recover from disasters and complex emergencies, CARE could help protect community livelihoods before they fail. This will involve developing good localized monitoring systems to detect livelihood threats (similar to the CARE Ethiopia Food Information System), and contingency plans for food or income transfers to allow households to make it through transition periods without selling off productive assets and seriously jeopardizing their ability to recover.

4. Targeting and Design Considerations

More work is required in the area of establishing a livelihood security approach for targeting CARE programs. Considerable work has already been carried out along these lines by several Country Offices. For example, the Honduras and Guatemala Country Offices constructed poverty profiles of their respective countries to determine which departments to focus on in future programming. These profiles involved constructing matrices which consisted of a series of poverty indicators, such as proxies for income, access to infrastructure, levels of malnutrition, literacy, access to water, sanitation, morbidity and mortality rates, exposure to conflict, and ethnic composition. Departments were then scored according to these variables. In the Philippines, targeting matrices are being created to target Municipalities according to a poverty index, improvement potential, accessibility, potential

partners and potential for synergistic project coordination. This matrix attempts to recognize the trade-offs that exist between targeting vulnerable areas and achieving sustainable impact.

Targeting and design should be carried out as a phased process, such that **the first phase identifies potential regions for program targeting (geographical targeting) by utilizing existing secondary data.** This phase could be carried out during the first phase of Long Range Strategic Planning of the Country Office. The **second phase could involve identifying the various vulnerable groups in the area and the major livelihood constraints they face.** This information would be collected through a cross-sectoral rapid livelihood security assessment. It is during this phase that decisions are made as to which target groups will be focused on, what set of interventions are most appropriate for enhancing livelihood security, and what is the minimal data set to be collected in a baseline. The **third phase could involve collecting a baseline and identifying a set of indicators that will be monitored and evaluated for measuring impact.** The **fourth phase might involve selecting the set of communities in which to implement program interventions.** These communities should be chosen in such a way that they have similar characteristics to a larger group of communities in order to maximize the spread effect of any successful interventions.

By using such an approach to targeting and design, the opportunity for cross-sectoral synergy and integration can be enhanced. Instead of having an incremental sectorally driven approach that results in widely dispersed project sites, areas of concentration can be chosen for coordinated sectoral programming to achieve a multiplier effect on the beneficiary population. Even in regions where CARE sectors are not jointly operating, coordinated programming can be pursued with other institutions such as other NGOs or government agencies. The main objective is to enhance the livelihood security of the local population through coordinated programming. These proposed targeting and design considerations should also be incorporated into existing CARE design manuals currently being used by Country Offices.

Targeting and design decisions should also address poverty in urban areas. Traditionally CARE has concentrated in rural areas, so there is limited experience in designing programs for the urban poor. Most of CARE's experience is derived from Latin America, although urban programs have recently been implemented in parts of Africa (e.g.,Ethiopia and Zambia). Urbanization of the poor is a phenomenon that cannot be ignored, and the livelihood security framework gives CARE the necessary orientation to address poverty in urban areas. The Food Security Unit has already written a review paper that addresses the key issues to take into account in urban food security programming. Further work along these lines is needed.

5. Coordination vs. Integration

As stated in the introduction, the livelihood security approach does not call for a resurrection of integrated rural development. Constraints to such integration have been well documented, and include problems with budgeting (who pays and in what proportions), internal

organization (who reports to who), staff roles and responsibilities (as the number of tasks increase the quality of program delivery often decreases), and multi-donor and or multi-agency coordination. Instead, the livelihood security approach gives emphasis to the development of strong sector-specific programs that are linked synergistically in a shared framework. In operationalizing this approach, the focus should be on capitalizing on strategically phased coordination of strong sector programs.

Coordination occurs at a number of stages. First, in the compilation of secondary data to construct country profiles for Country Offices, a livelihood security approach helps ensure that each sector contributes to the long range strategic planning decisions regarding the targeting of future programs. There will be trade-offs between selecting the poorest regions and identifying those areas or segments of the population that have development potential for the various sectors. Second, cross-sectoral participation in rapid livelihood security assessments ensures that the various sectors can share resources in conducting joint assessments and can derive cross-sectoral intervention priorities. Priorities are determined by the major constraints facing households. Third, sector-specific programs can be targeted to the same regions to obtain a multiplier effect on the beneficiary population. Basic needs of project participants can be met either through improving access to services or through improved access to income and resources. Fourth, monitoring and evaluation systems for sector-specific projects can use the same set of indicators at the final goal level to measure program impact on livelihoods. These would be fundamental changes in condition or "well-being" brought a bought by a change in services or change in income or some combination of both. At the output (project delivery) and effect (changes in knowledge, attitudes and practices) level, indicators would still be project and site specific.

In any attempt to coordinate sector activities, it is important to take into account the absorptive capacity of communities and households in adopting development initiatives. It may be necessary to introduce activities in a sequential fashion in order to avoid overwhelming the project participants.

6. Tools for Data Collection

Currently there are a number of data collection methods being used by CARE to collect household level data. There is a need to harmonize these various tools into a complementary set of options for gathering information on livelihood systems.

a. Rapid Livelihood Security Assessments

To establish CARE programs that utilize a livelihood systems approach, one of the first activities is to obtain an understanding of the specific livelihood systems and their major constraints in an area in order to identify appropriate types of programs for that region. Cross-sectoral needs assessments using multidisciplinary teams in the initial phases of project design could help obtain the required information. Rapid livelihood security assessments are one type of an assessment approach that should be considered given their short duration,

cost-effectiveness and simple methods. Such assessments using a food and livelihood security focus have already been conducted by CARE in 16 countries. To insure that these assessment tools cover the full spectrum of livelihood information required for future sector-specific programming, these instruments are currently being further refined to include input from all sectors.

