FINAL REPORT

RCSA Food Security Strategic Option

Synthesis and Analysis of Selected Readings

This report was prepared by Nathan Associates for the USAID/Regional Center for Southern Africa. The opinions and recommendations in this report are solely those of the author, and do not necessarily reflect those of the RCSA.

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SUBMITTED TO
USAID

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UNDER CONTRACT NO.

690-0298-00045

June 2003

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Foreword

This report responds to a Scope of Work[1] prepared by the Regional Center for Southern Africa. It is submitted in satisfaction of Tasks C.3. and D.3. of that SOW.

A bibliography is attached at Appendix 1. It constitutes a super-set of the documents referenced in the report. Team members reviewed a considerably larger set of documents than could ultimately be included or cited in the body of the report. Consequently, judgments were made regarding the relative utility to RCSA staff of the data, information, or analysis contained in each document. The team believes, however, that all documents included in the bibliography, even if not referenced in the main body of the report, could be of possible use to RCSA staff. Considerable effort has been made to enable ease of access to these documents. The majority are available over the internet, or in readily obtainable journals.

The structure of this 50-page report is based upon the set of research questions submitted to RCSA on May 5, 2003 and approved with amendments on May 6, 2003. The research questions, as submitted, are attached at Appendix 2 and the text of the approval message is attached at Appendix 3.

Section One deals with issues relating to the overall question: what is known about the state and extent of, and trends in, food insecurity in the Southern Africa region? The information used is based on country vulnerability assessments, SADC food security and emergency reporting, GIEWS and FEWS NET situation reporting, FAO crop assessment and other market, price, health, and nutrition trend data, WFP food aid reporting, and the work of researchers and analysts on who and where are the food insecure and the causes of their food insecurity. The presentation and analysis is further sub-divided according to the traditional nomenclature of food security analysis: i.e. problems of availability, access, and utilization, plus discussion of “risk” and “vulnerability.” In addition, information from a number of sources is included and analyzed regarding the status of, and trends in, “livelihood security” in countries in the Southern Africa region.

Section Two synthesizes and analyzes documents dealing with questions of what has been attempted in the past, what is being done now, and what is suggested for the future by governments, donor organizations, implementing agents and researchers to improve livelihoods and food and nutrition security in the region.

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[1] Request No. 690-0298-00045, Attachment D: Statement of Work, pp. D-15 to D-27

Section Three looks specifically at RCSA's role related to food security and livelihood security during the 2004-2010 period and offers recommendations for framing a food and livelihood strategy within the context of its regional mandate.

Executive Summary

The purpose of this report is to provide: i) an analytical synthesis, based on a broad-ranging review of the relevant literature, of the state of, and trends in, household food insecurity in Southern Africa; ii) a brief review of what has been—and is being—done to confront such food insecurity; and iii) suggestions to RCSA regarding its own possible role in dealing with the causes of food insecurity in the region during 2004–2010.

All who are concerned with the causality of food insecurity in Southern Africa concur that lack of access to minimally adequate amounts of food is extremely serious in the region—a situation that has been worsening for at least the past three decades. Development strategies intended to increase the pace of economic growth in the countries of Southern Africa have "disappointed and failed" in the main sectors: mining, industry, and agriculture. As a result, growth in production, productivity, employment creation, and household income have all lagged the rate of population growth. In particular, the agriculture sector, upon which so many depend for their livelihood, has failed to generate sufficient broad-based growth to enable the food insecure poor to gain minimally adequate entitlements to needed quantities of food on a regular basis.

This report is divided into three sections corresponding to the categories of enquiry suggested in the proposed food security research questions listed in Appendix 3.

Section 1 contains a synopsis of what is written about food and livelihood insecurity in Southern Africa. It notes, *inter alia*, that more than one-fourth of the total populations of the six countries most affected by the 2001–02 food emergency remain, as of early 2003, in a state of acute food insecurity; that chronic undernutrition in under-fives presently ranges between one-fourth and one-half of all children in that age group; and that more than half of the total population of the region—i.e., more than 50 million people—can be numbered among the chronically food insecure poor. In addition something akin to one-fourth of the adult population in these countries is infected with the HIV / AIDS virus.

The causes of these conditions are numerous and mutually reinforcing. They include: i) three decades of negative per capita economic growth; ii) failed growth strategies in all major sectors of the economy, iii) increasing frequency of droughts and other episodic shocks in the region; iv) apparent climate change contributing to increasing variability in annual and seasonal rainfall levels and increasing average daily temperatures; v) environmental deterioration particularly evident as deteriorating soil health, degraded watershed effectiveness and declining pastureland

resilience; vi) decreasing per capita availability of water necessary for human, animal, and crop use; vii) reduced viability and coverage of traditional social insurance and other safety net mechanisms; viii) continued under-investment in women as agents of economic growth; ix) deteriorating transport infrastructure and increasing geographic isolation of larger numbers of the rural poor; and x) the rapid spread of HIV/AIDS among the population—poor and non-poor alike.

The primary method among the poor of coping with, and adapting to, these adverse trends and conditions has been a rapid increase in livelihood diversification. One study (Bryceson, 2000) has determined that by the late 1990s some 55-80 percent of rural household income was being derived from non-farm sources in survey areas—a significant increase from the comparable figure of 40 percent found by researchers just 2-3 years earlier. These substantial changes are a response to diminishing returns to land and labor in the face of market failures and impediments preventing movement into agricultural niches with higher economic returns. Such profound changes in traditional livelihood modalities carry important implications for donor and government agriculture growth strategies which have, in the past, sought to improve food security primarily through activities intended to raised on-farm productivity and crop-based incomes. Efforts to speed asset creation and sustainability through the relatively frictionless and well-integrated operations of markets and institutions have not created sustainable conditions for increased production, productivity, remuneration, and household food security.

Section 2 looks at what has been done, is being done, and should be done in the future to improve overall household food security in the region. It notes the changing nature of the domains of food security and livelihood security since the mid-1970s. It suggests a growing consensus around the notion that food security requires—at a minimum—a food system operating to create a sense of assurance among the population that access to adequate food for all individuals and households is a continuing likelihood. Food security policy is intended to maintain the conditions underpinning that assurance over time.

During the 1970s and 1980s, the region's governments and donors focused—with varying degrees of success—on macroeconomic reforms, market liberalization in agriculture and other sectors, and reduction in government involvement in commercial endeavors as central elements of development policy. Investment in agriculture development programs decreased, however, particularly in agricultural services and agricultural research. The availability of agricultural inputs, marketing opportunities, and agricultural credit for smallholders—especially for those far from roads, or who were farming in the less favored geographic areas—also declined during the period.

In the late 1980s and early 1990s, investments in education, health and other social sector programs also fell—a function of declining government revenues throughout the region. At the same time, however, particularly after the publication of the World Bank's 1990 World Development Report (WDR) on poverty, an increasing focus on poverty reduction began to emerge as a central element of development programming in the region. New country development strategies were more likely to focus on the extent and causality of poverty and the impact on poverty of development

growth strategies. While economic—and, in particular, agricultural—*growth* was still viewed as essential, such growth had to be achieved in ways that lifted large numbers of the poor out of poverty, and over a shortened time frame. During the later 1990s, this concern was institutionalized in the Poverty Reduction Strategy Paper (PRSP) process in several countries in the region. At the same time, such concerns also gave rise to interest in "livelihood security" strategies (initially among the NGO community, but later throughout the donor community and governments generally) intended to involve the poor in all aspects of program activities meant to raise the economic and social status of the poorer income deciles of the populations throughout the region.

At present, there is growing consensus regarding the notion that development programs in Sub-Saharan Africa should be increasingly focused on the agriculture sector as the premier "engine of economic growth." Research by Mellor and others on Southern and Eastern Asian economic growth modalities seems to authenticate the centrality of agricultural growth as the major contributor to overall economic development in countries like India, Indonesia and Egypt. Within overall agricultural growth, the key role is played by "middle sector" farming households in generating growth "multipliers." Increases in productivity, incomes and expenditures on non-tradables by this particular group seem to be associated with the largest economic multipliers and the most rapid spread of growth from rural agricultural producers to, first, rural non-agricultural goods and services providers and, subsequently, to urban population groups—all linked to increases of production in both non-tradables and tradables.

While this agriculture growth-led strategy seems almost certainly to be the appropriate priority for future growth-oriented development programs in Southern Africa, there is, nonetheless, concern that the rate—and particularly the *spread*—of growth might not operate within the same 8-10 year time frame in Sub-Saharan Africa to lift the incomes of the poorer farm households which form the vast majority of the rural poor in the region. The positive impact on the livelihood status and food security might well be less, or take substantially longer, than was the case in Asia and North Africa. There are a number of corollary concerns. First, is the concern that the size of the factor and product market "multipliers" will be less, and the velocity slower, than in the studied country experiences. The much higher percentage of households with minimal high quality land and other productive assets might, through greater "friction" or inertia, serve to greatly slow or block the spread effects of agricultural growth. There may, thus, need to be a corollary element in Sub-Saharan Africa involving additional, more focused, livelihood approaches. Second, there continues to be too little attention devoted to women's roles in agriculture and their continued under-representation in agriculture growth strategies. Third, the role of intra-regional and international trade must be more effectively addressed than in the past. Fourth, the issue of appropriately focusing agricultural research—either on the better-off areas or on food insecure poor smallholders—needs to be resolved. Fifth, the real world problems of governance—in "fragile" and, in some cases (the DRC), "failed" polities—adds complexity and difficulty to the already daunting task of effectuating pro-poor, food security-focused, agriculture-led development programs in many countries in the region.

In the "looking ahead" sub-section, the case is made that donors and governments should "buy into" an agriculture growth-led development strategy for all the countries of the region. It seems the approach most likely to generate broad and inclusive economic growth and increased production and incomes generally throughout the populations—including the food insecure poor—in Southern Africa over the longer term. The need for a second—livelihoods—element is compelling, however, in order to more quickly enable the poorer smallholders and service providers to participate at an early stage. This would add targeted efforts to assist communities in the less well-endowed areas to create and maintain sustainable assets (e.g., rural road rehabilitation and maintenance, small water projects, erosion control structures, community-owned grain storage facilities, and similar physical assets). Such efforts would likely be managed or assisted by local and international NGO development agencies and financed through food aid, social action funds, and bilateral donor projects. Early involvement of small-scale farmers in export crops—using the Malawi NASFAM model—is also proposed.

In its look into the future, the report focuses on the need to design and implement the proposed agriculture-led, livelihoods-focused growth strategy with full cognizance of the importance of confronting growing vulnerability of households to the adverse impacts of drought and other shocks and the growing risk that these adverse events will occur at any given time. The food insecure poor are made more vulnerable by the depth and pervasive nature of the poverty in which they are increasingly enmeshed. It is one thing not to be productive enough to grow food sufficient for household consumption; achieving food security is made even more difficult by not having the cash income, assets, or social insurance networks to purchase or otherwise secure enough food to prevent hunger and malnourishment.

Section 3 focuses specifically on what role RCSA could and should play in the agriculture growth-led, livelihoods focused, development strategy suggested. Recognizing that the bulk of the effort will need to be undertaken and accomplished at local, community, and national levels, there are, nonetheless, a number of areas where RCSA, with its regional mandate, can play an important—and sometimes critical—role.

First, RCSA should "buy into" the agriculture-led, livelihoods-focused strategy discussed in the body of this report as the guiding modality for a food security-oriented development strategy in the region. Second, direct support should be provided for implementation of those aspects of USAID's AICHA strategy best dealt with in a regional context in Southern Africa. These might include efforts yielding expanded regional and international trade, facilitating riparian rights agreements for the use of increasingly scarce river and lake water resources, and investing in cross-national evaluations of long-term effectiveness and impact of USAID and NGO program and project approaches in generating improved employment, household income, food security and livelihood security. Third, RCSA should increase its focus on those aspects of USAID program design in the region that deal specifically with reducing vulnerability to—and the risk of experiencing—shocks, disasters, and calamities that affect multiple countries simultaneously, or sequentially, in the region. Whatever RCSA undertakes—within its regional responsibilities—should be designed to enable and facilitate the effectiveness of national and sub-national programs in achieving improved and enduring household food security in this highly food insecure region.

In the specific domains which have already been tentatively identified by RCSA for inclusion in a regional food security-focused strategic objective, the following suggestions are made:

Science and Technology

There are numerous elements in agriculture-related research and in the application of that research within more than one country which lend themselves to a single regional approach—rather than a number of overlapping and duplicative national approaches. Applied research in food and cash crops which can be grown in two or more countries is only the most obvious. However, there is good reason, as discussed in the body of the report, to emphasize support for regionally-based research on high value crops or livestock produced in agronomically-favored regions rather than on those produced in the less favored geographical regions by smallholders. The return on alternative investments in, say, improved road and rail links, is likely to be significantly greater in the more remote regions than investments in research in the crops grown there.

Agribusiness, Markets and Trade

Expanding agriculturally-based trade will be essential for the agricultural growth and related growth in incomes of the food insecure poor of the region. RCSA should devote a substantial share of its agriculture-focused program to improving the region's ability to market crops and livestock intra-regionally and internationally. Particular attention should be devoted to generating substantial improvement in sanitary and phytosanitary processing of Southern Africa's agricultural products as a means for expanding into European, Asian, and North American markets. In addition, RCSA should assist the region to finalize and ratify a regional trade protocol for both intra-regional and international trade.

Disaster Management and Mitigation

The aftermath of the 2001–02 drought emergency has illuminated a number of weaknesses in data-gathering, adequacy, validity of analysis, and in the veracity and timeliness of reporting which need to be addressed and improved within a regional context. RCSA is in a good position, in theory, to undertake, or support, the task of repair and rehabilitation of regional disaster management and mitigation to enable it to function more effectively and more quickly. In addition, RCSA should consider playing a leading role in helping determine the efficacy of a regional strategic grain reserve system and of the utility of establishing a regional entity to utilize grain futures markets to hedge the risk by member governments or private trading entities of under-availability of staple foods during drought or other emergency periods. In addition, this report suggests that RCSA undertake a comprehensive examination of past and possible future effectiveness of food aid as a development instrument in the region and the roles that NGOs and WFP have played and could play in promoting the recommended agriculture-led, livelihoods focused strategy in the region.

The report concludes with a caution: it is easy to claim that a donor's development strategies and activities are aimed at food security objectives. This is so because there are so many mutually reinforcing factors contributing to a resultant condition called food insecurity. Some of these are, of course, more important than others in creating and perpetuating widespread—and growing—household food insecurity in Southern Africa. RCSA should assure itself that whatever is undertaken within its food security SO addresses the most significant, rather than the less significant, of the factors perpetuating high levels of food insecurity in the Southern Africa region.

1. The Nature of Food and Livelihood Insecurity in Southern Africa

> Almost 50 million people living in the region are estimated to be food insecure and over half of the population are said to be living in absolute poverty (Abalu and Hassan, 1999)[2]

1.1 Overview

It is clear beyond doubt that a large proportion of the population in rural and, to a growing extent, urban Southern Africa is experiencing great difficulty in securing adequate food, in both amount and quality, for a healthy, productive life—the essential requirement of food security. If there is a single theme with virtually no disagreement among the readings, it is that food insecurity—the inability at the individual or household level to secure and maintain appropriate entitlement over needed foodstuffs—is a pervasive problem in Southern Africa, which has been steadily worsening for at least the last three decades. (Duncan, 1998; Mullins, 2002; von Braun, et al., 2003; Wiggins, 2003; World Bank, 2003).

Whereas in past years, grain shortfalls in the region could be filled with imports from South Africa, this year (2002/03) South Africa, too, has experienced lower than normal yields and production. With relief aid currently insufficient to meet the needs of the population, the combination of acute and chronic food insecurity, together with the HIV/AIDS pandemic, is taking a terrible toll on the general food security status of the countries of Southern Africa. The continuing food crisis has brought great suffering to as many as 14 million inhabitants of the region. (See Appendix 4 for recent cereals production data.) There is little reason to suggest that the underlying causes of both chronic and episodic food insecurity will abate in the years ahead.

Of all sources consulted, the best tactical summation of the present food security situation is contained in SADC, (2002). The best strategic summation of the situation, and of its causality, is contained in Wiggins (2003). The Wiggins report, and the papers cited therein, are recommended reading for RCSA staff. In sum, as of early 2003 a full 26 percent of the populations of the six disaster-affected countries continue to suffer from acute transitory food insecurity and continue to require food assistance. For virtually all of these households, this extra burden of acute food

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[2] This assertion draws on work by Pinstrup-Anderson, et al. (1997)

insecurity is in addition to the pre-existing condition of pervasive chronic food insecurity as measured by: i) inadequate access to food even in "normal" growing conditions, ii) asset poverty, iii) weak economic integration with national and regional markets, iv) a lack of basic social services—primarily health, education and training, and v) weakening social safety nets and traditional coping mechanisms (Wiggins, 2003; SADC, 2003; Stevens, et al., 2002; Drimie, 2003; Farrington and Gill, 2002; Duncan, 1998). The country vulnerability assessments cited in Wiggins conclude that the causes of this widespread insufficiency of access to food by these households stem both from long-term inadequacies of livelihoods and from 2001–02 drought- and flood-related shocks (as was the case in a nearly identical drought emergency scenario in 1992).

Long-term development models and strategies have "disappointed and failed" across the main production sectors of the region, i.e., in mining, industry, and agriculture. (Wiggins, 2003:4) This failure has, in turn, adversely affected agriculture-dependent employment, real wages, remittances, investment capital, and the resultant rates of economic expansion in the countries of the region. Approaches and programs aimed at revitalizing the smallholder farming sector in the affected countries during the 1990s have not had the hoped-for impact, nor have growth strategies aimed at strengthening the commercial agricultural sector. In such an environment—which, in effect, defines a condition of high vulnerability—the adverse impact on household food security of the localized flooding and region-wide drought of 2001–02 has been magnified and deepened.

The rural poor in Southern Africa have also been adversely affected by a number of longer-term trends. While, as discussed in Section II, the region's governments have striven to increase rates of economic growth, employment creation, and poverty alleviation, in the main, they have not succeeded. The mining economies of South Africa and neighboring countries have shed workers over the 1980s and 1990s. Attempts to increase industrial and commercial production and employment have faltered as a result of too little investment and too little resultant business growth (Wiggins, 2003). The agriculture sector has not generated either the size or type of growth needed to extract the poor from fundamental food insecurity. This is a result of: failures of pro-poor policies (e.g., an overemphasis on commercial agriculture, high-cost parastatals, producer—and consumer—subsidies); of a limited resource base; and inadequate physical asset creation in most South African countries. As Wiggins also notes, in cases where there was emphasis on assisting small-scale producers, such emphasis was on those residing in the more favored agroeconomic zones, i.e., those that were more accessible; with sufficient human skill, land, and physical resources to enable participation. These were—and are—neither the most vulnerable nor the most food insecure.