Rapid assessments can contribute key information to program design through providing contextual, socio-economic information on livelihood, food, health and nutritional conditions that can be used for selecting appropriate interventions for the program area. Rapid assessments 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 among 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 livelihood security assessments 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 assessments can provide training and capacity building for field staff in monitoring and evaluation methods, allowing them to better conceptualize the linkages between project impacts and inputs.

b. Baseline Surveys

Each of the sectors in CARE has developed baseline instruments for collecting sector-specific data at the household level. These tools should represent a menu of options to draw from for constructing cross-sectoral baseline instruments. Which options will be used will depend upon the results of the rapid assessments. Livelihood constraints will vary from one locale to another, so the types of data that should be collected in follow-up surveys should be location-specific. Thus the assessment will help CARE delineate the minimum data set for future surveys. For example, the Rural Economic Programming tools developed by the Agriculture and Natural Resources Unit in conjunction with the Small Economic Activity Development Unit represent a menu of options for baseline data collection for this specific sector. Baseline instruments developed by the other sectors are also being reviewed from this perspective. Further harmonizing of these various instruments will be required, and this is an area where each sector will have to contribute.

c. Monitoring and Evaluation

In designing monitoring and evaluation systems using a livelihood security perspective, indicators will need to be identified at three levels. The first two levels will be project and site specific, while the third level will apply across projects. The first level will consist of indicators that measure project delivery and output. These indicators measure the results of project activities (e.g. goods and services), and are usually quantified and timeframed. The second level consists of indicators that measure the effect of the project (e.g. intermediate goal level). These are changes in knowledge, attitudes or practices that result from the use of

goods and services provided by the project. The third level will consist of indicators that measure fundamental change in human conditions or "well being". This is the final goal level for most CARE projects. The same set of indicators can be used across projects because conditional changes can be brought about by improved access to services or improved access to income and resources. Proxy indicators can be used for measuring improvements in well-being or livelihood, such as improvements in nutritional status, consumption, health status, education, access to income etc. By measuring these well-being or livelihood security indicators across projects, we can monitor program impact. If improvements occur at the outcome and effect level but are not recorded at the conditional level, then additional interventions may be required to address the constraints not being dealt with by the existing projects. These interventions can be either at the micro or macro level.

IV. Action Steps for Further Operationalizing the Household Livelihood Security Conceptual Framework

A number of steps have been proposed to operationalize the household livelihood security conceptual framework. These are listed below.

1) To build the capacity of CARE staff to operationalize the livelihood security concept, workshops, conferences, and proposal writing sessions will be conducted over the next year. These activities will be incorporated into Country Offices' Annual Operating Plans and Individual Operating Plans. This will help insure that the skills to successfully design, implement, and evaluate household livelihood security projects exists in the Country Offices.

2) The selection criteria for partners in future development activities will take into consideration whether the approach used by the partner is consistent with the household livelihood security approach used by CARE. Institutional strengthening activities for partners will also include a household livelihood security component.

3) The Program Structural Review Committee will address the systems, procedures and structures that need to be in place at both Headquarters and in the Country Offices to implement a household livelihood security strategy.

4) Regional strategies are being developed for some regions over the next several months. As part of this effort, country profiles and cross-cutting themes will be derived for each region, identifying the key livelihood security issues. The Technical Assistance Units working with the Regional Management Units and the Country Offices will work together in putting these regional strategies together. Currently, such strategies using a livelihood security perspective have been or are being developed for East Africa, Southern Africa, and Asia.

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5) **Long Range Strategic Plans** (LRSPs) are planned over the next year in Latin America (Peru and Haiti), Bangladesh, and numerous countries in Africa. To assist in the LRSP 1 process which involves the problem identification and analysis stage, each of the Technical Assistance Units has submitted a list of key questions to be asked that are relevant to their specific sector. This input will help insure that a good problem analysis is carried out that takes into account a livelihood security perspective. The key to this analysis is the development of decision making criteria that will help the country office decide what to do and not to do in terms of programming. Such criteria may include the severity of the problem, CARE's comparative advantage, potential for CARE to have an impact, opportunities for funding, potential partners for program implementation, and potential for synergistic project coordination.

6) In addition to the 16 assessments that have already been completed, **Rapid Livelihood Security Assessments** are scheduled for Mali, Bolivia, Bangladesh, and possibly El Salvador, Nicaragua and Peru over the coming year. **Baseline studies** are also planned for Honduras and Guatemala in the next several months. Each sector will be asked to participate in these cross-sectoral assessments, either through direct participation or by identifying technical assistance. In addition, each sector is reviewing the existing topical outlines used in these assessments to ensure that the right types of information are being collected. Finally, each sector is compiling copies of all of the sector tools used for project design, baselines, monitoring and evaluation. This inventory will provide CARE with a menu of options that can be synthesized and shared with Country Offices doing assessments, baselines and setting up monitoring and evaluation systems.

7) Country Offices need **resources** to make their household livelihood security activities a reality. The Technical Assistance Group and the Regional Management Units are attempting to secure resources to support these activities. Possible resources may come from the Institutional Strengthening Grant of the Food Security Unit, the Horn of Africa Strategy Proposal submitted to USAID, the new Partnership for Household Livelihood Security Proposal being submitted to USAID, Regional Management Unit discretionary funds, and the PEW Foundation. Donors have expressed a strong interest in the livelihood security approach.

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VI. Annexes

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Figure 1

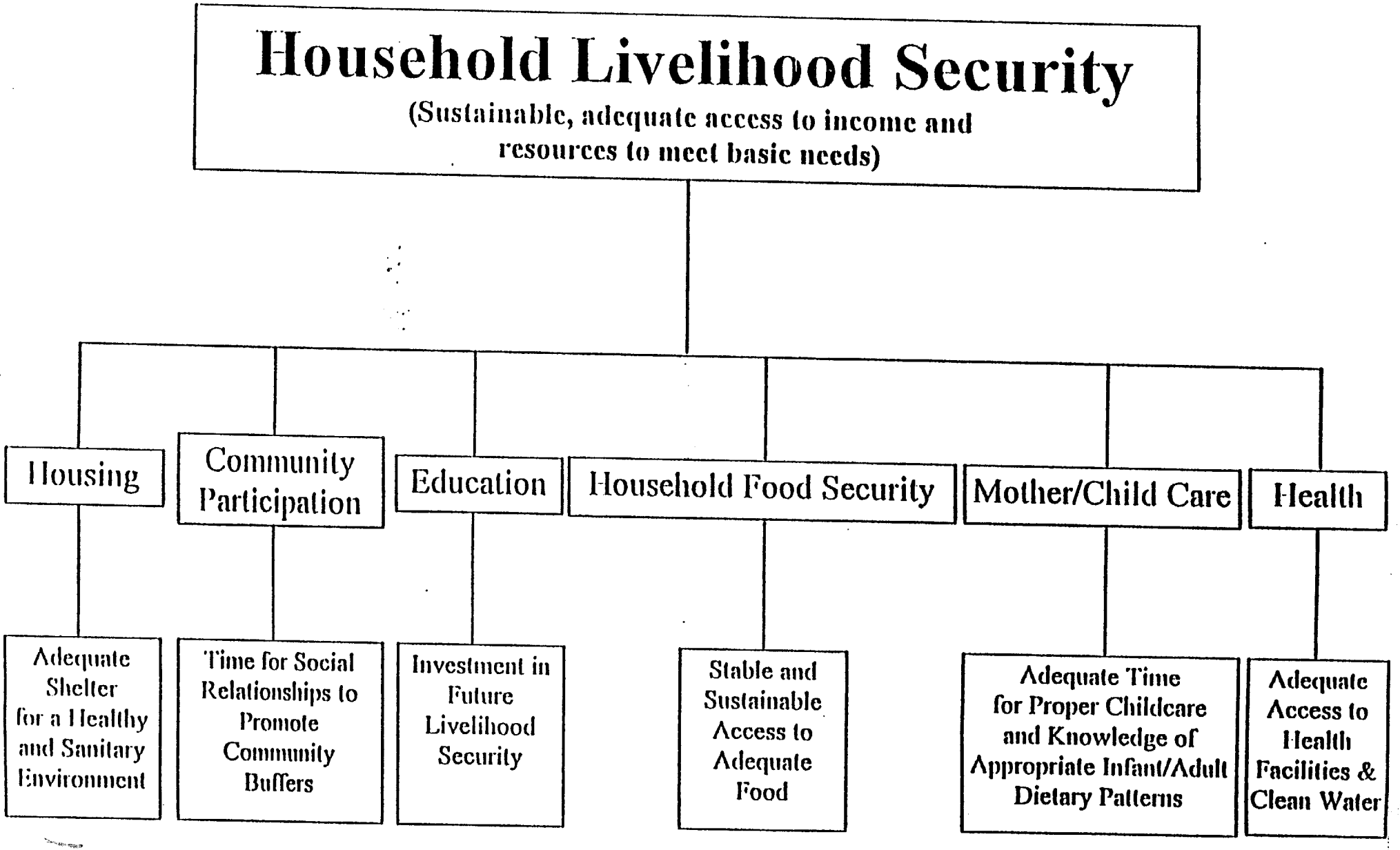

Household Livelihood Security
(Sustainable, adequate access to income and resources to meet basic needs)
Housing
Community Participation
Education
Household Food Security
Mother/Child Care
Health
Adequate Shelter for a Healthy and Sanitary Environment
Time for Social Relationships to Promote Community 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 2