Cromwell (2002) notes that vulnerability, stemming from more than a decade of failures in rural growth, has been affected by poor integration of input, output, finance, and labor markets; the impact of HIV / AIDS; deteriorating institutional accountability; and limited availability of relevant agricultural technology options. In addition, donor support to agriculture and rural development, generally over the period, has declined. The author further suggests that even though the immediate crisis could abate in 2003, the underlying inability to cope with shocks will remain, so long as the vulnerability of the population is unaddressed. While much, relevant, high-quality research-based evidence and economic analysis on the rural economy in southern Africa exists, it

is important that this information needs to be synthesized and made available to public policy processes addressing issues of rural growth and poverty alleviation.

With the advent of donor-imposed macroeconomic structural adjustment during the 1980s came, simultaneously, the halting dismantling by the governments of the region[3] of structures of agriculture characterized by producer input and production subsidies, state agricultural marketing boards and only limited devolution of marketing to the private sector. While the intent of reforms was, in part, to energize a higher rate of agricultural growth, an unanticipated result of these well-intended efforts according to some observers, has been an increase in vulnerability and a decrease in the efficacy of livelihood options for a substantial number of the most food insecure rural poor (Wiggins, 2003; Bryceson, 2000). This is further discussed in Section II.

1.2. Livelihoods

Bryceson, using data from studies of livelihood practices in seven African countries,[4] finds strong evidence of "de-agrarianization"[5] and "depeasantization"[6] caused by one, or more, 'turning point' policies. These have ranged from restrictions on access to land, through a variety of urbanizing effects, to "…the far-reaching impact of the removal of agricultural subsidies under recent Structural Adjustment Programs (SAPs)." Subsistence agriculture, with its low-yielding, un-standardized techniques, and its relatively high transport costs has been, it turns out, the least likely option for attracting investment intended to spur agricultural growth. The farming households engaged in subsistence were [and are], for the most part, in areas remote from motorable roads and access to agricultural inputs and markets for their agricultural products. Bryceson cites the case of small scale farmers in central Tanzania, which had evolved into a "grain heartland" in the era of crop subsidies, suddenly finding themselves in the post-liberalization era facing a decimated market for their production and ignored by the new coterie of private traders. As a result, farming household incomes in the area declined by an average of 70 percent between 1979 and 1992.

Under these circumstances, livelihood options and strategies have been changing in all the surveyed countries (and, almost certainly throughout sub-Saharan Africa). The evolving picture of livelihood choices portrayed by Bryceson is important in reviewing development strategies intended to improve adequate and sustainable rural livelihoods. It is summarized in the following paragraphs.

In all surveyed countries, rural income sources are found to be more diverse and more complex than had been surmised earlier. The DARE[7] survey results found that 55-80 percent of rural

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[3] Some more rapidly than others.
[4] Nigeria, Ethiopia, Tanzania, Congo-Brazzaville, Malawi, Zimbabwe, and South Africa.
[5] "…a long term process of occupational adjustment , income-earning reorientation, social identification and spatial relocation of rural dwellers away from strictly agricultural-based modes of livelihood."
[6] "…a specific form of de-agrarianization in which peasantries lose their economic capacity and social coherence, and demographically shrink in size. They literally unravel as communities."
[7] De-agrarianization and Rural Employment (DARE).

African household incomes were, on average, derived from non-farm sources, vs. the roughly 40 percent found in surveys (Bagachwa, 1997; Reardon, 1997; Ellis, 1998) undertaken in the 1995-7 period. Surveyed households in the seven countries were, on average, pursuing more than one (often many) non-agricultural activities simultaneously. The role of the male head of household as dominant income earner is found to be eroding. Rural women are increasing earning cash from sales of prepared snacks, beer, hair plaiting, petty retailing, prostitution, knitting, tailoring, soap-making and midwifery. In Nigeria, survey data showed an increase in non-farm activities from 33 percent of surveyed households in the mid-1980s to 57 percent in 1997. The poorest income group showed an increase from 37 percent to 80 percent participation while the upper income group showed a decrease from 33 to 25 percent.

The "individualization" of much economic activity, the attenuation of the strength of extended family ties, and the increased tendency to engage in non-agriculture income earning have had a dissolving effect on long-standing agrarian divisions of labor as well as economic rights and responsibilities within peasant households. The surveys have also found evidence of strengthening class stratification where the very smallest land holders are increasing renting their lands to the wealthier and joining the ranks of the paid agricultural workforce. On the other hand, Bryceson reports that the studies also found that "…villagers are becoming highly responsive to a wide range of investment opportunities and allocate cash accordingly…generating a new dynamism." The author concludes that the future of the African rural poor lies increasingly in labor force participation outside the agricultural sector which, in turn, requires new skills, educational attainments and the extension of other human resources. Yet, in some places, "…food self-provisioning is gaining in importance against a backdrop of food price inflation and proliferating cash needs."

Wiggins (2003) and the researchers he cites reach similar conclusions about the nature of changes in the landscape of livelihoods and the consequences of those changes on poverty. He, however, places more emphasis on increasing levels of vulnerability and social differentiation occasioned not only by rural economic processes, but also by such factors as climatic change, population pressures, and HIV/AIDS. "The medium and long run processes…have left large fractions of Southern Africa's population not just poor but also vulnerable to shocks that threaten to drive them into outright destitution." (p.6) Two groups are particularly at risk:

those lacking land, hand tools, oxen to farm, and adequate education and skills required to find adequately remunerative non-farm employment. These households regularly buy their food from the proceeds of working as laborers on the farms of others ("ganyu" in Malawi). For this group the key determinant of their level of poverty is not the price of food paid to producers but the retail prices paid by the rural consumer.

women, girls, children, those too weak or sick to work or move, and those who care for them. With their inability to produce or purchase the food they need, their recourse to minimally adequate food security is through the availability, effectiveness and sustainability of safety net systems. These too, especially those dependent upon traditional social safety nets, are eroding.

These are potentially important findings, if supported by other surveys. They call into question those food or livelihood security strategies focused on increasing household food crop production when targeted rural households have moved away from on-farm agricultural production and into exploring other non-farm employment options. At a minimum, those donors proposing a food security strategy focused on increasing smallholder agricultural production must do so in the context of careful baseline "food economy" analysis, or livelihood strategy analysis similar in nature to those being undertaken by Save-the-Children / UK, CARE, and DFID.

1.3. Agriculture Sector

Even though many poor households may be diversifying economic endeavors away from on-farm production, agriculture is, and will remain, the mainstay of the economies of Southern African countries. This is documented by a number of authors (Allen, 1999; Marongwe, 2000; Mullins, 2002; von Braun et al., 2003, Mbaya, 2003, and many others). The performance of the agricultural sector remains a powerful determinant of food security status at all levels: individual, household, community national and region-wide. The livelihoods of most people remain dependant on agriculture, and the exportation of agriculture-based products continues to be the region's most important source of foreign exchange. According to SADC data and Mullins (2002), about 70 percent of the labor force in SADC member states is dependent upon agriculture for subsistence, employment and income. Despite being such an important sector, however, agriculture contributes less than 10 percent of the region's Gross Domestic Product (GDP) and about 30 percent of foreign exchange earnings. This is despite the fact that, while agricultural production across the SADC region has increased overall from 1990 to 2001, there has been a decline in per capita production caused by continuing low agricultural productivity combined with high rates of population growth.

Abalu and Hassan (1999:478) conclude that "No one knows for sure how well southern African agriculture is doing." Nonetheless, the authors continue, the following is clear:

- Agricultural growth in the region has not kept pace with population growth in most countries in the region.
- In the 1970s, per capita food and cereal production were high enough to meet the food and income requirements of the average household in the region; today virtually all countries in the region produce and consume less food per capita than they did in the 1970s.
- These countries lack sufficient import capacity to make up the difference.
- Structural food deficits are common in the region.
- Chronic undernutrition is now widespread.

In most southern African countries, access to land remains the most apparent viable opportunity for poor rural households to survive. Land has been the main resource for household livelihood and food security and also a main vehicle for investment, accumulating wealth, and transferring it between generations (Marongwe, 2000). The development of a sustainable rural non-farm

enterprise sector is increasingly viewed as a crucial component of any rural development strategy. This is especially important for the smallholder sub-sector because smallholders generally derive a greater proportion of their livelihood from non-cash activities; a situation largely reversed within the commercial agrarian sub-sector.

The failure of long-term agriculture growth strategies in the southern African region has been particularly problematic in view of the need for the agriculture sector to be the driving engine of poverty-reducing development there (von Braun et al., 2003).

In most of the countries of the region, rural populations are dependant upon rainfed agriculture in production zones characterized by poor and degraded soils, increasingly variable rains, deteriorating transport and marketing systems, insufficient access to technology, increasing health hazards, declining nutritional status, increased population densities and decreasing social services (Wiggins, 2003; von Braun, et al, 2003; World Bank, 2003; Babu, 1999). The UN/ECA's February, 2003 "Report on the Status of Food Security and Sustainable Development in Southern Africa" (UN/ECA, 2003, 24) concludes:

> "What is clear…is that the food insecurity crisis in Africa in general, and in Southern Africa in particular has been a recurrent phenomenon. It has happened in the past, it is here at present and will recur in the future. The causes are well known—poverty; cyclical/erratic climatic conditions that may result in droughts or floods; civil conflicts and wars; insufficient use of technological innovations; HIV/AIDS; insufficient investment in agriculture and rural development; limited attention to improving women's status and involvement in overall development efforts; population factors; economic and social policies that are not responsive to the development challenges; and resource constraints—financial and human."

To this, von Braun, et al., add the sense that policies in many of these countries have hampered the development of more open, market-driven economies, effectively taxed the small scale rural producer, subsidized production and consumption in ways constraining economic comparative advantage—all this in a context lacking other, more appropriate policies that were more pro-poor, more pro-household food security. Allen (1999) and others would add the fact that most countries of the region produce similar products for export, mainly agricultural commodities and minerals for which intra-regional demand is low. The scope for significant increases in regional trade is, thus, limited, at least in the short-term. The terms-of-trade for most of SADC's exports have been declining, as worldwide primary commodity prices have trended downward against manufactures. This underscores the importance of SADC countries becoming more competitive in new and ever-widening clusters of exports, including high value agriculture commodities and more value-added processing done in countries of origin. See appendix 5 for a listing of Southern Africa's present principal exports.

The next sub-sections look briefly at literature specific to some of the more important influences on agricultural performance and chronic and/or acute[8] food insecurity:

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[8] "Acute" food insecurity is a sub-category of "transitory" food insecurity that can, if unaddressed, lead to famine.

1.3.1. SOILS AND NATURAL RESOURCE DETERIORATION

Environmental degradation caused by soil erosion, desertification, deforestation, and environmentally damaging agricultural practices is seriously undermining the natural resource base in Southern Africa (Abalu and Hassan, 1999:480). An estimated 80 percent of Southern Africa's total productive drylands are degraded as are 80 percent of rangelands, 80 percent of rainfed lands, and 30 percent of irrigated lands. (See "extent of soil degradation" table at Appendix 7). Overall, an estimated 65 percent of Africa's agricultural land has been adversely affected by soil degradation. Poor people, those whose livelihoods are most dependant upon land resource, are the most immediately and profoundly affected by a deteriorated natural resource endowment (DFID, 2002). The decline of the natural resource patrimony in Southern Africa takes the form of deteriorating soil health in many areas, rapid erosion stemming from environmentally unsound farming techniques, overgrazing, and widespread deforestation (see, for example, Prince, et al., 2000). These are, in turn the product of rapid demographic changes caused by recent population growth rates of 2.8 to 3.5 percent, urbanization, industrialization, increasing demands on the agricultural sector in the context of general economic decline, all of which pose threats to sustainable use of the natural resources and, in turn threaten economic, social, and environmental sustainability over the long run.[9] Actual data regarding the extent, severity and trends in natural resource degradation in the region over the past 20 or more years are, however, difficult to locate. There are even examples of recent studies seeming to find that, say, soil losses might not be as severe as had earlier been expected (Mohamoud and Kent, 1998). Much is said about the adverse impact of natural resources deterioration in the region. It is visible to all who travel though the rural areas. Much of the literature, however, is based on site specific analysis. There needs to be considerably more effort at aggregating and synthesizing reliable evidence in order to better quantify regional trends and projections.

1.3.2. CLIMATE CHANGE

The prevailing consensus from the climate change literature is that global warming has been occurring for at least a century; the average global daily mean and average minimum temperatures increased 0.5ºC during the 20th Century (Hulme, 1996). It will continue, with a likely increase of between 1º and 3.5ºC, or more, in the 21st Century, depending on location (McGuigan, et al., 2002). In Southern Africa, the apparent increase in the number of drought episodes experienced, increased variability in amounts and timing of rainfall in various sub-regions, and average daily temperature increases seem already to have occurred (Hulme, 1996). Sub-regions have been variously affected, although, as Hulme and others have pointed out, the likely impacts of demographic and economic changes still greatly outweigh the magnitudes of impact thus far caused by climate change vectors. Hudson and Jones (2002) have modeled a likely future climatic scenario for Southern Africa, however, in which average daily temperatures over the 21st Century may rise by between 3.9ºC in Summer and 4.1ºC in Winter over present averages. This would result in drying over much of the region. Hulme's (1996) "core scenario" also suggests drying over the region and increases in rainfall variability. Other simulations suggest even drier conditions.

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[9] See reporting by the World Resources Institute at: http://www.wri.org/

For all scenarios, southern African grasslands are seen to decline; replaced with thorn scrub savannah or seasonally dry forest. The "core scenario" also suggests reduced run-off in the drier areas—worsening an already serious situation—but increased run-off in some regions in northern Mozambique, northern Zambia and eastern Tanzania. However, the year-to-year variability in run-off rates will increase, thus increasing household vulnerability to drought (and flood) shocks. "Such changes are most likely to affect the region in SADC where the drought events of the early 1990s [and 2001–02] have already highlighted the sensitivity of the regions' water resources to inter-annual climate variation." (Hulme, 2000 p.6)

Since 1972 four major droughts have occurred in the Southern Africa region with serious consequences for food security and the environment: 1972-74, 1983-84, 1992-93, 2001–02. In addition there have been a large number of localized droughts. There is evidence suggesting that long-term rainfall patterns are demonstrating greater inter-annual variability in recent years compared to previous patterns. FAO estimates from the mid-1990s suggest a 20 percent reduction in average rainfall in the semi-arid areas of Southern Africa. (FAO, 1994)

Whatever the adverse impact of climate change felt, is likely to fall most heavily on the poorest and most vulnerable. (Richards, 2003; Hulme, 1996). Adaptation strategy is the key elements of livelihood strategies that will have to be addressed not only by the poor themselves but by public and private assistance organizations in improving the enabling context. This must better inform the food insecure poor of future climatic prospects and better arm them with resources in the form of water development and conservation assets, and drought tolerant alternatives crops (e.g., greater emphasis on drought-tolerant cereals and on cassava, potatoes and other root crops in lieu of continued heavy dependence on rain-dependent maize).

Problems that perpetuate the non-sustainable use of natural resources in agricultural pursuits include: i) continuation of traditional land, soil and livestock husbandry practices in ways that degrade the environment; ii) traditional land tenure and land use arrangements which operate as if land were still not scarce; the soils and forage are becoming exhausted and degraded; iii) the undervaluation of women in their multiple roles in production, reproduction and household maintenance; iv) the method of forest exploitation caused by a large demand for fuel wood in combination with average slow forest regeneration rates in the region. Each of these must be addressed more comprehensively in future food security-focused strategies.

1.3.3. WATER USE

Many countries in Southern Africa are facing severe shortages in water availability. Abernethy (1997, cited in Abalu and Hassan, 1999) reports that per person fresh water resources in the region dropped from 20,000 m^3 in 1950 to slightly above the danger point of 1,000 m^3 per person in the late 1990s. There are also river basin issues and the potential for water use disputes, as the need for water for rapidly increasing, water basin-using population (now numbering more than 31 million) continues to grow. The Zambezi Basin alone counts eight riparian states. The revised SADC Protocol on Shared Watercourse Systems, signed in 2000, has yet to be ratified by all SADC member states. Given increased needs for agricultural, livestock, and human water use in the

future, there is potential for major de-stabilizing outcomes if effective water-sharing and allocation arrangements are not established for the region's water basins (Abalu, 1997).

The promotion of agriculture production in the smallholder sector also requires increased investment in irrigation systems that are sustainable and that more effectively manage increasingly scarce water resources. Small-scale irrigation systems, involving water capture at the micro-watershed level and the sustainable use of some wetlands, could significantly increase staple crop production and help to ensure food security year-round in areas where they can be developed. (Meinzen-Dick and Makome, 1999).

1.3.4. NUTRITION

The figures on nutrition status in Tables 1-4 at Appendix 16 are derived from data contained in each country's Demographic and Health Survey (DHS) as analyzed for the HPN/Poverty Thematic Group of the World Bank. Table 1 shows that, predictably, chronic malnutrition in children (i.e., "stunting" or low height for age) is prevalent. About half of the children in the poorest quintile of the population in five of the seven countries for which data are available are moderately stunted. Forty-six percent and more in the middle income quintile in four countries are moderately stunted. The country averages for chronic malnutrition range from about one-third to almost half of all children, with the exception of Namibia (29 percent) and Zimbabwe (21 percent). However, the data from Zimbabwe are from 1994 and probably do not represent children's current situation. All the country averages were more than 20 percent, which has generally been the point used to define a public health problem. Recent food shortages and the effects of HIV/AIDS have almost certainly exacerbated children's chronic malnutrition in the region.

Underweight, measured by weight for age, is often used as a global measure of nutritional status that reflects the combined outcomes of chronic and short-term malnutrition. As Table 1 shows (column 7), between 33 and 45 percent of the poorest children in all countries, except Zimbabwe with its out-of-date data, are moderately underweight.

The data for children in rural areas are sobering (Table 2). Chronic malnourishment is common in children in all income groups in the rural population, even among children of the "rich." In the fourth income quintile, between one-quarter and one-half of these children are moderately chronically malnourished (Table 2, column 6). While the proportion of children affected decreases with each higher income quintile, moderate stunting is still quite common, even among the richest income group (column 7). Based on these data, the region's rural children have been vulnerable to food insecurity for some years.

A direct comparison of rural and urban children is not possible due to lack of data. Except for Madagascar, there are no data from the poorest urban quintiles (due to the small number of cases in the DHS sample) to compare with the poorest rural quintiles. However, in most countries there is little apparent difference in moderate stunting rates in the poorest rural children compared with the rates of higher-income urban children In Madagascar, Malawi, Namibia, Zambia, and Zimbabwe the proportions of moderate stunting in the poorest rural children and in the poor or even middle class urban children were similar (Table 3, columns three and four). The same is true

regarding the proportion of rural and urban moderately underweight children in different income groups in Madagascar, Mozambique, Namibia, and Zimbabwe (Table 3, columns five and six). Chronic and global malnutrition in children apparently is more prevalent in rural areas and poorer households, but it also is a problem in urban areas and better-off households.