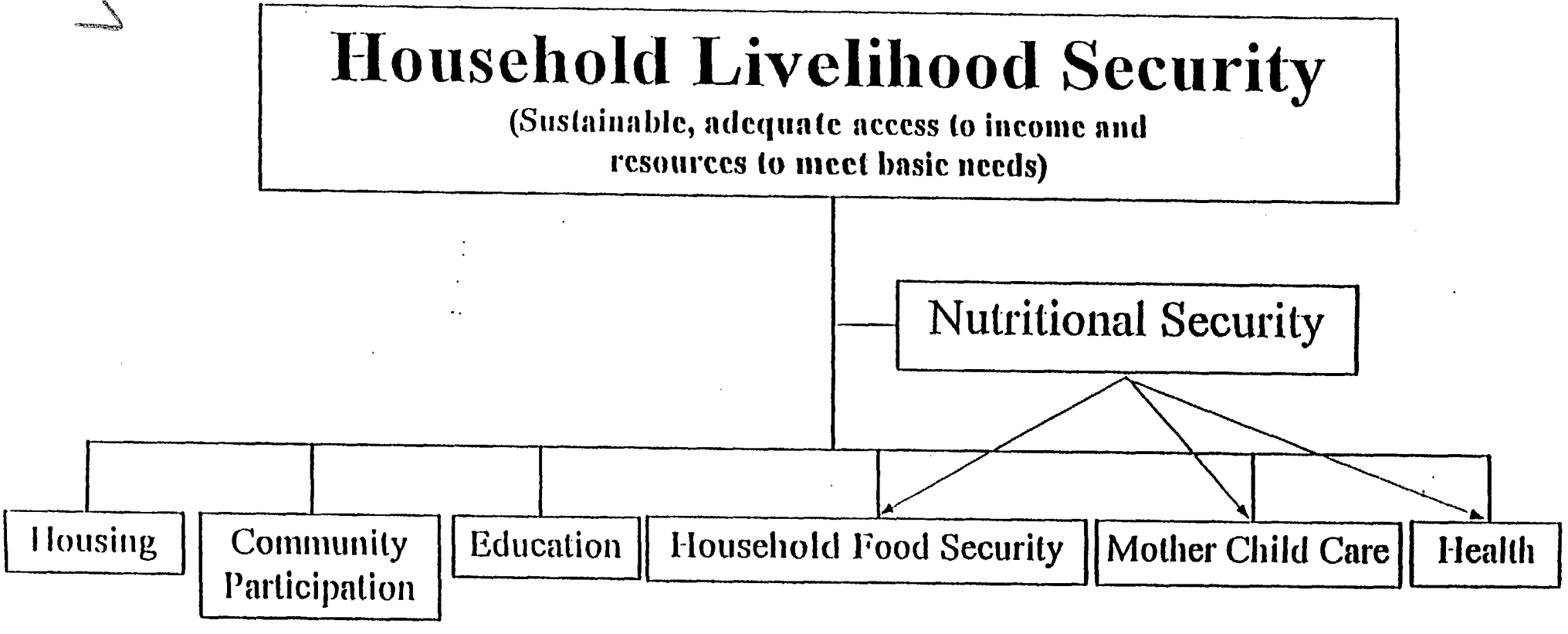
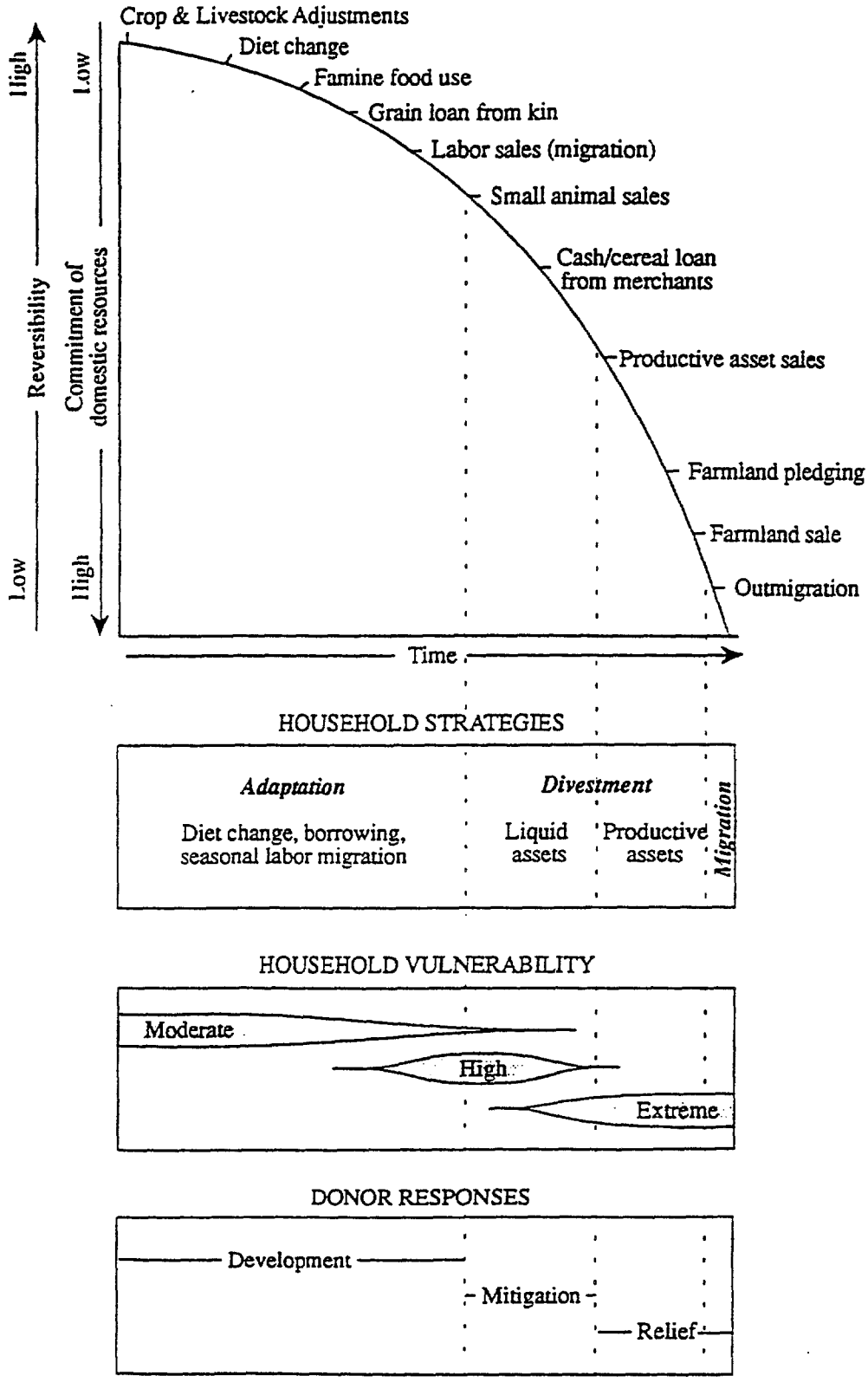

Household Livelihood Security
(Sustainable, adequate access to income and resources to meet basic needs)
Nutritional Security
Housing
Community Participation
Education
Household Food Security
Mother Child Care
Health

FIGURE 3



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.

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FIGURE 4

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

FIGURE 6

Promoting Poverty Alleviation through the Enhancement of Household Livelihood Security

Problem Focus	Indicators	Programs
Symptoms of Poverty	Mortality, Morbidity, Malnutrition (Nutritional insecurity), Food insecurity, Livelihood insecurity	
Immediate Causes	Inadequate access to income, Inadequate dietary intake, Disease	**EMERGENCY PROGRAMS, Health** ANR, SEAD, FOOD
Underlying Causes	Limited economic opportunities, Poor access to resources & inputs, Food insecurity, Inadequate mother/child care, Inadequate access to health resources, Poor access to water & sanitation	**ANR, SEAD, FOOD, HEALTH**
Basic Causes	Population trends in relation to potential resources, Appropriate government policies for the poor, Access to infrastructure	**POP ANR, HEALTH,** FOOD, SEAD

BEST AVAILABLE COPY

FIGURE 7

HOUSEHOLD LIVELIHOOD SECURITY

ADEQUATE & SUSTAINABLE ACCESS TO INCOME AND OTHER RESOURCES TO ENABLE HOUSEHOLDS TO MEET BASIC NEEDS -- EMPLOYMENT/INCOME, WATER, FOOD SECURITY, ACCESS TO BASIC EDUCATION, HEALTH & FAMILY PLANNING SERVICES

INCOME & RESOURCES	KEY INTERVENTIONS	ACCESS TO BASIC SERVICES
* SEAD	* WATER & SANITATION	* MATERNAL CHILD HEALTH & NUTRITION
* AGRICULTURAL PRODUCTION & MARKETING		* EDUCATION
		* POPULATION

ACROSS THE RELIEF TO DEVELOPMENT CONTINUUM

RELIEF	REHABILITATION & MITIGATION	SUSTAINABLE DEVELOPMENT
LIVELIHOOD PROVISIONING	LIVELIHOOD PROTECTION	LIVELIHOOD PROMOTION

KEY ELEMENTS OF SUSTAINABILITY

- EMPHASIS ON SOUND NATURAL RESOURCES MANAGEMENT & PROTECTION OF THE ENVIRONMENT
- GREATER FOCUS ON PARTNERSHIP & LOCAL INSTITUTION BUILDING
- MORE EXPLICIT FOCUS ON ISSUES OF GENDER EQUITY
- A BETTER UNDERSTANDING OF HOUSEHOLD DYNAMICS

ANNEX III

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ANNEX IV

Biographical Sketches - Speakers

List of Participants

ANNEX IV

Biographical Sketches of the Speakers at the
1995 USAID Food Security Program Performance Workshop

Janet Ballantyne holds a B.A. in Government, an MPA in Public Administration, a Ph.D. in International Development with a minor in Economics and Business Administration, and took several non-degree courses in Urban and Regional Planning and Mathematics. Ms. Ballantyne has the rank of a Senior Foreign Service Career Minister and is currently the Mission Director Designate for USAID/Moscow. At the time of this workshop, she was the Senior Deputy Assistant Administrator for the Agency's Bureau for Policy and Program Coordination. Janet Ballantyne's has 20 years of experience with USAID, and has held many different positions with the Agency both in Washington D.C. and overseas. She began her career as an Economist with the Bureau for Latin American in 1976. Since that time, Ms. Ballantyne has also served as General Development Officer in Peru, Deputy Director in Nepal and Morocco, the Director of USAID's Center for Development Information and Evaluation, Mission Director to Nicaragua, Deputy Assistant Administrator and Director for Global Bureau's Center for Economic Growth. Prior to her work with the Agency, Janet Ballantyne taught college and postgraduate-level courses in Economic Development Policy, Development Economics, Economic History, and International Trade in the U.S. and in Peru. She was also a free-lance consultant and economist in Peru, and an intern for the Ford Foundation in India.

Gerald (Gerry) Britan received a Ph.D. in Economic Anthropology. He is the Director of USAID's Center for Development Information and Evaluation, where he leads the Agency's efforts to learn from evaluation, performance monitoring, and other development experience information. Mr. Britan a provided a combined total of more than 20 years of professional service to academia (as Assistant Professor and Associate Chair of Anthropology at NorthWestern University and Associate Dean of Graduate Studies and Director of Research at Southern Illinois University) and to government (at USDA and USAID). He also served as a member of Vice President Gore's National Performance Review in 1993 and co-chaired USAID's Operations Reengineering task force in 1994, contributions which were rewarded with the Vice President's "hammer award" for reinventing government. In addition, Gerry Britan has authored four books, dozens of articles, and scores of professional papers in the fields of anthropology, international development, program evaluation, and public management.

Robert Clay obtained a B.S. in Zoology and an M.P.H. with a concentration in Population, Family and International Health, and completed special education courses in developmental economics, primary health care research, and molecular biology. Mr. Clay is the Deputy Director of the Office of Health and Nutrition in USAID/Global Bureau's Center for Population, Health and Nutrition (G/PHN), an Office which provides technical leadership and support to the Agency's missions and host countries in the areas of child survival, women's health, HIV/AIDS and other communicable diseases, health policy and environmental health. His Office also works with Global Bureau's Office of Population in implementing programs to improve the health and well-being of women, children and other vulnerable populations in developing countries. Robert Clay's 12 years of service to the Agency began in 1984, when he assumed the position of Public

Health Advisor on Diarrheal Disease Control in the Bureau for Science and Technology's Office of Health, taking on the principal responsibility for expanding USAID's efforts to promote and expand the use of Oral Rehydration Therapy worldwide to combat infant and child mortality due to acute diarrhea. Since then, he has held several different positions with the Agency, including Health Science Specialist and the Deputy Chief of that same office, and Chief of the Health Services Division of the Bureau for Research and Development. Through those assignments, he managed the Health Communication/Social Marketing and Communication for Child Survival Project (HEALTHCOM), and covered areas such as diarrheal diseases, immunization, health communication, health care financing, acute respiratory infections, maternal care, breast-feeding, private sector delivery of health services, and urban health and pharmaceuticals. In addition, Robert Clay has written numerous papers and given many presentations on his work in Asia, Africa, and the Caribbean.