1.3.5. HIV/AIDS

It is difficult to overstate the detrimental impact of HIV/AIDS on the lives of Southern Africans and this report, consequently, devotes considerable space to this enormous problem and its food security consequences. The following pages present the views of a large number of authors. The HIV/AIDS pandemic is reported to be one of the greatest threats to human health and economic and social development in history, and constitutes a long-term humanitarian crisis, particularly in Sub-Saharan Africa (FAO, 2001; Gillespie, Haddad, and Jackson, 2001; Piot and Pinstrup-Andersen, 2002; de Waal and Tumushabe, 2003). The disease has negative, systemic effects that reach from the individual to the national level and affect virtually every aspect of socioeconomic life, from agricultural productivity to food security to the national GDP. The HIV/AIDS pandemic is characterized with dire phrases: the pandemic is "massive," the disease is "fatal and incurable," the impacts in SSA are "staggering," and the gap between what should and what can be done to address it "is becoming an abyss." de Waal and Tumushabe (2003) warn that "Time is not on our side. There is too little experience in taking livelihood protection programmes and policies to scale. There is too little data and analysis of what HIV/AIDS means in a food crisis." The combination of southern Africa's HIV/AIDS and food-shortage crises in southern Africa is "unraveling the social fabric of society to the extent that the stability and security of the region as a whole is at risk," according to the UN Special Envoy (Morris, 2003).

Sub-Saharan Africa has 11 percent of the world's population and 73 percent of its HIV/AIDS-related infections (Shapouri and Rosen, 2001). There are about twenty-nine million people living with HIV/AIDS in Africa and it is the continent's leading cause of death, responsible for more than 20 percent of deaths (UNAIDS, 2002; XIIIth International AIDS Conference, 2000). In 2001 approximately 2.4 million people in Africa died of AIDS.

Southern and eastern Africa are the two regions in the world most severely affected by HIV/AIDS and the southern region has the highest HIV infection rates in the world (UNAIDS, 2002). HIV prevalence rates are over 30 percent in Botswana, Lesotho, Swaziland, and Zimbabwe, and over 20 percent in Namibia, South Africa, and Zambia (UNAIDS, 2002; Shapouri and Rosen, 2001). Botswana's infection rate soared from less than one percent in 1984 to 35 percent in 2000 (FAO, 2001). The estimated annual number of new HIV infections in SSA increased by 129 percent during 1989-1999, rising from 1,750,000 in 1989 to four million in 1999 (FAO, 2001). In contrast, in southern and eastern Asia, the region with the next-highest number of annual infections, the numbers rose from half a million to 900,000 in the same period, an increase of 80 percent (FAO, 2001). More than 24 million people in the SSA region are infected with HIV, or 8.6 percent of the adult population, the highest proportion in the world (FAO, 2001). This is in stark contrast with the 2.11 percent infection rate in the Caribbean, the region with the next-highest rate after SSA; with the total global

rate of 1.07 percent and with the rate of 0.12 percent in the North Africa and the Middle East region (FAO, 2001).

Facts demonstrating the extent of the regional pandemic:[10]

- The number of annual new cases in southern Africa is likely to almost double in the next fifteen years.
- The HIV infection rate is highest among people 20-40 years of age; one study estimated that that group may account for about two-thirds of all cases in southern Africa.
- Fifty-five percent of the HIV / AIDS-affected population are children, and 18 percent are children under five. There will be almost 10 million AIDS orphans in southern Africa in the next fifteen years.
- AIDS is responsible for 70 percent of all deaths of children under five in Zimbabwe, and 45 percent of all such deaths in South Africa.
- National adult HIV prevalence rates have risen higher than thought possible in four southern African countries: Botswana (39 percent), Lesotho (31 percent), Swaziland (33 percent), and Zimbabwe (34 percent).
- "Estimated crude death rates including AIDS mortality are greater by 50 to 500 percent in eastern and southern Africa over what they would have been without AIDS;" in South Africa, death rates are twice as high as they would have been without AIDS.
- "AIDS mortality will produce population structures never seen before," as adults in their prime die. Increased child labor will be one unavoidable result of this demographic shift.
- Fifteen year olds in South Africa and Zambia have a 60 percent lifetime risk of HIV infection and death from AIDS; in Botswana, the risk is 80 percent.
- By 2003, Botswana, South Africa, and Zimbabwe will have negative population growth due to AIDS, down to -0.1 to –0.3 percent, instead of the 1.1 to 2.3 percent rates they would have had without the epidemic.
- The population growth rate in Zimbabwe has dropped to nearly zero due to AIDS mortality. Other countries with "sharply reduced" growth rates are Botswana, Malawi, Namibia, South Africa, Swaziland, and Zambia.
- As a result of HIV / AIDS life expectancy in SSA has dropped sharply: from 50 or more years to less than 40 in Malawi, Mozambique, and Zambia; from 71 to 39 in Botswana, and from 70 to 38 in Zimbabwe.
- Many more millions of people will die from AIDS during the next decade than did during the past two decades. "Many of the southern African countries are only beginning to see the impacts of [their] high levels of HIV prevalence"

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[10] Data from UNAIDS, 2002; UNAIDS / WHO, 2002; UNICEF, no date; XIIIth International AIDS Conference, 2000).

- South Africa's economy in 2010 is projected to be 20 percent smaller than it would have been, at a loss of about $17 billion, as a result of HIV/AIDS

Despite the regional pandemic, longitudinal data showing trends are difficult to find. Table 1 in Appendix 11 shows the types and numbers of people living with HIV/AIDS in the region in 2001. Table 2 in Appendix 11 portrays the increase in reported AIDS cases in the region from the 1980s to the present. The decreases in this table may be due to poor data collection and/or reporting rather than actual decreases in the number of AIDS cases. Table 3 in Appendix 11 indicates that HIV infection rates are increasing in rural areas, based on the rates in pregnant women.[11]

Labor is a key component in agricultural production in Sub-Saharan Africa because the use of modern inputs and technology are limited. AIDS kills young adults in their prime productive years, so the agricultural sector, particularly small-holders whose production depends heavily on labor, is especially hard-hit by AIDS. The spreading epidemic in the region's rural population is likely to lead to a labor shortage for agricultural production. The epidemic will decrease the availability and productivity of rural labor, and thus decrease food production and ultimately the availability of foodstuffs and food consumption (Shapouri and Rosen, 2001). "Little is known about the net effect of AIDS on the agricultural economy, but there is no question that food insecurity will increase in the severely affected countries" (Shapouri and Rosen, 2001). This negative impact is an issue of critical importance in Sub-Saharan Africa, given its already low and dropping agricultural productivity and consumption patterns. USDA estimates that two results of AIDS in Sub-Saharan Africa, the loss of agricultural labor and the decline in labor productivity, will result in a 12% reduction in labor productivity per year in the region (Shapouri and Rosen, 2001). "The prevailing agricultural development paradigm, which assumes the availability of surplus labor, is no longer valid" in the southern region (Morris, 2003). Table 4 in Appendix 11 shows potential labor force losses and the estimated associated decreases in agricultural production in southern Africa.

Other effects on household production and food security have been noted by several authors:

- Total output and yields decrease as illness results in lack of time and energy to invest in natural resource management (NRM), timely agricultural operations, and the cultivation of remote or extensive fields, and as decreased income limits input purchases. Tanzanian women with sick husbands spent 60 percent less time on agricultural activities and, according to one estimate, approximately two person-years of labor are lost by the time one person dies of AIDS (FAO, 2001). In Zimbabwe a death from AIDS resulted in a loss of 61 percent of the household's marketed maize, compared to a loss of 45 percent with a non-AIDS death (de Waal and Tumushabe, 2003).
- The shift to less labor-intensive crops, such as from maize to cassava, and a narrower crop-mix also affects production. Cash crops may be abandoned as labor is invested in food crops. The decreased variety in food supplies and in income ultimately affect nutrition. Communal agricultural production dropped 50% in Zimbabwe in five years mainly as the result of

[11] See Appendix 11 for all HIV/AIDS-related data tables.

HIV / AIDS, which has affected the production of corn, peanuts, sunflower, and cotton (FAO, 2001).

- There is a decline in livestock production and / or a shift to small livestock due to the lack of labor. Livestock holdings decrease as they are slaughtered for funerals or sold to pay for medical care. Their loss decreases the availability of manure, animal food products, draft power, income, and savings (Gillespie, Haddad, and Jackson, 2001).
- Post-production food processing and storage are compromised due to labor constraints. Seed may be eaten or sold to meet food needs.
- HIV / AIDS also affects agricultural extension and other rural services. Extension agents may be prime candidates for infection because of their social status in rural areas. Their illness and death contribute to staff turnover and to decreasing technical assistance in rural areas. Extension agents may be "dying more quickly than they can be trained" which contributes to decreased capacity of technical services in several countries. This has been reported as a problem in Zambia (de Waal and Tumushabe, 2003).
- Credit intended for agricultural production may be used for food or medical care. This results in low crop yields and income which in turn require producers to sell assets to repay the credit or to default on their loans. Commercial lenders generally consider HIV / AIDS-affected households to be poor risks, which limits their access to credit.
- Commercial agricultural production also suffers. Direct costs include the loss of hired labor and seasonal workers, and the cost of workers' illness and death. Indirect costs include the drop in employment opportunities due to decreased productivity and competitiveness, and the drop in associated activities such as processing and marketing, which may affect the non-HIV / AIDS population (FAO, 2001).

The cumulative effect of HIV / AIDS on labor and household agricultural production ultimately is likely to have negative impacts at the national level. The loss of labor and the decrease in its productivity, and the drop in agricultural output, will negatively affect national food supplies and food prices (FAO, 2001). Table 5 in Appendix 11 provides some indication of those changes, in which HIV / AIDS was one factor. Decreased cash-crop production will affect employment and foreign-exchange supplies. All of these effects threaten economic growth and development.

The impact on women is particular troubling. "Women are biologically, socio-economically and socio-culturally more at risk of HIV infection than men" (Gillespie, Haddad and Jackson, 2001). Women's risk of becoming infected during unprotected intercourse is two to four times higher than it is for men and untreated STDs may increase their risk of acquiring HIV by 300-400 percent (Gillespie, Haddad and Jackson, 2001). They generally cannot require protection such as condoms, are stigmatized for seeking treatment for STDs, are at risk of sexual coercion, may be obliged to trade sex for food or money due to lack of education and economic opportunities, and are subject to sexual violence (Gillespie, Haddad and Jackson, 2001). There are more HIV-infected women in the 15-30 year-old age group than men, and there are four times as many infected women 15-19 years of age than men (UNAIDS, 2002). In time, women will account for 30 percent more of all AIDS cases than men (UNAIDS, 2002).

The loss of women from HIV/AIDS has "enormous implications on nutrition and poverty" (Shapouri and Rosen, 2001). Women's labor is a major component of agricultural production, particularly for food crops. Women also are responsible for food preparation, household hygiene, and child care that are linked to household nutritional status. Women's death therefore will affect household food production and nutritional status, and being left widows will affect household food security due to women's loss of or limited access to the resources for agricultural production (de Waal and Tumushabe, 2003). One consequence of the death of active women (defined as 16-58 years of age) is the high dependency ratio among women over 60 in Malawi: 78 percent of these elderly women's households had three or more dependents per adult and 75 percent of their households had no active adults (SADC FANR, 2003). Poverty and food insecurity clearly are in their future.

Widows generally lack secure land tenure, the collateral to obtain credit, and the access to technical assistance to adopt more productive modern technologies to compensate for their households' lack of labor. Men's deaths leave women without a major source of household labor. Households in Malawi in which an active male adult died had planted 32 percent less area than households in which an active female adult died, an indication of the role of male labor in preparing fields (SADC FANR, 2003). The stigma of AIDS may reduce support from the extended family and community social networks (de Waal and Tumushabe, 2003). AIDS orphans increase women's child-care responsibilities and decrease the time and energy they can invest in food production. But taking in orphans apparently is women's work: in 2002, 29-39 percent of the female-headed households (FHH) in Malawi, Zambia, and Zimbabwe were caring for orphans, in comparison to 15-29 percent of male-headed households (MHH) (SACD FANR, 2003). Referring to women and the HIV/AIDS epidemic in southern Africa, Morris (2003) stated that "very little is being done to reduce women's risks, to protect them from sexual aggression and violence, to ease their burdens or to support their coping and caring efforts. The current willingness to assign additional responsibilities related to HIV/AIDS to already overburdened women and girls threatens to undo the limited progress made to date towards gender equality."

The following are some of the direct impacts of HIV/AIDS on household food security:[12]

- "High rates of HIV/AIDS infection exacerbate and are exacerbated by the current food shortages [in the SADC region]. Implications for longer-term livelihood and food security are grim".
- "Rural households that are most vulnerable [to food insecurity] are typically characterized by being female-headed, having orphans, having few or no livestock, and small land-holdings".
- Young men's and women's labor-for-food is a major means of meeting household food needs for "typical rural poor households." If these laborers contract HIV/AIDS, the households' food security is threatened.
- Gifts from better-off relatives decrease if they contract HIV/AIDS.

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[12] Data are from: SADC-FANR, 2002; SADC-FANR, 2003; Food Economy Group, 2002.

- Relatives who adopt AIDS orphans have increased food needs to meet but not increased incomes. This increases their economic stress and their vulnerability to shocks such as drought or rising food prices.

SADC's 2002 vulnerability assessments in Malawi, Zambia, and Zimbabwe found the following effects of HIV / AIDS on household food production and income:

- Proxy HIV / AIDS households have larger cereal gaps (unmet annual grain needs) and lower consumption, and are more likely to need food aid than unaffected households.
- In Zimbabwe, about two-thirds of the households in the lowest quintile of purchasing power have high (3+ dependents / active adult) or extremely high dependency ratios (no active adults in the household).
- Poor households in Zambia with a chronically ill household head planted 69 percent less area than usual; well-off households with the same problem planted only 3 percent less area. Poor households that cannot use their land risk losing it and becoming even poorer.
- In late 2002, 18-34 percent of HIV / AIDS-affected households in Zambia had enough seed for the next planting season, versus 40 percent of unaffected households.
- Two-thirds of HIV / AIDS-affected households in Zambia in which an adult had been sick or died in the past year had reduced expenditures on nonfood items, versus 49 percent of unaffected households.
- Households in Malawi, Zambia, and Zimbabwe with chronically ill household heads (proxy HIV / AIDS individuals) cultivated less cash and cereal crops, and more tuber crops:

1.3.6. TRANSPORT INFRASTRUCTURE, GEOGRAPHY, AND ECONOMIC INTEGRATION

Farrington and Gill (2002) argue that "the location of poverty matters." Poverty is predominately located in the more "difficult" areas—those that are remote, difficult to access and weakly integrated. There is a tendency, they write, for development agents to underestimate the gulf between these areas—inhabited by the majority of the food insecure poor—and those whose relatively better off poor households are more easily accessed and, therefore, the participants in development programs that ought to be targeted on their more remote fellow countrymen and women. "…much of the desired rural growth is likely to occur in well integrated rural areas…'spread' effects are poorly defined and will take much longer than anticipated." These 'difficult areas' are defined as having:

- Low agricultural potential (owing to combinations of climatic, hydrological, soils, topographical, or pest and disease problems
- Fragile ecology
- Weak infrastructure
- Highly fragmented and weakly functioning markets
- Poor connectivity to national, regional and global markets.

"Difficult areas" can, in some cases, encompass entire countries, e.g., the landlocked countries of Southern Africa. The nature of South African geography places several of the most food insecure countries—Zambia, Malawi, Lesotho and Zimbabwe—far from ocean ports and overseas destinations for their agricultural products and equally far from major sources of food aid. The authors point out that the transport costs from Mombasa to Kampala are the equivalent of a 50-to-140% tariff on Uganda's manufactured exports. Ditto for land-locked southern African states. This on-going problem may be creating a bifurcation between a small number of well-located developing countries able to integrate into world markets and those not so well positioned, e.g., most of sub-Saharan Africa. Gallup, et al. (2002) derive a similar conclusion. Their research:

> …finds that location and climate have large effects on income levels and income growth through their effects on transport costs, disease burdens, and agricultural productivity, among other channels. Furthermore, geography seems to be a factor in the choice of economic policy itself. When geographical regions that are conducive to modern economic growth are identified, it is found that there is a disjunction between such regions and many areas of the world of high population density and rapid population increase. This is especially true of populations that are located far from coasts and navigable rivers and that thus face large transport costs for international trade, as well as of populations in tropical regions of high disease burden. (p.5)

While little can be done about the geographic location of countries, the isolation of food insecure populations within a country demands more attention, particularly in the context of recent econometric work showing that agriculture is the engine of wider growth, including that in the rural non-farm economy and, to some degree, in the urban economy[13] (Farrington and Gill, 2002; Mellor and Ranade, 2002). Recent work using cross-sectional multiple regression models have suggested that an increase in agricultural yields of one-third might reduce the numbers of the poor by one-fourth or more. (Irz et al., 2001.) However, one must be careful in using cross-country analysis as a guide to analysis and policy regarding *country-specific* understanding of which economic sub-sectors are the more pro-poor. The point is that programs aimed at increasing agricultural production in the well-off areas (and in Southern Africa, the well-off countries) may not have much "trickle down" or spread effect into the weakly integrated areas where large numbers of the food insecure poor live.

In Southern Africa, long distances and the poor and deteriorated quality of much of the transport networks add greatly to marketing costs and intensifies poverty as a consequence of distances. Building and maintaining roads and rail systems is expensive in terms of both fixed and variable costs and these costs are very front-end loaded. The economic (and non-economic) returns, particularly from areas characterized by distant subsistence-based maize farmers are very long-term, or even negative over the full estimated life of the investment. This remains one of the most intractable problems constraining achievement of widespread agricultural growth and of both the food security and livelihood security objectives in the region.[14] Roads are important, but building

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[13] This theme is addressed more fully in the context of "what is being done, and what should be done in the future to promote more robust food and livelihood security" in Section II below.

[14] See http://www.worldbank.org/transport/tr_facil/docs/smak1.pdf for a concise presentation of major regional transport problems.

and maintaining them is expensive. Managing them is difficult. Abusing them (e.g. axle overloading) is easy. There are no simple solutions offered in the reviewed literature.

1.3.7. ECONOMIC AND DEVELOPMENT POLICY ENVIRONMENTS[15]

In the 1970s and 1980s many countries in the region adopted farm policies in which the state, through marketing parastatals and pricing and subsidy policies, played a major role in organizing production and other aspects of agriculture. Government agencies typically bought produce and marketed it, supplied fertilizer, seed, chemicals, and machinery services, and offered extension advice and veterinary services. Public banks offered seasonal credit at often subsidized interest rates. Prices of inputs, credit, and outputs were often controlled, and usually set uniformly for the whole country and throughout the year. Under these ultimately unsustainable policies there were some impressive increases in production. During the 1980s in Zimbabwe, for example, maize production from smallholder farms doubled in less than a decade. Distant provinces of Zambia, such as Eastern and Northern, also saw remarkable increases in the amount of maize marketed in the late 1970s and early 1980s (Celis, et al., 1991). Malawi, in the 1980s, experienced a 'mini-green revolution' in smallholder maize production, as farmers adopted packages of hybrid varieties of maize and manufactured fertilizers.

The model proved illusory; it could not be sustained. The operating costs of the parastatals were too high, the public subsidies involved were too large, and the revenue base of the governments was too limited. In addition, the state agriculture agencies were operated ineffectively and inefficiently. Moreover, the policies largely supported commercial farmers with little or no support to smallholders. In some cases, such as Malawi, there was a clear bias in agricultural policy towards the interests of burley tobacco production on the large-scale estates at the expense of any support to the majority of the rural population engaged in small-scale subsistence farming. These smallholders were, for many years, even denied access to the floors of the tobacco auctions. They were not allowed, by law, to grow burley, Malawi's leading cash and export crop. Similarly, in Angola and Mozambique, large state farms were favored over smallholdings. But even where agriculture development strategies recognized the need to support smallholder farming, such support was concentrated on smallholders in the more favored agroecological zones, and on those farmers with the resources and means to expand production, e.g., on so-called 'master farmers', 'emergent farmers', 'small-scale commercial farmers' and the like. When small farms did increase marketed output, the bulk tended to come from a small fraction of the smallholders. The majority of small farmers marketed little produce, and, indeed, most were (and are) net buyers of food, selling their labor to the larger farms and on non-farm activities to provide cash to buy minimally adequate amounts of food for their families. Their poverty, and their position as net food buyers, was barely appreciated by those making agricultural policy during the 1970s, and 1980s.

The state-led approach described above was, to a fair degree, dismantled throughout the region during the late-1980s and 1990s, under the regimen of IMF/ World Bank - structural adjustment

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[15] Past and present policy environments are addressed in Section II. They are touched on here only insofar as they represent one of several causes of high rates of food and nutrition insecurity.

and market liberalization. It was believed that closing down, or privatizing, the parastatals would not only cut the costs to governments and the countries as a whole, but would lead to the emergence of more efficient markets. Private agents would perform the functions of the state agencies and competition among them would provide a spur to efficiency and sector growth. The results to date, however, have been meager. Private traders throughout the region have been reluctant to travel long distances to collect crops from small farmers and equally unwilling to travel long distances to supply them with fertilizer and seed in small packets. As the road networks continued to deteriorate over time, those "long" distances grew shorter and shorter. Commercial banks, more or less, ceased to provide credit to smallholders, in part because they did not always repay, in part because profitability was low and management expenses were high. Farmers, as a result, have regularly faced liquidity problem at planting time. Few smallholders have the funds or inclination to pay for extension advice or veterinary services. While the liberalization of the 1990s has seen some successes, for example, export horticulture from Zimbabwe, large-scale cotton farming in Mozambique, and (since the mid-1990s) smallholder burley tobacco production in Malawi, these have been restricted by and large to the better-resourced farmers in accessible farming areas with good soils and reasonably good rains. Elsewhere, smallholder farmers have not had the means to take advantage of market opportunities. Indeed, in the more distant zones, such as the outlying provinces of Zambia, many farmers have turned away from markets, focusing, instead, on crops such as sorghum, millet, sweet potato and cassava for their own subsistence and to supply the immediate local markets. This, of course, may be the correct strategy under prevailing circumstances, but it is not one likely to increase household income or food availability over the longer term.

Thus, most countries have seen the bulk of their rural populations left dependent on rainfed farming, barely, under high risk, high vulnerability circumstances, managing to subsist at poverty levels, even in years without shocks. They face vagaries of weather and vagaries of the economy and of government policies. They face increasing land pressure from continued demographic growth. In such areas, southern Malawi being one of the most acute cases, many households today find themselves trying to survive on plots well under a hectare; all this before factoring in the consequences of the HIV / AIDS trends described above.

1.3.8. THE 2001–02 FOOD CRISIS

Basic reporting on the immediate events conspiring to create the 2001–02 food crisis is found at Appendix 6. The reporting shows that the crisis grew quickly out of events—scattered flooding and seasonally inadequate rainfall—that are not particularly extraordinary in the region. What was extraordinary was the speed at which the numbers of people requiring food transfers grew to 14 million, and the lack of prior realization that available food supplies (i.e., estimated production, carry-over stocks, and imports in the pipeline) were woefully inadequate. Although data gathering and analysis associated with early warning in the region has become more sophisticated and timely than in prior emergencies, it still failed to alert and inform decision-makers of the magnitude of the emergency and the paucity of available food. As Stevens, et al. (2002) note, with reference to "what went wrong" in the Malawi emergency (but generally applicable to the other affected countries), there are presently more questions than answers about how the magnitude of

the emergency could have been so underestimated for so long. The authors note that the Malawi crisis followed a sequence of adverse events: harvest failure, bad information, a depleted grain reserve, import bottlenecks and unaffordable food prices. They suggest several reasons for the failure, both technical and political:

- ***Technical reasons.*** i) exaggerated forecasts of root and tuber production caused by a methodological error; ii) the resultant misguided notion that Malawi had a "maize" deficit, not a food deficit; iii) the resultant slowness to action; iv) the selling off of SGR stocks in 2001 purportedly based on advice from IMF officials; v) such advice from the IMF purportedly based on inaccurate data from the Ministry of Agriculture and Irrigation.
- *Political reasons.* i) strained government-donor relations, partially the result of the SGR imbroglio; ii) a slowed donor response as a result, in part, of these strained relations.

Other problems and constraints also contributed to the problems in Malawi: i) a lack of success by government in attempting to buy grain domestically from what was believed to be available private sector stocks; ii) competition from other grain-short countries in the region in purchasing grain from South Africa and elsewhere driving up regional maize prices; iii) logistics and other delays in foreign grain arrivals in Malawi; iv) problems between ADMARC—the government's marketing parastatal, operating under new government emergency policies, and private traders.

Stevens, et al., admit they are unable to answer all the questions. The bottom line of their analysis is, however, that the response to the growing Malawi food emergency by government, donors, and others was inadequate and slow and that the reasons are difficult to unravel. The same holds true, by and large, for the other affected countries. The major lesson to be derived from pertinent analysis: such a crisis can happen, and it can happen very rapidly. The system meant to mitigate or attenuate disasters for countries throughout the region did not function adequately and, as a result, tens of millions of the food insecure poor were placed at additional risk due to the inadequacy of early warning and safety net response mechanisms.

1.3.9. GENDER

Agriculture remains an important component of the national and rural economies in Sub-Saharan Africa, and women's major economic activity. Current research findings support the conventional wisdom that women are Sub-Saharan Africa's principal food producers. Women's other household responsibilities—child care, providing fuel and water, food processing and preparation, marketing—also require significant time and energy. HIV/AIDS has become a major drain on women's time and energy as caring for the sick and orphans becomes more common. Women simultaneously are responsible for producing household food supplies yet are marginalized in terms of access to key agricultural resources—land, water, technology, credit, extension services. The contradiction between what rural women are responsible for and what they have to work with often seems impossible. Modern trends, such as the shift in male labor to off-farm work, the increase in commercial crop production, and environmental degradation, are making this contradiction sharper. These are key points about women producers:

- Most of Sub-Saharan Africa's farmers are women, and they account for 70-80 percent of household food production in the region (Brown et al., 1995).
- Women are a disproportionately large number of the landless, unemployed, and poor in SSA and simultaneously responsible for supplying their households' basic foodstuffs (Mukhopadhyay and Pieri, 1999).
- Women's marginalization in the agricultural sector is "likely to result in forgone economic growth, through lower crop yields, delayed adoption of new technology and plant varieties, and environmental degradation" (Quisumbing, 1995).
- Women work longer hours in agriculture and in nonagricultural activities than men, have multiple roles rather than focusing on production, and may spend "considerably less time than men in meetings, which limits their active participation in issues that affects their lives" (Mukhopadhyay and Pieri, 1999).
- Women in SSA work 50 percent more hours than men in agriculture and other tasks, averaging 13-hour workdays (Saito, 1994).
- Gender roles in Sub-Saharan African agriculture are changing: women are growing cash crops and making farm-management decisions as men migrate off-farm (Saito, 1994).
- Women receive less than 1 percent of all the agricultural credit in Africa (UNFPA, no date).
- Extension services are male dominated and generally target men rather than women, and cash crops and larger farms rather than food crops and smallholders (IFPRI, 2001a).
- Only 3 percent of extension agents in SSA are women, although women are key producers and women farmers working with women extension agents evidently improves technology transfer (Quisumbing, 1995).
- Women are efficient farm managers; their lower yields are due to "lower levels of inputs and human capital than men" (Quisumbing, 1995).
- Universal primary education promotes women's productivity: an additional year of education for women has 2-15 percent returns to agricultural production (Quisumbing, 1995).
- Women producers "must be the centerpiece of agricultural strategy" to improve household food security in SSA (Saito, 1994).

1.4. Coping and Adapting—how the food insecure poor have responded

The food insecure poor are, by and large, those dependent upon rainfed agriculture, living in environmentally degraded areas, utilizing increasingly less fertile soils and pasturelands to raise crops and livestock inadequate in most years to cover –through own consumption or sale— minimally adequate nutritional requirements of all members of the household. Virtually all exist on less than the local equivalent of $2 a day, most on less than $1 a day in net income. Their children are malnourished, a third of them significantly stunted by age 5 years, a large percentage

of mothers suffering from iron deficiency anemia and other macronutrient and micronutrient deficiencies. They lack access to adequate water for crops and animals for much of the year and to adequate amounts of clean and potable water for their own needs. The asset basis of their livelihood systems are fragmented, fragile, and highly vulnerable to exogenous shocks and adverse trends. Their traditional strategies for coping with adversity are increasingly ineffective and their ability to adapt to changed economic, social and political circumstances highly constrained by depleted holdings of assets and wealth, and reduced access to traditional safety nets and other mitigation strategies. There are an estimated 800 million food insecure poor in the world. In sub-Saharan Africa, the number of people consuming less than the recommended daily caloric intake of 2,100 kcal/day is presently estimated at 337 million, roughly 57 percent of the total population of sub-Saharan Africa and 38 percent of the World's hungry. (Shapouri and Rosen, 2002). By 2011, USDA/ERS predicts that sub-Saharan Africa's share of the world's hungry will have risen to 50 percent. In Southern Africa,[16] where, if anything, the share of the sub-region's population suffering from combinations of chronic and acute hunger will be higher than the sub-Saharan African average, the total number of the food insecure poor might well exceed 50 million people at present (Abalu and Hassan, 1999; Shapouri and Rosen, 2002).

Some of the more important factors creating and perpetuating household food insecurity and pervasive poverty have been discussed above. How have the food insecure rural poor in Southern Africa responded? How effective have these responses been? As Barrett et al. (2001) conclude from an extensive review of the literature, "diversification is the norm."[17] The response, whether determined *ex ante* as mitigation, or *ex post* as response to adversities, has been to engage in combinations of on-farm, off-farm, and non-farm activities intended to increase income, preserve productive assets or wealth, or improve future outcomes—all involved, to a very great degree, in stabilizing or preserving present or future consumption.

The image of the African rural poor as engaged exclusively in farming pursuits has been found far too simplistic, and increasingly far from the on-the-ground reality. To a large degree the result of the changing situational context in rural Africa over the past several decades, the traditional livelihood strategies of the poor have been changing and becoming more complex. If nutrition, expenditure, household asset, and other poverty survey data are accurate, these strategies, at least for a large segment of the rural poor, have proved inadequate in helping gain or preserve adequate quality of life. Barrett, et al., citing earlier work by Bryceson and Jamal (1997) and Reardon (1997), note that income from non-farm activities may already account for 40–55 percent of total average household income. As noted elsewhere, more recent survey work by Bryceson (2000) in seven African countries[18] reveals income levels from non-farm sources ranging from 55–80 percent of total average household incomes. These are dynamic, and apparently continuing,

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[16] For purposes of this discussion, including Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Swaziland, South Africa, Tanzania, Zambia and Zimbabwe.

[17] An entire issue of *Food Policy* (vol. 26 – 2001), entitled "Income Diversification and Livelihoods in Rural Africa: Causes and Consequences of Change," is devoted to concerns of livelihood, coping, and adapting strategies. The Barrett, et al, article cited herein is, to a large degree, a synthesis of the main points of the other articles. This issue ought to be of considerable interest to RCSA staff.

[18] Including Tanzania, Malawi, Zimbabwe, and South Africa in the SADC region.

changes with important implications for those designing, implementing and measuring effectiveness of development assistance efforts, if improved rural[19] livelihood security and/or food security are the objectives of the assistance.

Barrett, et al. (2001) ask the question "Why do households diversify?" The studies they synthesize conclude that diversification is a response to diminishing returns to labor or land, from market failures (e.g., credit), or "friction" (for mobility or entry into higher-return niches). Incomplete markets for land, labor, credit, or insurance contribute to an inability to capitalize on what otherwise would be inherent remuneration potential and engender the consequent need to search for alternative, more adequate, returns. A farmer turns, for example, to a distant labor market to earn part of his or her livelihood, even though s/he has potentially productive land, because that land is not well-located and high transaction costs impair adequate net returns. The construction of a nearby feeder road, for example, might well change the equation by reducing marketing and transport costs.

> …when individuals or households are not endowed with the ratio that maximizes profits at a prevailing shadow price and there are not well-developed asset markets through which they can exchange assets to achieve the optimal mix. Diversification becomes the natural response…for the poorest, this typically means highly diversified portfolios with low marginal returns, or desperation-led diversification… (pp. 9-10)

"Missing markets" discourage diversification. The lack of a credit market can impede diversification into more lucrative economic endeavors, as when a farmer cannot afford to purchase a truck to enter a long-haul transport niche even though doing so would be highly profitable. The lack of an insurance market (formal or informal) reduces the ability of a household to smooth consumption.

Inadequate physical access to markets in remote areas forces households to diversify their patterns of production in order to satisfy their requirements for diversity in consumption. These households are particularly hampered in their ability to diversify *ex post* to cope with shocks to income. When this is coupled with missing social insurance markets, the results can be a rapid devolution into destitution and pre-famine conditions. This problem is intensified where safety nets are "meager and frequently tardy" (p.12)

Assets, broadly defined, form the foundation of food security (Barrett, 1999) and constitute the building blocks of sustainable livelihoods (Farrington, et al., 1999:3). Five classes of assets are identified: human, natural, financial, social, and physical. Cash on hand, non-farm income and remittances, land, well-heeled extended family members, and access to ready credit all decrease vulnerability to food insecurity. Livelihood systems are the economic and social configurations

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[19] The focus on "rural" as opposed to urban food insecurity stems from acceptance of the thesis that agriculture and those engaged in it in Southern Africa should be the focus of efforts to both generate overall economic growth and improved food security in the 2004-2010 period at issue. The nature of growing urban poverty in Africa represents a serious problem in the proximate future (see, for example, D. Maxwell, et al. 2000) but, the theory underlying the rural focus is that agriculture represents the most likely real engine of growth in Southern Africa and that improvement in urban employment, incomes, and access is best addressed in the medium- to long-term by a focus on "growing agriculture" and, through it, increased rural demand for goods and services produced by the urban wage force.

through which food security is achieved and maintained. For assets to enable adequate food security, there must exist mechanisms for converting them into appropriate amounts and types of food. Markets, as previously discussed, constitute major asset exchange portals and, as such, are vital in achieving sustainable food security within a livelihoods framework.

So, too, are "institutions" in the form of laws, edicts, policies, contracts, enforcement mechanisms and "folkways" (North, 1990). While there is much attention in the literature regarding the importance to food security and livelihood security of asset exchange markets, there has been somewhat less emphasis on the importance of institutions and institutional arrangement in the proper functioning of these markets, particularly as these "ways of doing business" have such a profound effect on transaction costs.[20] As Crowley and Appendini point out:

> …in cases of resource scarcity or plenty, participation in different *institutions plays a key role in accounting for variations in resource endowments among households.* Participation in plough and oxen sharing arrangements, in land, labour, and agricultural markets, in ad hoc rotating labour associations, in credit contracts, and claims on the basis of national legislation can determine the types and quantities of resources with which a household is endowed, where they fall along the wealth/poverty continuum, and whether they are likely to be upwardly or downwardly mobile.

Where institutional arrangements are well-integrated into a society—i.e., where everyone understands and complies with the manner in which, say, contractual responsibilities are carried out and enforced, transaction costs are low. In a society where, for example, "handshake agreements" are always honored there is little need for expensive lawyers. Where, on the other hand, groups or individuals do not honor legal or traditional arrangements, where enforcement is weak, or where conflict over interpretation of institutions is unresolved, transaction costs rise. In an African landscape where traditional "ways of doing things" have been attenuated and where new institutional mechanisms are weak, the social and political fabric can lose cohesion and economic outcomes are greatly—and often adversely—affected.

The impact of asset availability, markets, and institutions on livelihood security are profound and must be increasingly better understood, if programs aimed at improving livelihood security—and through livelihoods—food security, can engender cost effective progress toward desired outcomes among the rural poor in Southern Africa. Better understanding helps enable appropriate application of key concepts related to sustainable livelihoods and equally sustainable reductions in household food and nutrition insecurity. Farrington, et al., (1999) suggests that such improved understanding:

- Helps to bring together different perspectives on poverty and integrate the contributions to eliminating that poverty;
- Makes explicit the choices and possible trade-offs in planning and executing different development activities;

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[20] Crowley and Appendini (1999) (plus references cited therein) provide a brief and informative presentation, using an example from western Kenya, of the principal issues of the influence of institutions in economic and social market transactions in rural African contexts. It is also highly recommended that Nobel Laureate Douglass North's seminal work on this issue (North, 1990) be reviewed in this context.

- Helps to identify the underlying constraints to improved livelihoods and the means of overcoming these;
- Helps to link improved micro-level understanding of poverty into policy and institutional change processes.

The practical difficulties are:

- Understanding how conflict over access to resources impinges on livelihood choices, and what can be done to address this;
- Developing cost effective modes of livelihood analysis that ensure that the needs of the poorest are prioritized;
- Identifying appropriate in-country partners, and developing collaborative approaches to understanding the complexity of poverty and integrating that understanding into a common livelihoods frame;
- Understanding how, in practice, to handle trade-offs, as for instance, between local pressures (e.g. for increased short-term income or better infrastructure) and wider concerns about resource sustainability and national-level policy considerations.

In Farmington's later work (Farmington and Gill 2002) there is the added difficulty of achieving food and nutrition security in "weakly integrated" rural areas. As the authors note, visions of market-oriented economic growth "…tend to underestimate the gulf between areas well-integrated and weakly integrated into markets, and the relatively small size of the former, especially in Africa."

2. What Has Been Done, Is Being Done, and Should Be Done

This section deals with what has been done, is being done and considered for the future in terms of improving food security and livelihood security in the region. It is divided into four subsections which look at i) the history of food security and livelihood security as goals of development; ii) what has been undertaken in the Southern Africa region regarding food security during the 1970-2003 period; iii) what is the present state of play regarding attempts to promote food security, nutrition security and livelihood security; and iv) what is proposed for the future by knowledgeable scholars and development practitioners.

2.1. The History of the concepts food security and livelihood security

There is neither time nor space available to recount the history of food policy, food security policy, and livelihood security policy as each has evolved (or not evolved) over the three decades, 1974-2003, for each of the 14 SADC governments or the region as a whole. A highly abbreviated history, therefore, sets the stage for a review of present policies in the region and a discussion of actions by these governments, donors, NGOs and local organizations to confront food and nutrition insecurity and the role of a livelihoods approach within that nexus. This will, in turn, lead to a discussion of actions proposed for the future. Section III will deal specifically with suggestions for RCSA consideration of its own role in confronting the causes of food insecurity Southern Africa in the 2004-2010 period.