Bruce Cogill holds a Ph.D. in international nutrition and agricultural economics from Cornell University. Mr. Cogill has over 18 years experience working in the areas of food security information systems and nutrition programming. Currently, Bruce Cogill is the Project Director for USAID's Food Security and Nutrition Monitoring Project (IMPACT). Previously, Mr. Cogill served as the Planning Officer for UNICEF in Mozambique during that country's transition from civil war to peace. He was also a member of the Oxford University Food Studies Group where he conducted several studies in Southern Africa. Prior to his assignment at Oxford University, he worked for IFPRI where he participated in the design and execution of the agricultural commercialization study in Kenya.

Nils Daulaire received a B.A., M.P.H. and M.D. in Medicine, he has also completed a residency in family medicine, and is board certified in General Preventive Medicine and Public Health. Mr. Daulaire is now the Deputy Assistant Administrator for the Office of Health, Population and Human Development in USAID's Bureau for Policy and Program Coordination. He serves as the Agency's Chief Policy Advisor on health, population, food security, basic education, and human development. Following his training in medical and public health, Nils Daulaire devoted 2 decades to field work in international development and public health, principally in South Asia and Sub-Saharan Africa, but also in Southeast Asia, Latin America, the Caribbean, Central and Eastern Europe, and the Near East. During that time, Mr. Daulaire held a variety of different positions, such as Primary Health Care Advisor to Gonoshasthaya Kendra (The People's Health Centre) in Bangladesh, Public Health Advisor to the Ministry of Health in Mali, as well as the joint responsibility of Senior Health Administration Advisor and Chief of Party for the Integrated Rural Health and Family Planning Services Project with the Ministry of Health in Nepal. He also served as the Director for several public and private entities including the Bureau for Handicapped Children in the New Hampshire Division of Public Health Services, Rural Health Associates, the International Division of the John Snow Public Health Group, and The International Center for the Prevention and Treatment of Major Childhood Diseases (INTERCEPT). In addition, Nils Daulaire has had faculty appointments at medical schools for Dartmouth and Harvard University, and his writings have been published in numerous international journals.

Margie Ferris-Morris holds a B.S. and an M.S. in Nutrition Sciences. She was the Workshop Coordinator for this USAID Food Security Performance Measurement Workshop. She is a free-lance consultant in the areas of food security, maternal and child health, and nutrition with over 15

years of international development and relief experience, of which more than 6 years were spent living in developing countries. Her expertise is in policy dialogue, micronutrient programming, emergency health operations and logistics, health program management, survey design and analysis, and training. Ms. Ferris-Morris commenced her international work through the World Food Programme (WFP) in Thailand, where she served as a Nutrition Coordinator for refugee camps along the Thai-Kampuchean border. Since then, she has completed several assignments in Cambodia with UNICEF, FAO, and World Vision International; and assisted USAID's Bureau for Humanitarian Response's Office of Foreign Disaster Assistance with USDA, to evaluate famine mitigation activities in Cape Verde. Margie Ferris-Morris has also worked extensively for the U.S. Peace Corps' Office of Training and Program Support (OTAPS), in designing formal and informal training modules and in conducting training with the Ministry of Health and the Peace Corps for Volunteers in Niger. In addition, Ms. Ferris-Morris has both served with and provided consulting services regarding emergency operations to the National Headquarters of the American Red Cross in Niger and Switzerland. Her U.S.-based assignments include nutritional survey analyses for the International Nutrition Unit of Logical Technical Support (LTS) and domestic community-based nutrition surveillance with Cornell University (CFNPP). In addition, Margie Ferris-Morris advised on Cornell University's Communications, Planning and Strategy course for government ministers worldwide. ***(Workshop Coordinator)***

Tim Frankenberger received a B.S. with a major in Anthropology and minors in Biology, American Indian Studies, and African Studies; an M.A. in Applied Anthropology with a minor in Agricultural Economics; and is completing a Ph.D. in Anthropology with a minor in Agricultural Economics. He has 15 years of experience directing food security-focused research in Nigeria, Sudan, Liberia, Mauritania, Senegal, Botswana, Malawi, Zambia, Zimbabwe, Lesotho, Cape Verde, Kenya, Ethiopia, Nepal, India, the Philippines, Bangladesh, Guatemala, Honduras, Haiti, Peru, and Bolivia. Mr. Frankenberger is also a specialist in rapid rural appraisal methods, and is the previous editor of the Journal of Farming Systems Research-Extension. Among many international publications on food security and farming systems research, he also co-authored the book entitled "Household Food Security: Concepts, Indicators, Measurements: A Technical Review" (with Simon Maxwell, published by UNICEF and IFAD). Currently, Tim Frankenberger is the Senior Food Security Advisor for the Food Security Program Unit of CARE, which is tasked with promoting and contributing to the most effective use of food and other resources in order to help vulnerable populations to become self-sufficient and achieve household food and nutrition security. Frankenberger's work with the Food Security Unit also assists country offices to develop and implement food security needs assessments, baselines, monitoring systems and impact evaluations. Prior to his current position with CARE, Mr. Frankenberger worked for 8 years as a Farming Systems Research Specialist with the University of Arizona's Office of Arid Lands Studies.