"Food security" as an objective, or agenda, for action is usually traced to the World Food Conference of 1974, the first to deal with global issues of food and hunger. The emphasis at that time was on food availability and changes in the global supply. Food security was defined as: "Availability at all times of adequate world supplies of basic foodstuffs…to sustain a steady expansion of food consumption…and to offset fluctuations in production and prices…" (UN, 1975) The 1980s saw the beginnings of concern among macroeconomists over the possibility that structural reform programs might be making the poor even poorer.[21] In 1981, Amartya Sen published *Poverty and Famines* with its discussion of hunger as the result of inadequate direct or

[21] A concern that is still very much alive in the context of "market liberalization" and "expanding agricultural trade" agendas in the Southern African region. See below.

exchange "entitlements" to food, or assets exchangeable for food. In 1986, the World Bank, on the verge of creating specific units to deal with the "social dimensions of adjustment" and "food security" published *Poverty and Hunger*, written by Shlomo Reutlinger and Jack van Holst Pellekaan which contained what is still the most widely used definition of food security: "…access by all people at all times to enough food for an active, healthy life…" In the U.S., the 1990 "Farm Bill" added the concept of "food security" as a major objective of American food aid and, in 1992, USAID issued PD-19 which officially defined "food security" for all US development programs as achieved: "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." There are now, by one count, nearly 200 distinct definitions of the term "food security" (Maxwell and Frankenberger, 1992), but any that contain reference to the need to be concerned with continually impaired access to nutritionally adequate foodstuffs by individuals or households will serve most purposes. Food security is particularly relevant to Sub-Saharan Africa because the level of poverty remains so high and because of the central maxim of Engle's Law which stipulates: the poorer one is, the greater the proportion of income spent on food. Thus, the acquisition of food in Sub-Saharan Africa consumes a greater share of disposable income and the expenditure of a greater share of human, natural, physical and financial assets than in any other region of the world.

The 1990s have evinced increasing interest in: i) nutritional outcomes, ii) greater participation by the poor, iii) the role of institutions and governance in achieving economic and social progress, iv) improved methods for measuring verifiable progress in achieving output targets and goals, v) strengthening livelihood systems used by the poor to mitigate against or cope with shocks and emergencies – both natural and man-made. Also of interest, to those focused on food security outcomes, is improving the robustness of hypotheses linking achievement of assumed food security-related outputs to improved food security status, and the methods used to measure that relationship. In this regard, Patrick Diskin (1995) has written:

> The conventional wisdom among many policymakers concerned with food security has been that high degrees of correlation exist between food availability and access, between food access and consumption, and between food consumption and nutritional status. In other words, increased food availability leads to increased access, leads to increased nutritional well-being…However, much evidence in the literature suggests that, in many cases, and for many reasons, assumptions of strong and straightforward linkages along the pathway from food production to nutritional outcomes are not well founded. Many factors, other than household food production and income, for instance, may affect rural food consumption (e.g., intra-household resource allocation resource patterns). Also, many factors other than food consumption may affect nutritional status (e.g., infectious diseases)…While there is no question that adequate food availability, access, and consumption are *necessary* conditions for attaining adequate food access, consumption and nutritional well-being respectively, there is also little doubt that the former conditions are *not sufficient* for achieving the latter. In particular, a number of cases suggest that *how* gains in availability, access and consumption are achieved may matter more than *whether* they are achieved. (Diskin, 1995:2)

It had become increasingly clear during the 1990s that however useful the concept of "food security" as an objective of policy or as a goal, it is not programmatically separable from similar concerns related to reducing poverty, raising incomes, creating conditions for equitable economic

growth, improving nutritional well-being, or the need to expand options at the household level for sustained and adequate livelihood security. No matter how approached, none of these resultant conditions has proved easy to attain anywhere in Sub-Saharan Africa; certainly not in Southern Africa. If having enough of the right types of food was a logical objective, the expanding of livelihood options has been increasingly viewed as the most viable way to get there. (Barrett, 1999; Barrett, et al., 2001)

Livelihood security is a concept that first gained currency in the late 1990s among NGOs such as CARE/USA and Save the Children/UK and has been championed since by DFID, ODI and other donors, including WFP, USAID and the World Bank. At its heart, the concept focuses on the interaction between human capabilities, physical, natural, financial and other assets and the central need to achieve economic progress (Barrett, et al., 2001). It moves away from narrow focus on production, employment and income to embrace social dimensions, vulnerability, and environmental sustainability in a development framework very much centered on discovering and building on local strengths and locally-determined priorities. (Shackleton, et al., 2000) The CARE definition is representative:

> …the adequate and sustainable access to income and resources to meet basic household needs (including adequate access to food, potable water, health facilities, educational opportunities, housing, and time for community participation and social integration)…[22]

The livelihoods of the poor in Southern Africa are both complex and dynamic "…typified by a diverse portfolio of activities that not only enhance household income, but also food security, health, social networks and savings…" (Shackleton, et al., 2000).

2.2. What Has Been Done to Improve Food Security

In the 1950s and 1960s advances in the art of plant breeding led to the development of high-yielding dwarf wheat and rice varieties which helped launch a "Green Revolution" in food production in those agronomic zones of India and Asia where these crops were technology well-adapted and produced well. Rapidly increasing food availability, together with employment-creating growth policies of governments helped lift a number of countries in the region out of the range of famines and pervasive hunger (Perkins, J.H., 1997), if not fully out of poverty. Not so in Africa. In the early 1970s, at a time when Green Revolution countries in Asia were becoming, for the first time, exporters of coarse grains, Africa entered the world's conscience with the Sahelian and Ethiopian famines of 1973. "Hunger" in Africa, its growth and trends – and the resultant level of donor resources (as a percentage of all development resources) allocated to emergency relief – have had profound impacts on development and agricultural strategies for Africa and in limiting the levels of resources available to confront the longer-term impediments to growth and agricultural development.

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[22] http://www.kcenter.com/phls/hls.htm

In Southern Africa, the advance toward food security objectives has been studded with thoughtful statements of purpose (e.g., Magwende, 1991) yet halting and inadequate progress. The Southern Africa Development Coordinating Committee (SADCC), the precursor to the present SADC, was established in 1980. The responsibilities for various elements of the region's development agenda were apportioned early on among the member states. Food security was assigned to Zimbabwe and the headquarters for food security-related research and policy formulation was established at the University of Zimbabwe. Michigan State University was selected in 1984 to provide technical assistance and training in food security research and policy formulation in Southern Africa and to help strengthen the coordination of all types of agricultural research in the region.

Initially in the early 1980s, those responsible for agriculture growth in Southern Africa were confronted by the fact that while, at least in reasonably good growing seasons, the region was able to produce enough food to cover consumption needs, agriculture production was not growing fast enough to keep up with population growth. An annual 4 percent growth rate in food production would be needed for at least 20 years to maintain then levels of consumption.. To do that, "…we must, from now on, provide our farmers with supporting infrastructure and appropriate incentives" (Mangwende, 1991). That, in turn, required cooperation across the region in removing barriers to agricultural trade and, especially, in agricultural research and its application to overcoming agronomic impediments and, in addition, to confront the factors constraining access by poor people to the food they require. The areas of greatest early emphasis were: i) the establishment of a Regional Early Warning Unit (REWU) (Masundire, 1991), ii) national crop monitoring, iii) research on issues food access and nutrition (Tagwireyi, 1991), iii) national grain marketing policies and the evolving relationship between the public and private sectors, iv) clarifying issues related to household food security, and v) maintaining a research agenda capable of informing country and regional policy makers and program implementers.[23]

As Wiggins (2003) points out, during this same period state intervention models of agricultural growth were seen increasingly by the World Bank and other donors as flawed and unsustainable, due to high operating costs, the budgetary impact of large subsidies, and heavy losses incurred by parastatals. Agricultural and food security efforts during the 1980s were heavily influenced by IMF, World Bank and other donor recommendations for eliminating subsidies, liberalizing markets and reducing the roles of the governments of the region as active players in agricultural markets. During the 1980s, the World Bank's support for development programs in Sub-Saharan Africa moved away, to a certain extent, from sector-based lending (including agriculture sector lending) and support for macro-economic reform towards efforts more consistently focused on increasing the rate at which people moved out of poverty. While growth was a necessary concomitant of sustained poverty reduction, more than growth was needed. In Southern Africa, World Bank efforts included surveys of food security status in Mozambique, Malawi and Zambia, and financing of activities in these three countries intended to reduce poverty through

[23] Much of the information used here regarding the evolution of food security concerns, institutions, organizations and research priorities in Southern Africa during the 1980s is contained in two books of edited articles – Bryant, ed.: *Poverty, Policy and Food Security in Southern Africa* (1988), and Rukuni and Wyckoff, eds.: *Market Reforms, Research Policies and SADCC Food Security* (1991).

strengthening local government capacity to analyze conditions creating food insecurity at the community level, to strengthen intermediary local implementing organizations and to improve the local delivery of low-cost, effective health and nutrition services. Other donors, particular the Nordic countries, the EU, CIDA and UNDP followed with similar emphases. Lacking in all these programs, however, was a coherent, concerted effort to strengthen the agriculture sector, in particular that part of the sector made up of poor, food insecure, smallholder households.

The emphasis in agricultural policy reforms throughout Southern Africa during the 1990s was the continuation of pressure on governments to: i) reduce the role of government as a participant in the buying and selling of agricultural inputs and agricultural production; ii) enable an environment for private firms to perform market functions, and iii) empower farmers to participate fully and fairly in markets. Each country's resultant approach and policy environment was distinct, but there were commonalities of objective, if not always of approaches.[24]

Economic growth was consistently viewed as essential for reducing rural poverty. Since the majority of the citizenries labored on small farms in agricultural pursuits, overall economic growth would, at least initially, have to come from agricultural growth. Such growth would increase incomes in rural areas which would enable increased effective demand for non-tradables from their neighbors, and tradables from urban firms and factors. This in turn would spur growth in urban employment (with lags) and increases in demand for (increasingly differentiated) agricultural products. See Mellor, (1966) for an early and cogent expression of the agriculture-as-engine-of-growth thesis and Mellor & Ranade, (2002) for a later, and econometrically more robust, version. The issue in the region (with the possible early exception of Zambia in the 1970s and 80s, owing to copper) has been not so much whether agriculture should lead growth, but how to generate high growth in agricultural production that includes the rural poor. Through the 1990s, Zimbabwe, Zambia, and Malawi all dealt with issues of where to allocate resources for research, credit, extension outreach – to the high potential areas, populated by a minority of well-off farmers or herders with extensive asset bases, or to the majority of smallholders dwelling on small plots of relatively poor land with few assets and limited access to improved inputs, extension, credit or markets.[25]

During the 1980s and 1990s research, credit availability, inputs and other forms of government attention was directed at the commercial sectors. Specific issues needing to be addressed by these governments have included:

- Increasing agricultural production in ways that spur economic growth and reduce poverty
- Helping keep the price of food affordable to the poor majority (though perhaps not to the poorest)
- Reducing high variance in availability of staple foods by use of parastatal marketing boards, price controls, strategic grain reserves

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[24] See Appendix 9 for recent country matrices of national policies influencing food security.
[25] See Renkow (2000) for a succinct discussion on this issue. He concludes agricultural research in these kinds of countries must focus on the more productive areas.

The development of "strategic" (for supply and price stabilization) and/or "food security" (for emergencies) grain reserves (both termed SGRs) has been a much discussed and analyzed issue with differing outcomes in the countries of the region. Since the severe Sub-Saharan African droughts of 1972-73, many African countries have established SGRs – government-held stores of staple grains (usually maize in Southern Africa) used for either price stabilization or for emergency transfers, or both. In some cases, the reserves are abetted by cash "reserves" immediately available for domestic or international staple grain purchases in emergencies. The issues have been many but they can be boiled down to: How large? How financed? How managed? How effective? Some economists argue that while they may be necessary, such reserves should be kept to the smallest size possible and used only for emergency relief. When used to stabilize grain prices, they interfere with market signals and supply and demand responses to those signals. When they are too large, and the grain they contain is not needed because national supplies are adequate, they can become an expensive liability, creating pressures to sell SGR grain into national or international markets when these markets are, by definition, saturated. As such, SGRs can become pro-cyclical and counter-productive, i.e. performing in a manner contrary to their supply or price stabilization mandates.

The concern for "just the right size" is complicated by variance in international market responses to supply shocks in the country in question. An SGR might, for example, be designed to enable provision of, say, 1000kcal/day of maize (about 300-350 grams per person per day) for, say two months for, say, half the estimated rural population. If a drought should cause total loss of production by 3/4ths of the rural population, and if on-farm carry-over was less than normal, the country would have to order, have transported, and have delivered to the communities of the food deprived rural population a large amount of imported grain within two months. Sometimes – perhaps even much of the time – normal commercial processes require more than this amount of time. On the other hand, if SGRs are larger, containing the equivalent of 3 or 4 months of presumed emergency needs in an "average" one-year drought, costs mount, management requirements are higher, and the ultimate disposal of aging stocks without disruption in periods of ample domestic production and low producer prices is an even bigger headache. Simply put, there is no easy-to-follow rule book governing the size of a national SGR and the conditions for buying, selling, or transferring of its grain or cash resources. The aforementioned Malawi problem in 2002 is a grim case in point.[26]

There is much interest in the possibility that careful investments in grain futures markets (in South Africa, elsewhere in the region, or in global markets) might provide a fairly inexpensive method for insuring against future grain supply failures at the national level. This may be so. Such instruments are presently used successfully in South Africa and Namibia and have previously been used in Zimbabwe. They are universally used in developed countries to hedge commodity trading risk. The option as a form of insurance against future food shortages should be seriously studied by all countries in the region.

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[26] FAO's "Agriculture Services Bulletin No. 126" (FAO, 1997) distills the basic requirements for establishing and managing an SGR in an African setting. For those interested, it should be required reading. The issue of whether there could be an effective regional strategic grain reserve is addressed, briefly, in Section III.

2.3. Women's roles in agricultural development

Women are disproportionately important in African agriculture yet they have secondary social and legal status in Sub-Saharan Africa's generally male-dominated societies, in agriculture as in other spheres. The general pattern is that men control the allocation of land and labor for food- and cash-crop production and the derived outputs. Women's labor is used to produce cash crops as well as food crops, although men typically control revenue from the former. Marketing food crops for cash for household needs is mainly women's work but, as the primary household authority, men ultimately control that activity also. Animal husbandry is, characteristically, a component of livelihood systems for many households and another area of responsibility for women. Women are typically responsible for small livestock but they also help care for the large livestock that men control. Processing and marketing milk products is primarily women's work. Men and women as individuals often have "separate, sometimes competing, own-account activities" (Mukhopadhyay and Pieri, 1999). Women's social status puts them at a disadvantage in this competition. Childcare and women's related responsibilities tie them to the home and income-generating activities linked to farming, such as food processing, marketing, and wage labor. Men often seek off-farm wage labor outside the agricultural sector, leaving the household farm in the hands of wives and other extended family members.

Women generally do not own, inherit, or control land in Southern Africa; customary law gives these rights to men through patrilineal inheritance (FAO, no date; Saito, 1994). In SSA women have usufruct rights through male relatives by blood or marriage; widows' land tenure is insecure and often is claimed by the husband's family. Modern land reform and tenure laws do not necessarily benefit women as they often are biased and may be unknown or ignored in favor of customary law in rural areas. Colonization did not improve women's land-rights, since it allocated "new lands to white male settlers and then black African males but never [to] women" (Saito, 1994). The modernization of landholdings, including the privatization of traditionally communal land, has "led almost exclusively to the transfer of land rights to male heads of households" (FAO, 1995). Land reform most often gives titles to men "regardless of women's economic contribution to the household, their customary rights, or the increasing number of women heads of households" (FAO, 1995; Brown et al. 1995; FAO, no date). Tanzania's modern distribution of village land gave all rights to men: "no provision was made in the law for widows, divorced or separated women" (FAO, 1995). As late as 1995 Tanzanian women did not have the rights to land ownership or inheritance. Zimbabwean women's access to communal land was problematical, even though 60 percent of the households in communal areas were women-headed. Namibia's marriage laws limited women's access to land and credit (FAO, 1995).

Insecure land tenure can create many problems for women. Lack of control over the primary resource in an agricultural economy is a fundamental cause of their marginalization from other resources of production. The fact that men control the parcels that women use means that their investment in natural resource management is seen as hardly worthwhile. Ultimately it would accrue to men. Women's limited investment in NRM is logical, given multiple demands on women's energy and the high priority of producing food crops. Women also lack the resources – time, money, inputs – to invest in NRM in their fields. This leads to mining a key natural resource

– the soil – and resultant reductions in fertility and yields. FAO (no date) notes that secure tenure would allow women "to invest in, rather than exploit, the land's productive potential and [make them] more likely to adopt environmentally sustainable farming practices."

Control over land often is linked to control over important decisions such as crop choice, production methods, and the allocation of products to marketing and household consumption (FAO, no date). If women had rights to land and could make decisions regarding its use, household food availability might well improve – at least in the near term – since women focus mainly on food crops and tend to spend income on food and household needs more consistently than men (FAO, no date; Brown et al., 1995). However, men usually control the decisions concerning agricultural production, although women's control increases in their absence (FAO, 1995). "In Zimbabwe, in male-headed households, men dominate all decision making…" When they are absent their wives have "substantially more decision-making power than those with husbands on the farm... [although] the absentee husband still generally decides on how much crop to sell and on the use of money from crop sales" (FAO, 1995). Women's control over agricultural production in Namibia "may well be increasing" as men consistently seek off-farm employment (FAO, 1995). Decision-making in parts of Tanzania apparently is shared, "with men dominating slightly in those cases when it is not" (FAO, 1995).

When women own land they own smaller amounts that are less productive (FAO, 1995; Mukhopadhyay and Pieri, 1999). As population pressure has decreased the amount of productive agricultural land that is available women are given even smaller plots (Saito, 1994). Only one-quarter of Tanzanian women own land and their landholdings are about three-quarters the size of men's (FAO, 1995). In the mid-1990s women owned only 3 percent of the land in the small commercial sector in Zimbabwe and only 10 percent in the large commercial sector (FAO, 1995). Women use less organic and inorganic fertilizers than men. Studies in Malawi showed that most women did not use inorganic fertilizer because they could not afford it. The average female-headed households used two-thirds the amount used in male-headed households (Mukhopadhyay and Pieri, 1999).

On average, African women receive less than 1 percent of the credit available for agriculture (UNFPA, no date). In five countries (Kenya, Malawi, Sierra Leone, Zambia, Zimbabwe) they received 1 percent of all agricultural credit and less than 10 percent of credit for small-holders (FAO, 1995). In 1992 only 15 percent of the membership of Tanzania's formal rural savings and credit associations were women (FAO, 1996). Obtaining credit "remains the biggest barrier" to improving production "for small holder farmers and women in particular" (Mukhopadhyay and Pieri, 1999). Not owning land leaves women without the most common form of collateral in rural areas and often bars them from joining associations that facilitate access to credit. Other factors that limit women's access to credit include the fact that rural loan agencies generally do not favor small-holders and food production and that they often need men's signatures on legal contracts (IFPRI, no date; FAO, 1995). Additional reasons include women's high rates of illiteracy, their lack of legal rights to make contracts, lack of knowledge of credit programs and procedures, and lack of time and transportation to go to the urban centers where credit programs usually are located (FAO, 1995). NGOs and women's associations have worked to improve rural women's access to

credit with some success. In Zimbabwe the proportion of women among all those who received credit increased from 11 percent in 1982 to 32 percent in the mid-nineties (FAO, 1995).

Extension services are another resource that is lacking in women producers' lives. These services are male dominated and generally target men more than women, cash crops more than food crops, and larger farms rather than small-holders (IFPRI, 2001a). "Lack of access to information is one of the biggest constraints that restrict women farmers' effective participation in agriculture in Sub-Saharan Africa." They need technical assistance to overcome their production constraints, but as subsistence farmers they often are considered tradition-bound and "non-adopters" (Mukhopadhyay and Pieri, 1999). Cultural norms may constrain women producers' contact with male extension agents and even limit their attendance at learning sessions (Mukhopadhyay and Pieri, 1999). Women's lack of technical assistance is counterproductive as the "gross value of output for farmers who had contact with extension agents [in four countries in SSA] is higher than for those who did not," and the women had significantly less contact than men (Saito, 1994). In addition, research indicates that women extension agents are more effective in transferring technology to women producers, but only 3 percent of the agents in SSA are women (Brown et al., 1995).

2.4. Donor programs in recent years

Another team is preparing a report on donor programs in the region. That work is not repeated here. However, brief mention is made of work underway within the framework of the Poverty Reduction Strategy Paper process and the increasing emphasis on livelihood security as an objective of donor and government policy. Several countries in the region (See Appendix 8) are participating in the World Bank/IMF PRSP process. Countries who are in the Heavily Indebted Poor Country (HIPC) category can qualify for debt reduction and poverty-focused donor financial support by preparing PRSP programs developed in a highly participatory fashion with all sectors of civil society, NGOs, donors and government. Such strategies are underway, or are in preparation, in the DRC, Mozambique, Malawi, Tanzania and Zambia. In all cases they are focused on implementing actions that: i) reduce poverty through economic growth stratagems, ii) improve governance, iii) increasing popular participation at all levels of the development process, iv) raise the participation and social esteem of women, v) reduce food and nutrition insecurity, and vi) promote livelihood security.

Much effort has gone into the early stages of PRSP preparation and activities under the PRSP umbrella are only now getting underway. The success of these efforts is not guaranteed, however, as donor, government, and private financial and skill resources are scarce and the objectives will be difficult to achieve. There have been criticisms that "fighting poverty becomes the newest justification for aging prescriptions geared to increasing the overall opening of the 'host country' to external economic actors and free market rules" (Guttal, et al., 2001). Most of such criticisms echo the theme that the PRSP process is "old wine in new bottles."

2.5 Trade

Official intraregional agricultural trade probably accounts for about 20-25 percent of total trade[27] in Southern Africa. If non-recorded cross-border trade were to be included, the figure would probably rise to 30-35 percent of all trade occurring intra-regionally.

The possibilities inherent in liberalized trade among SADC member countries have been much discussed (Maasdorp, 1998; Saasa, 1998; Weeks & Subasat, 1998) and measurable progress was made during the 1980s and 1990s. There have also been several studies of the advantages inherent in expanding trade between the Southern African countries and the outside world. There are many food security-related and livelihood security-related reasons to do so. Expanded trade can lead to increased employment opportunities in economic sectors where the region may have comparative advantage. There are a number of niche crops and products which can profitably be grown in the region and sold elsewhere in the world. Cashews, tea, groundnuts, spices, and, from time to time, staple cereals are examples. There are many others, actual and potential. Weeks & Subasat (1998) conclude that the potential for trade within SADC and with nearby east African countries has been underestimated. Part of the task of increasing such trade would be dismantling of the high and complicated tariff barriers on agricultural products between countries of this enlarged trading bloc. "A quick movement toward a common external tariff and a near-zero internal tariff could have substantial trade-inducing effects (p.87).

Maasdorp (1998) also argues that expanding trade within the region would have a substantial positive effect in inducing increased food security status among the poor in the region. He notes, that while shipping high bulk, low value crops like maize over long distances may not be the full answer, the maize producing states have the advantage that they produce – and the region consumes – white maize while the rest of the world trades yellow, an inferior product in terms of Southern African taste preferences. The most efficient producers of white maize in the region would be able to serve a larger internal market, reducing costs, and prices, for white maize. Subsistence producers in the less efficient maize producing areas could take advantage of lower consumer prices for white maize and shift their own production to other, hopefully higher value, crops or shift into non-farm livelihood choices. Such a move into heightened levels of annual trade intra-regionally would require much improved marketing, pricing and transport systems than are now in place – not easy hurdles to overcome.[28]

A substantial stumbling block for a major expansion of Southern African agricultural trade is the present policy in low-cost developed country agricultural systems of large and, frankly, unfair producer subsidy regimes found particularly in the U.S., the EU, and Japan. Farmers in these countries are presently encouraged by subsidy programs to grow more than their domestic markets and normal trade would consume at non-subsidized prices. The result is pressure in these highly efficient producing countries to find new markets for all that grain by selling at prices lower than actual costs of production. The result is large-scale "dumping." As Suppan (2003) argues:

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[27] *International Herald Tribune*, November 29, 1999
[28] See Appendix 17 for additional discussion of intra-regional trade.

"dumping is a gross distortion of commodity markets that undermines the livelihoods of the 70 percent of the world's poorest people. We have the means to address agricultural dumping. It is now up to the governments to act." Later in that recent Harvard address Suppan also lamented:

> To add insult to injury, in February, the 25th anniversary conference of the International Fund for Agricultural Development noted that within the overall decline of official development assistance of the past two decades, the share of ODA devoted to agriculture and rural development has declined by 50 percent between 1988 and 1999. So neither agricultural trade nor aid is having large-scale positive effects for development.

Present wrangling in the WTO with regard to global agricultural trade is well beyond this paper to unravel. Of particular concern to potential Southern African agricultural exporters is the EU's apparent hard line on phytosanitary and GM agricultural products. Otsuki, et al. (2001) determine that proposed phytosanitary regulations in the EU, regarding levels of allowable aflatoxin in agricultural imports would reduce health risk by approximately 1.4 deaths per billion per year at a cost to African agricultural exports of $670 million compared to what would be imported under prevailing phytosanitary regulations. These are potentially very serious consequences. A tough stance on these issues among European governments could foreclose a considerable share of potential agricultural exports from all countries in the region save, perhaps, South Africa itself.

The countries of Southern Africa have over the years developed, or participated in, a number of overlapping trade agreements. These include: i) the General Agreement on Trade and Tariffs (GATT), ii) the World Trade Organization (WTO), iii) the Southern African Customs Union (SACU) between South Africa, Botswana, Lesotho, Namibia, and Swaziland, iv) the Common Market of Eastern and Southern Africa (COMESA) including countries from Egypt south to South Africa,, v) the Lome Agreement which until recently covered preferential trade between the EU and a large number of African states, and vi) the SADC Trade Protocol initially signed in 1996, revised in 2000 and awaiting final ratification. The present status of these agreements and conventions is complex and beyond the scope of this report. Suffice to say, that, as a matter of principal, Southern African governments generally favor increased trade ties with each other and with the outside world and that, to the extent that expanded trade occurs, it is believed to work to the advantage of the food insecure poor. There are several corollary issues however and these are taken up in the next subsections of the paper.

The total percentage of the food insecure poor who are engaged in growing cash crops for export is a very small percentage of the rural population. The belief is that expanded trade would create many more such opportunities for food insecure households. Winter (2000) cautions however:

> Trade liberalization is generally held to have long-run benefits, but, as we teach our undergraduates, it more or less requires adjustment in a country's output bundle to achieve them. If adjustment is costly it could lead to periods of decline and / or poverty before things get better. (p 43)

As was the case in the 1980s and 1990s with liberalization in Southern Africa, there may be hidden traps in a full-scale advance toward freer trade that might have near- and medium-term adverse impact on the food insecure poor in some countries. Proceed with care.

2.6. Problems with an agricultural-trade food-security strategy

In addition to the points raised in the too-brief history of regional trade earlier in this section two problems confronting the region require further discussion. They relate to agricultural research, and biotechnology.

2.6.1. AGRICULTURE RESEARCH

Agricultural research in the region has under-served the smallholder sector by favoring cash crops, commercial farmers, and the more productive geographic areas. Renkow (2000) argues, however, that this may not be a bad thing, and that, as a general matter, agricultural research serves a poverty-reduction agenda better when it is directed to the agriculturally-favored rather than the agriculturally-marginal areas, even though the poorest people inhabit the latter. The authors argue that the results of successful research will, almost by definition, have a lower impact on production and incomes in marginal areas than will like research results enabling a more rapid and pervasive positive response in favored areas. "…spillover effects, operating through factor and product markets…tend to be larger when they emanate from favored areas." (p.476). Furthermore, investments of equal financial resources in infrastructure and institutional reforms may well, Renkow posits, generate substantially larger and more rapid benefits to the inhabitants of marginal areas than would investments in agriculture research in those areas – particularly "…where non-agricultural sources of income are relatively important."

Given the findings of Bryceson, Barrett and colleagues cited elsewhere that the food insecure poor throughout the region are moving rapidly into diversification of livelihoods outside of on-farm subsistence production, Renkow's assertions deserves careful consideration by those favoring large-scale increases in funding for agricultural research focused on the products of these marginal areas.

The special case of seed policy should be mentioned here because it bridges concerns related to the role and extent of agricultural research in the region and the next issue relating to the global "earthquake" in biotechnology and genetically modified (GM) agricultural products.

An ICRISAT team of experts has recently reviewed seed policy options in Southern Africa. In their presentation to the FANRPAN regional policy dialogue on March 26-27, 2003 on agricultural recovery, trade and the food security, Rohrbach and Mgonja highlighted the following weaknesses in regionalized (national and international) seed sector development:

- Limited multiplication of open and self-pollinated varieties of food crops (concentration on hybrids and cash crops)
- Limited reach of retail seed market into rural areas
- Limited seed security stocks

Despite these limitations, a case has been made for regionalizing the seed sector as an option for improving productivity through better crop varieties. It is argued that such an endeavor can speed up the release (or registration) and distribution of new varieties leading to faster adoption, quicker

production and larger income gains. The availability of better seed on the regional market could improve responsiveness to current and future droughts. Moreover, the ICRISAT team suggests, regionalized release allows a more efficient allocation of research resources and makes it possible for crop breeding via national agricultural research services (NARS) and regional programs to concentrate on location specific needs (i.e., specialized breeding and crop management). Regional economies of scale in crop breeding research would enable NARS to specialize in breeding different crops based on comparative advantage; for example, Tanzania could specialize in sorghum, Malawi in groundnut, Mozambique in rice, Namibia in pearl millet and South Africa in Sunflower. Such specialization could eventually encourage development of a strong regional seed market.

2.6.2. BIOTECHNOLOGY

There has been considerable attention devoted to the GM (genetic modification) issue, both as it affects commercial or donor-provided food imports and the potential for future export of genetically-modified crops from the region to external markets. There are many in African governments concerned about the potentially harmful implications of germplasm research in Africa while at the same time interested in the potentially beneficial rewards in the development of modified foods with desirable characteristics (e.g., cotton resistant to pests, cereals with added nutrient content or reduced moisture needs). Falcon & Fowler, (2002) remind such individuals that few indeed are the countries that have functional food systems based on genetic resources of purely indigenous origin. The authors, however, warn of four trends in the emerging GM industry interacting in ways that give cause for concern: i) new provisions on intellectual property, ii) increased concentration of new enabling technologies in a few, large, multinational companies, iii) heightened anxieties over transgenic crops, and iv) new problems rising from international agreements.

The first problem relates to the number of new patents issued in the U.S. in the period since 1996-2001 compared to earlier periods. For example, in the 10-year period 1981-1990 a total of 344 patents were issued containing both the terms ‘corn’ and ‘gene.’ In the 5-year period 1996-August 2001 a full 5,074 patents were issued with this same combination of descriptors – all to cover genetic modifications to corn germplasm. (Falcon & Fowler, 2002:201). For the important modification of vitamin-A enhanced rice, for example, dozens of patents were issued. Access to genetic resources previously in the public domain is now increasingly restricted in order to prevent these items being patented by private companies. This means that stricter limitations on public sector use of these previously public materials is now seriously impeding agriculture research related to developing country crops.

The second problem involves mergers and takeovers of small research companies to the point now where a half-dozen major firms[29] hold most of the key patents on germplasm. This, in turn, is directing crop research along avenues of greater profitability to the firm holding the patent. It is no accident, the authors note, that two of Monsanto’s earliest seed products, Roundup Ready™ corn

[29] Monsanto, Aventis, DuPont, Seminis, Dow Chemical and Syngenta.

and soybeans, were linked to the company's major herbicide. (p.205). There is a point of considerable concern to Southern Africa in the implications of these trends:

> …these circumstances pose serious difficulties for the poorest countries of the world. The use of biotechnology on major crops is becoming increasingly difficult for them. This point is of great concern where breakthroughs are needed and where dietary dependency can be high—for example more than 50 percent of calories come from maize in several southern African countries. Most of these nations have small GDPs and they also rely disproportionately on non-hybrid, tropical and 'poor people's' food crops of little concern to major plant biotechnology companies—crops that will receive little attention from the private sector. Further, these countries typically lack the trained scientists needed to use or develop new technology. (p 206)

Thirdly, the "transgenic battles" concerning the safety or "morality" of transferring genetic materials from one species to another now has come to involve many developing countries. A total of 44 million ha (i.e., twice the size of the UK) is now planted to such crops. One issue is whether developing countries will be allowed to make their own decisions regarding whether or not their people will be able to consume these crops. A second decision relates to whether developing countries which decide to grow these crops will be able to find markets for them in countries in both the developing and developed worlds presently restricting or prohibiting their importation, e.g. the EU (Paarlberg, 2002). These are difficult issues which will not be resolved in the near term. They have a major impact on decisions by any Southern African country as to whether to import or grow and export genetically-modified agricultural products. The need to confront this and related issues in the near future (and the inadvisability of delay) is underscored by Scones (2001:36):

> …all commentators agree that sub-Saharan Africa is the region least able to deal with the consequences of declining yield growth and the prospects for increasing world food prices, especially given the declining availability of food aid.

There is certainly need for SADC to attempt to develop consistent region-wide policies on these contentious issues in the near future.[30]

2.7. The present situation

As noted, something like half the population remains at risk from factors causing chronic food insecurity. Primarily, they constitute subsistence farming households unable to grow enough food or exchangeable agricultural production to provision themselves through the marketplace. To a very large degree they are also HIV/AIDS-afflicted. The nexus of causative factors discussed in Section I remain, to a very large degree, unabated. The history of attempts to confront food insecurity over the past three decades in the region is one of numerous programs, projects and activities aimed at increasing agricultural production, rural economic growth, more extensive primary education, attempts to increase the effectiveness of basic health and nutrition services and attempts, on many fronts, to restructure policy frameworks at the national level – and to a more

[30] Another good source to review on these and related biotechnology issues is Pingali & Traxler (2002).

limited extent at the regional level – to increase food availability and through improved returns to the factors of production available to the rural food insecure poor. Taken as a whole, they have proved inadequate. Production has failed to show any significant growth over the past 30 years (Clay, et al., 2002; Abalu and Hassan, 1999). The number of food insecure poor in the region has grown.

The long-term causes are, to date, insufficiently addressed. Economic growth has been stagnant. Agricultural production has not kept pace with population growth. Sufficient jobs have not being created in either the rural or the urban sectors. Governments are strapped for resources, revenues are inadequate. Overall, long-term causality of high levels of household food insecurity and poverty has not been adequately addressed, because of insufficient resources, poor planning/implementation, or both. The capacity to respond to short-term emergencies, too, has been inadequate and the ability to better confront the causes is still largely lacking.

The present 2002/03 food emergency situation seems to be improving, assuming the continuation of improved rainfall.[31] Nonetheless, there is a wide diversity of relief and rehabilitation underway which is likely to continue for some time. A brief perusal of the most recent postings on the UN/OCHA website[32] provides a sampling of these operations in the region:

- Angola—demobilized soldiers and their families requiring feeding operations until they can begin new lives.
- DRC—widespread violence in the eastern regions; danger to food aid personnel; and looting of food aid stores.
- Lesotho—some emergency distribution still underway; considerable relief—especially to HIV/AIDS-affected households and in the context of the on-going school feeding program—still being provided.
- Malawi—WFP organizing beneficiary database to improve relief targeting; reorganizing of food distribution underway; planning for next year's distribution underway.
- Mozambique—food distribution is on-going; FFW programs are underway in rehabilitating irrigation systems destroyed in the flooding.
- Swaziland—modest food distribution underway; government is promoting planting of drought-tolerant crops such as cassava, as maize crop has failed for three successive planting seasons.
- Zambia—local area flooding continues, feeding of refugees, orphans, displaced also continues
- Zimbabwe—food security situation seems to be improving, but *quelea* birds and insect infestations are a problem; government price controls remain in effect; the Grain Marketing Board (GMB) faces serious transportation problems in delivering food to distant food insecure areas. Political disarray continues to hamper recovery and shades prospects for long-term recovery.

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[31] See Clay, et al. (2002) regarding the influence of ENSO and El Niño events and their likely impact on the 2002/03 growing season.

[32] http://www.reliefweb.int/w/rwb.nsf

Relief and rehabilitation efforts such as the above are likely to continue – and to absorb substantial financial, food and technical skill resources well into the future. Given that these food crises are occurring in Southern Africa with apparently increasing frequency, there is debate over: i) how to better predict, mitigate and respond to them in the future; ii) what might be done to reduce their frequency and severity; and iii) how to reduce the vulnerability of the peoples in the region to their devastating effects. While, for the most part, relief, rehabilitation, and the transition to development activities are the domain of national governments, donor agencies and NGO agencies, there remain a number of disquieting issues still to be addressed, some of regional scope.