Heather Goldman possesses a Bachelor's degree in Home Economics with a concentration in Food and Nutrition. She also has both an M.S. and a Ph.D. in Nutritional Sciences with a specialization in International Nutrition and Agricultural Economics. Ms. Goldman's Master's Thesis was on Vitamin A Deficiency in the Philippines, and her Ph.D. thesis dealt with the Nutrition of Children in Liberia. Heather Goldman has 21 years of overseas experience working for the U.S. Agency for International Development (USAID) in the developing countries of West and Central Africa, South Asia, and South America. Her overseas posts include Cameroon, the

Central African Republic, Equatorial Guinea, Liberia, Mauritania, Zaire, Pakistan, India, and Peru. For USAID, Ms. Goldman directed programs in nutrition, primary health care, child survival, population, food assistance, girl's education and women's initiatives in micro-finance and violence against women. Through her expertise in designing and operating many interventions to address the needs and concerns of women and children worldwide, Heather Goldman has been involved in efforts to improve and better integrate programs and systems that aim at achieving the multi-faceted goal of food security.

H. Robert (Bob) Kramer earned a B.A. and Ph.D. in Political Science and an M.A. in International Relations. Mr. Kramer is now the Associate Vice President for Humanitarian Response at Save the Children Federation, where he is responsible for the development and execution of new, large-scale programs that respond to the humanitarian and solid needs of societies in transition, such as Russia, the Ukraine, Angola, and Mozambique. Prior to this current occupation, Bob Kramer provided 19 years of service to USAID, as a Program Officer in Peru, a Regional Coordinator for Africa in the Bureau for Policy and Program Coordination, a Deputy Director and Program Officer in Bangladesh, a Deputy Director in Bolivia, a Senior Foreign Affairs Office for Human Resources in the Bureau for Management, and most recently (at the time of this workshop) as the Director for Food for Peace in the Bureau for Humanitarian Response. Before that, he was a professor of political science at Princeton University and the Universidad De Los Andes. He possesses expertise in strategic planning, program management, organizational management, and negotiation/team building. Mr. Kramer also has experience in the areas of humanitarian aid, disaster relief, food aid/food security, child survival, family planning, the environment, democracy and governance, women in development, private enterprise and anti-narcotics endeavors, gained from his work in Latin America, Asia, and Africa.

John Lewis obtained a B.A. in History, an M.A. in Cultural Anthropology, and a Ph.D. is Social Anthropology. He is now the Director of the Office of Agriculture and Food Security in the Center for Economic Growth of USAID's Bureau for Global Programs, Field Support and Research. Mr. Lewis began his 18 years of service to the Agency is 1978, as a Social Science Analyst with the Office of Rural and Administrative Development in USAID's Development Support Bureau. For that job, he designed and managed a portfolio of centrally-funded Regional Planning, Decentralization, and Local Revenue Administration projects. He later served as Assistant Rural Development Officer and Acting Chief of the Social Analysis and Rural Development Division of the Bureau for the Near East, where he designed, monitored and backstopped a half billion dollar Decentralization portfolio in Egypt and analogous local development portfolios in Yemen and Tunisia. Next, Mr. Lewis was a Rural Development Officer and Deputy Supervisory Agricultural Development Office for the AID mission in Haiti, where he helped to manage an Agricultural and Rural Development program. He then became the Chief of the Regional Affairs Division of the Bureau for Africa's Sahel West Africa Office, where he was tasked with administering a six million dollar annual portfolio of CILSS Interstate Committee for Drought Control In the Sahel) projects and adapting them to the objectives of the Development Fund for Africa. Prior to his current position, John Lewis was the USAID Representative and Deputy Director of the Organization for Economic Cooperation and Development (OECD)'s Club du Sahel Secretariat, where he facilitated development policy analysis dialogue with nine West African States through the CILSS. He also held faculty and research assignments focusing on livestock and African studies in Mali and in the U.S. In addition, his writings on land tenure, food crop production,

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Carl Mabbs-Zeno has a B.S. in Ecology, and both an M.S. and a Ph.D. in Agricultural Economics, and is currently an agricultural economist with the U.S. Department of Agriculture (USDA). He has focused on food and trade policy issues in developing countries since 1982. During this period, in addition to heading a research program at USDA, Mr. Mabbs-Zeno has served as a consultant for other major international donor organizations such as the Food and Agriculture Organization (FAO), the World Bank, the United Nations Development Program (UNDP), and the U.S. Agency for International Development (USAID). In addition, for the past three years, Carl Mabbs-Zeno has been seconded from USDA to USAID, where he has coordinated the formulation of an Agency policy on food security.

Miloslav (Mike) Rechcigl is a native of Czechoslovakia who has lived in the U.S. since 1958. He holds a B.S., M.N.S., and a Ph.D. in Biochemistry, Physiology, and Nutrition. Since 1994, Mike Rechcigl has been associated with the Agency's Bureau for Policy and Program Coordination (PPC)'s Center for Development Information and Evaluation (CDIE), where he was responsible for food security performance measurement and served as the point person for this workshop. For a number of years, he was a Research Biochemist at the National Institute of Health. In 1968, he was selected to participate in a special executive program of training in grants administration and research management. The following year, Mr. Rechcigl was appointed Special Assistant for Nutrition and Health in the George Washington University Health and Mental Health Administration. In 1970, he became a Nutrition Advisor and then Chief of the Research Division at the U.S. Agency for International Development (USAID). Since that time, Mike Rechcigl has held several Agency positions dealing with various facets of research administration and management. In 1983, Mr. Rechcigl accepted the position of Research Director in USAID's Office of the Science Advisor, where he was responsible for managing the newly-established and innovative Program in Science and Technology Cooperation (PSTC) and the U.S.-Israel Cooperative Development Research (CDR) Program. ***(Workshop Coordinator)***

Beatrice (Bea) Rogers is the Academic Dean and Professor of Economics and Food Policy at the Tufts University School of Nutrition Science and Policy. Her work is focused on determinants of household food consumption, especially prices and income, and on patterns of inter-household allocation. For the past three years, she has been the co-principal investigator of a study on cost-effectiveness of Title II programs in Honduras. During the past four years she has consulted on projects in Mozambique, Ghana, Egypt, Morocco among other countries. She is an expert on cash transfer programs, structural adjustment, food price subsidies, and survey analysis.