The 2201-02 food crisis, like those before it, occurred for a number of reasons which varied in magnitude from one country to another. Oxfam staff (2002) suggest "…climate, bad governance, HIV/AIDS, unsustainable debt, collapsing services…and the failure of agricultural policies" as major causes, and ask the question: "…why, they ask, after years of World Bank and IMF designed agricultural sector reforms, do Malawi, Zambia, and Mozambique face chronic food insecurity?" The authors assert that part of the answer is that donor-imposed sector reform packages which were put into place without having first undertaken serious assessments of their likely impact on poverty and food security. The reforms were intended to replace inefficient and corrupt state intervention in agriculture with private sector entities. Without questioning the overall need for many of these reforms, Oxfam suggests "the 'one size fits all' liberalization approach failed to deliver the intended improvements, or growth. They have, instead, "..exacerbated the exclusion of the poorest from the market whilst further undermining their food insecurity." The Oxfam report recommends: i) mandatory impact assessments before proceeding further with liberalizing reforms in the agricultural sector; ii) better efforts at ensuring food security, including food reserves in Zambia and Malawi that are not in the private sector and that focus on food security; iii) reconsideration of the appropriate roles that governments must play in market reforms; iv) improved timeliness by donors in delivering food aid; v) suspended debt repayments; inclusion of a 'Development Box' in on-going WTO Agreement on Agriculture discussions; and vi) the end of agriculture export 'dumping' by the EU and the U.S.

The other side of the debate – the World Bank, IMF, and similarly minded donors – might well respond with questions of their own: Were these reforms the wrong thing to do, or were they just done poorly, or too slowly? Was the theory wrong, or did the problems reside in less-than-perfect implementation? Would not the food crisis have occurred, no matter what agricultural policies were in place? Is not this really a problem of where to place safety nets and making sure they work well, rather than deriding needed reforms and they way they were introduced? Further, the Bank would almost certainly argue, the IFIs have been vitally interested in economic growth that is focused on poverty reduction at least since the 1990 World Development Report on Poverty made it official World Bank policy. The 2000/01 WDR *Attacking Poverty* states "We at the Bank have made it our mission to fight poverty with passion and professionalism, putting it at the center of all the work we do." (World Bank, 2001:v) There is ample ammunition on both sides of these arguments and they need to be argued. The overriding issue remains, however, what should be done to improve household food security in the near and in the long term in Southern Africa?

2.8. Options for improvement of food and livelihood security

Food and nutrition insecurity remain major attributes of the poor majority in Southern Africa. Even though much has been done and said about reducing the incidence of food insecurity, malnutrition, and the pervasive poverty that maintains them, inadequate progress has been made. If NGO, government, and donor pronouncements of the past few years are to be given credence, the effort to reduce food insecurity will continue and a "livelihoods" approach will be a principal vehicle – in the context of recast economic reforms – to begin to make measurable progress in the lives of the food insecure poor. What will that mean?

2.8.1. AGRICULTURAL GROWTH AS THE CENTERPIECE OF REGIONAL DEVELOPMENT

If one assumes that the Mellor and Ranade thesis on the importance – and *structure* – of agricultural growth to overall economic growth holds, then focusing financial and TA resources on revitalizing agriculture in much of Southern Africa becomes the heart of a strategy for pursuing growth and improving livelihood security and, through these approaches, food and nutrition security in the region. A number of studies add support to this agriculture growth-led approach. As Anderson (2001:13) points out, based on work by Block and Timmer (1994):

> …in Kenya the multipliers in agriculture are about three times as large as in nonagriculture. The reason is that incomes generated through agricultural growth are to a larger extent spent on locally produced goods and services. The multiplier effects had worked out within four years; the size of the agricultural multiplier is 1.64 and for nonagriculture 1.23. This means that a dollar increase in agriculture's income generated a further 64 cents in the next four years; and the corresponding figure for nonagriculture was 23 cents. Note, however, that the percentage impact of growth on non-traded sectors will be much larger as they constitute a smaller share of the economy.

Danielson (2001) suggests, however, that such an approach has much stronger impact in the medium term than in the short term because the powerful indirect poverty reduction mechanisms reside in market-based multipliers that take time to operate via factor and financial markets in addressing "growth-hampering" income inequality, gender inequality, and skills development constraints. Thus, while a strong focus on agriculture-led growth is almost certainly the correct basic approach, something more is needed to improve the lot of the food insecure rural poor during the period until these multipliers are operating to full effect in ways that reduce food insecurity. That "something" is an added effort to strengthen livelihood security among at risk, vulnerable rural poor households.

2.8.2. DIVERSIFICATION AND ASSET CREATION WITH A LIVELIHOODS FOCUS

Assuming decisions are made to focus on agriculture-led growth, the next issue is how best to involve the rural food insecure poor at an early stage. Under the Mellor paradigm, the outcomes of agricultural growth reduce the levels of rural poverty rather slowly, i.e., over a 6-8 year time frame operating largely through factor and product market channels.

What, then, can be done in the interim for the least efficient (because of lack of assets – primarily land and inputs) agricultural producers? The livelihoods approach would seem a near-perfect answer. Bryceson's (2000) work cited earlier reveals that anywhere from 50 to 80 percent of the income of the rural food insecure poor now stem from non-farm sources and that these households are already deeply engaged in diversification as a means of accumulating assets of all types: human skills assets, land assets, livestock assets, productive physical assets and stored value assets. Barrett (1999:1) states:

> Assets, broadly defined, form the foundation of food security. Someone with cash can purchase food, even in their crop fails. Someone with land and appropriate production technologies can grow their own food, even when markets are disrupted. Someone with a strong supporting network of family and friends or access to government or private charitable support can obtain food even when they're penniless and landless. Stocks of financial, natural, manmade, and social capital empowers individuals to manage risk so as to prevent vulnerability. Vulnerability goes hand in hand with asset poverty

The near-term approach for achieving improved household food security within a longer-term agriculture-led growth strategy thus becomes one aimed at assisting the food insecure poor to create productive assets of many types. Particular importance is assigned to those spurring and perpetuating agricultural growth. A livelihoods approach, utilizing community-based and NGO intermediaries for the most part, is at the center of the effort. The near and medium-term objectives would be: i) increasing community participation in preparing local development plans; ii) making use of social action funds, food-for-work, and other sources of finance in implementing community action plans; iii) designing and implementing asset-creating activities within these plans such as reforestation, small-scale irrigation works, local rural road rehabilitation and maintenance, gully interdiction, hillside terracing, small pond construction, shallow well construction, stream and seep diversion and water capture schemes, compost pits, latrines, and other public works programs whose priority is determined by community action and whose work assignments are made and managed by the community.

The second element of such a near-term strategy would be to generate greater collaboration and eventual cooperation among smallholders in economic endeavors. The model here could be the highly successful ACDI/VOCA NASFAM program in Malawi[33] which began in the mid-1990s as a project to assist smallholder tobacco clubs in marketing their tobacco more efficiently. By 2002 the project had helped create a national farmers' association with 93,000 smallholder household members growing and selling a wide variety of export cash crops generating high returns to the members. The secret has been in getting farmers to cooperate with their neighbors in ways that reduce production and transaction costs, increase quality and uniformity of the products and increase marketing margins. It is worth noting that there is relatively little in the literature of income diversification scenarios that discusses the potential effectiveness of local cooperative action among individual smallholders around local economic and marketing issues. There should be much more attention to this approach.

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[33] The reader is referred to the following website for a summary description of progress under this important project: http://www.worldbank.org/poverty/voices/globcoal/grassroots/nasfamcs.pdf

In another example of a livelihoods approach that works, this one from Mexico, Farías (2001) describes a livelihood diversification activity focused on smallholders growing and exporting a large and diverse group of exotic and non-traditional crops including vegetables, fruits, nuts, spices and medicinal plants all aimed at filling market niches for high value, low volume commodities. The project was able to exploit Mexico's broad biodiversity. The government provided support, but success was largely accomplished via the private sector. The farmers made contact with exporters or other buyers at exhibitions. Of participating farmers, 82 percent established commercial links, and were selling their exotic products through these links, mostly initiated at these exhibitions. The average participating farmer increased annual income by 54 percent as a direct consequence of such participation.[34]

2.8.3. WORKS PROGRAMS

Earlier discussion has strongly suggested that household vulnerability to shocks is reduced by diversifying livelihoods. In particular cases, this can be accomplished or facilitated through public, NGO, and/or community-sponsored public works programs triggered into action when livelihoods fail, access to food fails, and chronic and/or acute/transitory food insecurity exceeds a pre-determined trigger level. In this regard, it should be remembered that such "shelf" food-for-work programs (often referred to as "employment generation schemes – EGS) have formed the heart of the Indian government's successful efforts to prevent famines, beginning with the Maharashtra famine response program in 1972-73 (Drèze & Sen, 1989:68). There is mixed history with FFW in Sub-Saharan Africa, but there are numerous examples in the evaluation literature (Riley, et al., 2002; Barrett, 2002; Sharpe, 1999)[35] illuminating long-term successes in physical asset creation at the community level accomplished in FFW programs. Such asset creation lies at the heart of a livelihoods-based food security strategy. The issue with FFW, as Humphrey, (1999?) And Sharp (1999) point out is difficulty in targeting benefit incidence directly on those among the food insecure poor who are in greatest need of the food commodities. This is particularly difficult in emergency relief operations.

2.8.4. CONFLICT AND "FRAGILE STATES"

Another problem affecting the ability to achieve desired food security outcomes relates to continued propensities in some places in Sub-Saharan Africa for significant, widespread, often lingering, conflict and violence. Most of the countries in the Southern Africa region are, with the possible exception of South Africa and Botswana, "fragile states"[36] – or, in the case of DRC, a "failing state" as defined by Zartman (1995). Angola may be heading back from the "failed" category. Mozambique has moved back during the 1990s from "failed" to "fragile". Nonetheless

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[34] See Appendix 10 for a listing of crops and products.

[35] The summaries of WFP's evaluations of its emergency and development food aid operations, including FFW activities, can be found at: http://www.wfp.org/index.asp?section=7_1

[36] Zartman, William I., ed. (1995) *Collapsed States: the Disintegration and Restoration of Legitimate Authority*. Rienner Publishers, Inc.: Lynn MA. Fragile states are those at low levels of development, particularly those with weak governmental controls and susceptibility to corruption. They are more vulnerable to various types of shocks – political, ethnic or religious violence, gangsterism, political coups, and natural disasters – than are countries with more robust political institutions, capable, at a minimum, of offering acceptable levels of physical security for their citizenries.

there are real issues regarding the extent to which the governments of failing or failed states in the region have operational "policy levers" effectively connected to economic issues of concern to food insecure households in remote areas. Increasingly, as Africa is dotted with geographic entities where basic government services and responsibilities such as provision of physical security are not provided (the eastern DRC, parts of Burundi and Rwanda, Somalia, Liberia, Sierra Leone, Southern Sudan, perhaps Côte d'Ivoire and substantial tracts of several other African countries) the failures of governance adversely impact food and nutrition security and greatly complicate efforts to reduce primary causes of poverty and severe food insecurity. In such countries it is virtually impossible to engage in the type of agricultural growth of the type required to attenuate the causes creating conditions of chronic food insecurity. Humanitarian relief with the possibility of providing assistance to households and communities in relatively more secure areas enabling increased food availability is, in most cases, the limit of what is possible, particularly in failed states.

2.8.5. HIV/AIDS

There is broad consensus that HIV/AIDS must be addressed as a complex development issue and on a massive scale. Given the systemic impact of HIV/AIDS on households and communities, addressing it as a means of protecting rural livelihoods is an appropriate element of a food security agenda. Piot & Pinstrup-Andersen (2002) make two useful points in terms of framing mitigation strategies: HIV impact assessments should be a standard element of program design, and one must "take action on a scale commensurate with the epidemic. The time for pilot or demonstration projects is over. By delivering responses that are rooted in communities, we build to the scale of response required." Mitigation, prevention, and care for HIV/AIDS are complementary and all three should be integrated into strategic programming to address this multi-faceted problem. The conventional distinction between treating HIV/AIDS as a health problem (preventing infection through behavioral change) or addressing it as a development issue (mitigating its socioeconomic impacts) should be replaced by integrating the two. In short, programs that promote sustainable livelihoods also can promote HIV/AIDS prevention, as they help people and nations build the economic and food security necessary to avoid the risky behaviors, environmental degradation, and undernutrition that underlie the epidemic. "Interventions need to be designed and assessed not only in terms of their ability to mitigate the current impacts of HIV/AIDS, but also in terms of their ability to reduce susceptibility to future infection and vulnerability to various types of impact" (Gillespie, Haddad, and Jackson, 2001).

The key recommendations for sound strategic planning to address HIV/AIDS in terms of protecting rural livelihoods are:

- Use an "HIV/AIDS lens" to examine rural livelihood issues and design programs. This will help integrate mitigation, prevention, and care; it also can help agencies and target populations identify and work toward livelihood strategies that "minimize risk and/or mitigate impacts" (Piot and Pinstrup-Andersen, 2002). It is important to note that this same HIV/AIDS lens should be used to assess the utility of existing programs and policies, to determine their potential for adaptation: agencies "should not be blind to the threat of HIV/AIDS, but neither should they be blinded by it" (Gillespie, Haddad, and Jackson, 2001).

- HIV / AIDS is a complex development issue that requires an integrated program approach. "A people-centered, multi-sectoral, community-based approach to development is fundamental for creating and sustaining the conditions in which HIV / AIDS can be prevented and its impact addressed most effective" (FAO, 2001). A participatory, bottom-up approach to program planning and implementation also is necessary (FAO, 2001; Gillespie, Haddad, and Jackson, 2001).
- Socioeconomic variation from the community to the national levels is a fact. Different macroeconomic conditions and rural livelihood strategies in different countries will preclude generic mitigation strategies. HIV / AIDS will have different impacts on populations affected by conflict or complex emergencies, as it will on pastoralists, smallholder agriculturalists, or the better-off rural population. Using the HIV / AIDS lens and making HIV impact assessments a standard part of program planning will help design integrated programs that fit particular groups and areas.
- Eliminate the stigma of HIV / AIDS linked to the denial, silence, and social estrangement that contribute to counterproductive livelihood strategies. Stigma results in the "reluctance to identify those most in need" of support for working toward food security and sustainable livelihoods (Piot and Pinstrup-Andersen, 2002). Working at the community level will capture those most in need without labeling them.
- Community-based targeting is appropriate for the reasons cited in the two paragraphs above. Programs aimed at strengthening rural livelihoods will capture poor, food-insecure households that have been affected by HIV / AIDS and some that have not. The latter "should not be considered an inclusion error" (Gillespie, Haddad, and Jackson, 2001). Community-based nutrition programs, for example, are a neutral means of reaching people who live with HIV / AIDS. Targeting also should balance the relative needs for mitigation, prevention, and care that will vary by location and over time.
- Uganda's National AIDS Control Program's is a source of "lessons learned" for success in preventing and mitigating HIV / AIDS. Infection levels have decreased by half in Uganda following the implementation of this program. The program included training community leaders, mobilizing communities, "innovative communication techniques" to address stigma and change attitudes, reducing discrimination, and the participation of people living with HIV / AIDS in prevention and care activities (FAO, 2001). Government recognition of the epidemic and allocating sufficient resources to is essential for creating other success stories: "endorsement at the highest political level for cross-sectoral action is an essential step" (FAO, 2001).
- Development programs should recognize and work at the scale of the epidemic. Using the HIV / AIDS lens and impact assessments will provide information on the scale of the problem among different social groups and in different locales. The quotes at the beginning of this section indicate that the scale and scope of mitigation programs need to be increased in order to address the magnitude of the epidemic's effects on rural livelihoods as a whole, and on food security. "The challenge is to find ways of scaling up locally relevant, community-driven approaches" (Gillespie, Haddad, and Jackson, 2001).

- The partners for HIV / AIDS-related programs include people living with the disease, community representatives, local health authorities, and the faith-based organizations that tend to focus on providing care (Gillespie, Haddad, and Jackson, 2001). The former are a "powerful and influential factor in effective prevention, mitigation, and care interventions" (*ibid*). Collaboration with partners in diverse sectors is necessary to deal with multifaceted impacts of HIV / AIDS on people's livelihoods. Prevention and mitigation are both key; expertise to address these different aspects of the problem will be found in different partners.
- Agricultural production technologies that support sustainable rural livelihoods are necessary in the context of low productivity in Southern Africa, HIV / AIDS, and the proclivity for natural disasters. HIV / AIDS' effect on labor is a key consideration given its impact among the region's rural populations. The constraints on access to resources that women face, and their prime responsibility for producing food, must be key considerations in adapting and diffusing technological innovations. Labor-saving tools and crops, including lighter tools for women and children; high-value crops; better water management to improve production; access to labor and credit; taking gender and age into account in new technologies; and innovations in food production and processing are some options for addressing the impacts of HIV / AIDS on agricultural production (FAO, 2001; de Waal and Tumushabe, 2003).
- Monitoring the HIV / AIDS epidemic is necessary for effective response but faces operational constraints. One general constraint is the "weak demand [for monitoring information] and a weak ability to supply it," partly because of the stigma of HIV / AIDS and the consequent difficulty in collecting information related to it (Gillespie, Haddad, and Jackson, 2001). Existing indicators for monitoring household economic and food security can be used and refined as necessary using the HIV / AIDS lens. Community input can be used to identify additional indicators as well as how to and who can collect the data. Secondary data from health centers also is useful.

2.9. WHERE DOES SOUTHERN AFRICA GO FROM HERE IN PROMOTING SUSTAINABLE LIVELIHOODS AND IMPROVED FOOD AND NUTRITION SECURITY?

Barrett and Sahn, (2001) provide analysis and guidance on how instruments of food policy can preempt or relieve food insecurity, chronic as well as transitory, caused by severe macroeconomic and non-economic shocks. Reduced vulnerability may itself, the authors suggest, be an important contribution to escaping chronic food insecurity. The poor performance of governments in sub-Saharan Africa and elsewhere in assisting communities, households and individuals in response to shocks is the impetus for their paper. The focus is on the food insecurity that results from unpredictable events. However, as they point out: "…to the extent that the chronically food insecure are most vulnerable to shocks, and that such episodic events and phenomena contribute to chronic food insecurity, we define the domain of our interest more broadly." The authors look at three levels of food insecurity: individual, community and national and the nature and characteristics of food insecurity at each level and at the linkages by which shocks are transmitted between them.

The impact of shocks is felt in its most concrete form at the household and individual levels. This is also where governments have the fewest viable policy instruments. Whatever might occur within the household – however critical they might be, ultimately, for the food security of individual members – governments have few policy levers which can induce change or improvement in intra-household factors influencing individual food security status. In addition, it is difficult to detect policy impacts at the household[37] level. The authors' analysis focuses on Sen's concepts of failures of 'direct' and 'exchange' entitlements as the location of pertinent policy impact, wherein job loss, loss of farm productivity, and reduced wages or assets are "direct" entitlement losses. Food price increases constitute losses of "exchange" entitlements. Drought, floods, livestock disease, pest infestations can cause direct entitlement losses while poor transport systems, inadequate information flow, and underdeveloped rural financial systems adversely affect exchange entitlements by increasing transaction costs. In rural areas, particularly those underserved by markets, adverse impacts on *direct* entitlements predominate. In urban areas, where reliance on food markets and their prices are vital to household food security, it is adverse impact on *exchange* entitlements that counts most.[38]

"Vulnerability" is the essential issue.[39] There are a variety of ways shocks are transmitted nationally, to communities and within communities to their household and individual members. The ability of households to "cushion" the adverse impact of shocks depends on such variables as income levels, the range and liquidity of assets, the availability of social insurance, and the number of individual members in affected households. Within each of these categories there are other relevant parameters. With regard to income, for example, smallholder households with diversified sources of income are likely to be less vulnerable. These are likely to be households with better human capital and physical and financial assets. Of particular concern is whether adaptation of improver agricultural technologies, e.g., hybrid maize, may have increased vulnerability to shocks because they are less drought tolerant.[40] Finally, a key concern related to vulnerability to shocks at the household level is level of recourse to various safety nets, publicly or privately endowed, formal or informal.