Scott Smith has both a B.A. and an M.A. in International Relations. At the time of this workshop, he was the Director of USAID's Center for Development Information and Evaluation (CDIE). Currently, he is a free-lance consultant on international issues. Mr. Smith has over 21 years of experience as a foreign service officer with USAID, and has served overseas in Latin America and Southern Africa. He has also worked in various USAID/Washington offices, most recently as Director of CDIE after serving as the Deputy Director of CDIE. Prior to his work at CDIE, Mr. Smith held several positions overseas including that of Director of the Southern

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Luther Tweeten is the Anderson Professor of Agriculture and Marketing Policy and Trade in the Department of Agricultural Economics at the Ohio State University. His research emphasis is on public policy for agriculture and on regional, national and international economic development and trade. He has authored or co-authored eight books and over 400 journal articles. Most recently, he has been the leader of a team which wrote "Food Security Discussion Paper" for USAID.

Bobbie van Haeften is an agricultural economist with over 20 years of experience working on food and agricultural policy issues in over 20 developing countries in Africa, Asia, Latin America and the Near East. For her current position as a Food Policy Advisor at the U.S. Department of Agriculture's LAC TECH project, she has been working on issues related to food policy, food security, food aid, and the monitoring and evaluation of programs and projects with respect to their impacts on poverty and malnutrition. One recent thrust of her efforts has been to assist Latin American and Caribbean (LAC) missions to develop agricultural policy reform agendas to be implemented under the new Title III grant food aid program. Ms. van Haeften's significant previous accomplishments include the design and implementation of a body of pioneering analyses that demonstrated the importance of macro and agricultural sectoral policy reform as a prerequisite for achieving improvements in the incomes and diets of the majority of households in developing countries. She has also conducted agricultural trade and price policy reviews, agricultural marketing sector studies, and reviews of market potentials for traditional and non-traditional exports. In addition, Bobbie van Haeften has significant management experience particularly in the areas of applied policy research, program and project design and evaluation, the creation of information systems, and training and facilitation.

Mike Weber is a Professor in the Department of Agricultural Economics at Michigan State University. He is also the Director of Food Security II Cooperative Agreement with USAID. His expertise is in agricultural marketing and food security, and he's currently directing the research project with a heavy focus on Africa. Mike also has lots of experience in Latin America, where he lived for a number of years and more recently in Africa.

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Happ Carr holds Master's degrees in Public Administration with a concentration in Policy Analysis and in International Relations. Mr. Carr has been associated with the U.S. government contractor/consulting firm Management Systems International (MSI) since November 1993, as a monitoring and evaluation specialist. His recently completed assignments include: 1) assisting the Bureau of Humanitarian Response (BHR) in the formulation of its Strategic Plan and, subsequently, the strategic plans of the five offices in the BHR bureau; 2) promoting USAID's re-engineering efforts by participating in the development of a Customer Service Plan for REDSO/ESA and by facilitating the formulation of Results Frameworks for the ENI Bureau in both Ukraine and Moldova; and 3) helping USAID/Mozambique to identify indicators and

monitor the impact of rural roads by leading a team in the design of a Project Impact Assessment System (PIAS) for the Mission's Rural Access Project. In addition, he served as the Chief of Party for MSI's West Bank and Gaza Technical Support Project, providing management technical assistance to the mission, serving as a monitoring and evaluation technical specialist for the program's U.S. PVO partners, and developing and revising reporting systems. Mr. Carr also served as Chief of Party for a strategic planning project in Mozambique, working with the national railroad to develop plans for restructuring the railroad's main Southern Corridor and other operations. His other institutional strengthening assignments include restructuring, improving and privatizing the Dhaka Water and Sewer Authority's financial administration operations. For the greater part of his career, Mr. Carr has served as a public administration consultant working primarily on USAID and World Bank on projects involving organizational development, public administration and institutional capacity building. He also served as a Senior Organizational Specialist with the Organization of American States carrying out programming, administration and evaluation studies for the Office of the Secretary General.
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Mike Hendricks has a Ph.D. in research methodology. Mr. Hendricks has 20 years of consulting experience in conducting program monitoring and evaluations. Mr. Hendricks has considerable experience providing a variety of international development consulting services to number of different organizations, and is currently working with the Urban Institute to develop a performance monitoring system for United Way of America. He has completed many assignments for USAID and for CDIE, in particular. Mr. Hendricks has also drafted Agency guidance, especially on performance monitoring, has helped develop performance monitoring plans for several USAID Missions, and is currently assisting the Office of Food for Peace in the same area of expertise. ***(Master of Ceremonies)***

Sam Taddesse earned a Ph.D. degree in Finance and Applied Economics. Between 1974 and 1977, Mr. Taddesse was an assistant professor of finance and economics at the Bernard Baruch College of the University of New York. Later, he went on to become a research economist at the Federal Reserve Bank (FRB) of New York, where he wrote occasional speeches for the Chairman of FRB, Mr. Paul Volcker. In addition, for 7 years, Sam Taddesse served as a District Manager for AT&T, heading several task forces charged with implementing the divestiture plan that created the Baby Bells. Subsequently, he helped formulate post-divesture plans that further redefined AT&T's post-monopoly services, streamlined operations and downsized the labor force, thereby making AT&T more competitive. Since 1988, Mr. Taddesse has worked as an independent consultant to USAID, the World Bank, and the United Nations, among others, on topics such as feasibility analysis and development program monitoring and evaluations.

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