Barrett & Sahn focus considerable attention on national level food security issues:

> …the shocks of concern in this paper result from international or national events that are transmitted to communities and households through factor and product markets (p.8).

Adequate food availability at the national level is necessary, though it not sufficient. To achieve it, reliance on international trade is a reasonable strategy for, as the authors assert, commercial food trade has historically fared well in stabilizing national level food availability in poor countries.[41]

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[37] Using the standard definition of "household" as those who eat from a common pot.

[38] In areas such as southern Malawi, where rural households have long been net food purchasers, the impact on exchange rather than direct entitlements is also more important.

[39] Although 'risk' factors that increase the *probability* that a shock or shocks will occur can be equally important. The authors do not address this concept of 'risk' in their analysis.

[40] Although much farming systems research seems to show that farmers in the region are very unlikely to have abandoned growing open pollinated varieties even when they have adopted high-yielding varieties as cash earners. See Celis, et al., (1991) for examples from Zambia.

[41] Better than food aid, the authors contend. They do not acknowledge that there are an array of food aid instruments enabling food deficit countries to import needed food in cases where the country lacks adequate financial resources

"…one of the most essential components of a successful food policy in dealing with crisis situations is ensuring that private intermediaries maintain unrestricted access to international food markets to import in response to emerging market signals."

The authors provide a conceptual framework to trace the paths by which shocks can impact food security. The key concept is that of "mediating mechanisms" between macro and sectoral policies and household level issues. It is the impact on market functions and outcomes – particularly on product prices, wages, employment asset and financial markets – that is of greatest concern. In particular is the contribution of shocks to rapid inflation and a resultant drop in real incomes.

In identifying policy instruments that can be used to "interrupt" the path of transmission of shocks to the food insecure poor, the authors note that issues of targeting effectiveness, speed of policy enactment, relative costs of policy options, intra-household issues of actual vs. desired benefit incidence, the form and medium of transfer, and the potential of "elite capture" of intended effects must be considered. The policy options in times of emergency and its aftermath are: food subsidies, other types of transfers, public employment schemes, price stabilization, credit, and micronutrient interventions. The authors conclude that overall economic growth is the most important medium- and long-term answer. The short-term policy options must be based on sound early warning, the available of pre-existing safety net options, the existence of strategic reserves comprised of both staple commodities but cash for quick purchase from abroad and a good social service infrastructure and adequate roads.

The prevailing consensus, then, is that economic growth is the essential ingredient of all processes intended to generate improved food security in Southern Africa. And also, many authors suggest, it must almost certainly be agriculture-led growth. The Mellor thesis, with its increasingly robust underpinning of analyses (Mellor, 2002), focuses on agriculture, appropriately structured and with known lags, as the best option for growth and poverty reduction. For all countries in Southern Africa, save, perhaps, for South Africa itself, there would seem no other legitimate choice.[42] As previously discussed, the first requirement is to insure that the agriculture sector is provided the attention and the capital resources needed to generate significant growth. A second and equally important requirement is to undertake activities in the near and medium term that insure that the benefits from longer-term growth generated from a focus on agriculture are captured by the majority of the people of the countries in the region, i.e., those most vulnerable to shocks, and most in need of improved livelihood security and food security.

During the 1995-2003 period the first steps have been taken. There is now greater concern for nutritional outcomes, a greater emphasis on participation by the poor themselves, greater attention to measuring outputs and outcomes, (but, perhaps, not yet enough attention devoted to measuring impacts and collecting sound evidence of progress toward goals). There is now considerable

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to do so commercially. The authors suggest concessional balance of payments support – a much more difficult avenue to pursue with many donors.

[42] With the possible exception of: i) Mozambique where the potential increased export of electricity and exploitation of coal and other mineral resources offers non-agricultural options; ii) Botswana, where minerals are also a better option than agriculture, and, to a certain extent, and iii) Angola where petroleum resources offer non-agricultural options as well.

emphasis in looking at livelihood strategies, focusing on the relief-to-development continuum in shock-prone countries, and on those most seriously at risk and vulnerable – particularly rural women. Some of the more promising strategic approaches suggesting better focus on issues of livelihood strategies and improved food and nutrition security outcomes for the future include:

- DFID focus on livelihoods
- IFAD focus on agriculture's contribution to reducing poverty
- USAID emphasis on quantifiable results and the role of private entrepreneurial approaches within the AICHA framework.
- WFP stress on using food aid to enhance enabling environments for development
- World Bank focus on blending macro financial assistance with poverty-reduction focused planning and participatory implementation – the PRSP process.
- The increasing effectiveness of NGOs in delivering measurable development results using food aid resources.[43]

Areas where improved performance will be necessary:

- Vulnerability assessments need to be used not only for emergencies but as programming tools for the design, implementation and evaluations of development projects.
- Targeting needs to be improved with consideration given to geographic area targeting as opposed to household-level targeting as more cost effective
- Participation by the food insecure poor needs to be greatly strengthened in the context of livelihood security approaches – community level management for development planning and implementation needs strengthening, presumably best undertaken by NGOs.
- Food aid as a development resource can be greatly enhanced. It must be programmed in a highly coordinated manner with other forms of development assistance.
- The trade-offs between development resources used to respond to emergencies, those used to reduce the incidence of emergencies and their severity, and those used to reduce the vulnerability of those who suffer from such shocks need to be made visible and programmatically inter-related in planning, implementation and evaluations of relative effectiveness.

To achieve results from an agricultural-led focus on reduced food insecurity and improved livelihood security the following should be undertaken:

- Renewed, more focused, substantially enlarged, and higher priority efforts to strengthen Southern African national and regional organizations centered on agriculture, food security and

[43] RCSA may wish to consult Riley, (2002a) for a presentation on the possible role of food aid and NGOs in support of AICHA objectives in Eastern Africa. There is broad applicability to Southern Africa, as well. The report is available from REDSO / EA.

livelihood security within SADC, the universities and research institutes of the region, the private sector, and the donor community.

- The special problem of the inadequate regional transport network needs to be reviewed, starting with "sensitivity" analysis of various options and trade-offs for utilizing always inadequate financial resource to best effect in increasing agricultural trade with and outside Southern Africa.
- A much strengthened effort to seriously improve collaboration between donors to improve cost-effectiveness of a multiplicity of projects in a multiplicity of sectors.
- Consideration of establishing a regional SGR system as a back-up to national SGRs – in effect a "central bank" to back up national-level SGR food "banks."

In sum, strong, broad agriculture growth must lead the effort. A focus on the problems of the food insecure poor must be woven into any agriculture-growth led strategy, particularly in a Southern African situation where the abjectly rural poor are such a high percentage of all in the region who are poor. The Mellor thesis suggests that the main burden of leading an agriculture initiative will fall on the "middle poor" who have the initiative, the land, and the physical assets and resources in place already, not on the asset-less, absolutely poor. The means of enabling the poorest to participate sooner rather than later is very much the task of corollary livelihood strategies that can help generate among very poor communities productive asset "building blocks" that would enable their growing participation in agricultural growth in the near- or medium-term. Section III picks up this theme and suggests that RCSA consider how it might best participate in this "two-pronged" proposed strategy of agriculture-led growth but with an added livelihoods-focused sub-strategy.

3. What Tasks to Improve Food Security Fall within the Purview of RCSA and its 2004–2010 Strategic Plan?

The first two sections of this report have explored, in summary fashion, some of what can be gleaned from pertinent literature about the scope and causality of food and livelihood insecurity in Southern Africa and of experience elsewhere that pertains. The function of this sub-section, given the above, and also RCSA's interest in considering livelihoods options, is to suggest a course for RCSA (within an AICHA-oriented[44] strategic framework) that enables food security in the region to improve substantially while using a sustainable livelihoods approach to more quickly broaden its impact among the most food insecure.

3.1. Agriculture-led growth with a livelihoods-oriented focus: a suggested overall approach

Sections 2.8 and 2.9. propose general support for a strategy that promotes agricultural growth as the centerpiece of overall economic development in the region, using as guidance the Mellor agenda (summarized in Appendix 14). Also recommended is a second component – direct support for food insecure smallholders in a livelihoods strategy focused on income diversification to speed asset creation in the near- and medium-term. This second element is necessary because agricultural growth alone is unlikely, in the Southern African context to improve household food security quickly enough over the initial phases of agricultural growth. The percentage of the rural poor who are what Mellor terms "middle peasants" – those with sufficient land and other resources who would be the immediate beneficiaries of agricultural growth may be too small in number to initiate and expand an agriculture growth-led process bringing benefits to the vast numbers of their poorer colleagues within the 15 year timeframe Mellor suggests. The fear is that the velocity of the factor and product market "multipliers" may be too slow to raise the many, many extremely food insecure poor out of absolute poverty within those 15 years. Something else

[44] Agriculture Initiative to Cut Hunger in Africa, AICHA.

may need to be done to, in effect, prepare the vulnerable, food insecure, asset poor, majority of rural smallholders for mid-term (as opposed to later-term) participation in Mellor's growth scenario. That proposed "something" would be a "second prong" effort to speed their being able to participate sooner rather than later. An example from Ethiopia might clarify what is suggested for consideration:

There are several thousand Ethiopian farmers' associations which have participated in NRM FFW programs in drought-prone Tigray and Amhara Regions. Some of these programs have gone on for many years – enough time for there to have been a number of successes and a number of failures. The successful farmers' groups have managed to maintain – and improve on – the physical assets created 10 and 15 years earlier, apparently because they had learned to operate effectively as communities and have continued, through good years and bad, to protect hillside watersheds, maintain water diversions, care for their hillside terraces, etc., long after outside food aid programs were completed. They have, in effect, created local governance that works. Many of these groups have proven their ability to establish local development priorities, prepare development plans, to implement activities successfully, and to continue to improve on earlier works. As a result, in the context of the new 2002 World Bank's "Ethiopia Food Security Project," such groups have been specifically identified as having qualified themselves to receive financing for the next – in this case commercial – step toward increased productivity and higher incomes. Their having had the experience of FFW asset creation, and having had enough time to prove themselves capable stewards of their own development processes has made them "credit-worthy" candidates for community-organized and designed cash-earning enterprises under the Bank's plan.

In Southern Africa, there are opportunities for local variations of this type of process to be implemented, operating in a similar fashion, within a livelihoods framework. Such efforts, undertaken in countries across the region, could be specifically designed to shorten the time during which agriculture-led growth projects begin to result in reduced household food insecurity among substantial numbers of the more asset-poor, food insecure rural households.

Such, then, is the variant of the Mellor agriculture growth model suggested here. It would add to Mellor's agriculture growth model a second, separate element with emphasis on vulnerability assessments, livelihoods-based, locally-organized, community-focused, planning, organizing, and implementing specifically aimed at sustainable asset creation. Funding could come from food aid, "social action funds," and specific donor projects. Implementation would be largely through international and local NGOs assisting community-based organizations and farmer's associations. This two-pronged, twinned, growth/livelihood concept is proposed for RCSA consideration as *the* model for growth to guide its preparation of a food security-focused development strategy for the 2004-2010 period. Given the imperatives of supporting AICHA and utilizing a sustainable livelihood mechanism to do so, it would seem a good fit.

3.2. Enhanced Regional Food Security Strategic Option

This Report now looks at the role RCSA is considering for itself in confronting food insecurity, in light of the information and analysis contained in the previous two sections.

The proposed strategic orientation consists of: supporting "…the implementation of AICHA in ways that contribute to increased rural and peri-urban agricultural productivity, "growing" economies through backward and forward market linkages, improved regional disaster management and mitigation, and increased competitiveness of agricultural products in local, regional, and global markets. Diversification of rural livelihoods is a strategic linkage between food security and water management strategic options." RCSA would focus on those aspects of AICHA-related activities best dealt with in a regional – as opposed to national – context. The tasks selected would be intended to facilitate progress in national programs by, among other things, helping achieve greater across-border trade, helping the region to participate more effectively in international trade (e.g., WTO) discussions, facilitating economies of scale in agricultural research, sharing of experiences and lessons learned among the country partners, and assisting USAID efforts in all the countries in the region to improve market-oriented agricultural growth. Four focus areas are being considered. They are discussed in turn, in the following paragraphs:

3.2.1. SCIENCE AND TECHNOLOGY

The suggestion is to focus RCSA support on regional initiatives developing applications of particular utility to small- and medium-scale farmers enabling production increases and agribusiness development in the smallholder sector. In Section 2.6.1., above Renkow cautions against agricultural research focused on the very types of endeavors suggested. He argues that alternative investments in infrastructure are likely to have a larger and more immediate pay-off and that the longer-term impact of investing in agriculture among better-off farmers is likely to generate more production, a greater overall income boost, and larger spread effects than would research aimed specifically at farmers in marginal areas. These are compelling arguments. Another issue is whether there may already exist appropriate technologies available for dissemination that have not yet been extended to the poorer and more remote smallholders. Prior to investing in additional research, there should be, at a minimum, a thorough review of what may already exist on the shelf. The issue of support for Southern Africa-specific research in biotechnology, while potentially yielding important technological breakthroughs, also holds the possibility of being politically contentious and yielding products which might adversely affect export prospects. The discussion by Falcon and Fowler (2002) in Section 2.6.2. above is also pertinent and suggests impediments may lie in wait.

The strengthening of linkages and partnerships with foundations corporations, and non-profit research entities and the region's various research networks should be an absolutely essential element – and a mainstay – of any RCSA endeavor in the science, technology, research domain.

3.2.2. AGRIBUSINESS, MARKETS, AND TRADE

Strengthening the region's phytosanitary standards and its ability to effectuate them in its export industry would almost certainly generate a handsome export payoff in potentially increased export levels to the EU, Japan and elsewhere (See Otsuki, et al 2001, cited on page 31 above) and is highly supported here. Assisting the region's governments to harmonize agricultural policies and to finish the ratification process of the revised SADC Trade Protocol is also strongly supported, given the arguments in Maasdorp (1998). Of possibly greater benefit, although not a part of RCSA's proposal, would be an on-going effort to report factually to pertinent U.S. Government offices on the magnitude of adverse effects being felt among Southern African farmers and agricultural exporters resulting from continuing U.S., EU and Japanese government subsidies to their farmers. As mentioned in Section 2.8.2. above, the NASFAM project operating in Malawi would seem a near-perfect example of a program utilizing a cooperative model, an agribusiness implementation mode, and an international trade modality to raise household incomes of tens of thousands of poor smallholders in one of Africa's poorest countries.[45] An important role for RCSA might well be in helping determine the suitability of the NSAFAM model for application elsewhere in the region and in assisting NASFAM and USAID/Malawi staff in identifying actual multipliers and the pace of "spread effects" emanating from the project. To what extent have increased incomes of NASFAM participants led to increased employment and non-farm remunerative activity in project areas. Can factor and product multipliers be determined?[46] In other words, what types and magnitudes of benefits may have extended beyond those derived by the primary NASFAM member beneficiaries, and to whom?

It is also clear that transport infrastructure in the region remains a major impediment to global competitiveness of agriculturally-derived products from much of the region. It should, thus, come as no surprise to RCSA staff that improved transport links are critical to the long-term success of agriculture-led efforts to expand the benefits of growth to the food insecure poor and that RCSA should focus, during the 2004-2010 period in seeking ways to enable revival of deteriorated road and rail links that cross country borders.

3.2.3. DISASTER MANAGEMENT AND MITIGATION

This is an area where RCSA could well generate significant improvement in performance by the region's governments, donors and NGOs. As discussed in Section 1.3.8. the rapid escalation of the 2001-02 emergency into a true disaster situation is in part the result of faulty data gathering and in the inherent difficulty in judging when a seemingly "normal" rainfall shortage suddenly escalates into a life-threatening crisis. It did not take a long time. The world's ability to respond quickly is limited. Therefore accurate prior warning is essential and that, in the Southern African context, means improved data gathering, speeded analysis and clear, well-documented, persuasive warnings. This in turn requires that all countries in the region begin to do these jobs better. SADC and its various early warning and information gathering elements is the entity that needs to do the job but it, in turn, relies on its member governments and their own information gathering

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[45] NASFAM may well be one of many other, similar, models in the region, but it is good model for this discussion.
[46] See Delgado, et al., (1998) for a suggested methodology in determining these multipliers.

capacities. They need to be standardized and, most importantly, their staffs need to be adequately trained and supported. The added cost to donors caused by having to respond quickly is great. It would be in the best interests of everyone that the entire disaster warning, response and mitigation machinery of the region be fully investigated and improvements designed, financed, and put in place enabling timely warning and more cost effective responses. Easier said than done, of course. But there has to be a central location responsible for "goading" this process along and RCSA is probably the place.

One element to be considered is the possibility of locating one or more regional strategic grain reserves, in one or more countries in the region – but not under the political control of an individual government or governments – and responding to declared emergency situations utilizing pre-agreed procedures for utilization of whatever levels of commodity and financial resources had been sequestered for emergency purposes. There are possible advantages, and there are many possible disadvantages to strategic food (and cash) reserves under control of a to-be-determined regional authority. RCSA should, as a matter of priority, commission the drafting of options and recommendations from a panel of international experts on the feasibility of commissioning an investigation into the possibility of regional SGRs.

In addition, there is clear utility in use of one or more grain futures markets as a means of decreasing the risk that in some future emergency there would be insufficient grain available for responding appropriately. As populations in the region continue to grow and as the risk of serious food shortages also increases, it would be prudent to investigate the possibility of setting up a *regional* financial entity to engage in the buying and selling of grain futures on behalf of participating governments. Such entity, most likely an arm of an international financial trading house, could operate to hedge future risks at a cost likely to be significantly less than if public or private entities in each of the Southern African countries undertook these responsibilities individually. At a minimum it is suggested that RCSA undertake a study to investigate the financial feasibility of such an operation, the political feasibility and the risks and rewards that could flow from its establishment.

In the context of a disaster management and mitigation strategic objective, RCSA could undertake a number of operations intended to improve the effectiveness of food aid as a tool for mitigation and development in the region. First, an impact evaluation of the comparative experiences in the utility of food aid (from all sources) in *ex post* responses to, or *ex ante* mitigation of, the adverse impact of all forms of shocks should be commissioned. Second, RCSA should assist bilateral USAID missions in the region to increase food aid's effectiveness – in association with DA-funding – in activities aimed at agriculture growth, particularly the strengthening of livelihoods-oriented asset creation (e.g., in FFW programs in both emergency and development settings). Third, RCSA should seek to increase its understanding of the development impact of food aid used by NGOs and WFP in a wide variety of development operations in the region. There is much development potential in the often overlooked, on-going work being undertaken by the NGOs and WFP using food as the primary resource. More needs to be known and shared among all donors about these development activities, particularly in a livelihoods-oriented strategy setting. A similar suggestion has been made to REDSO/EA (See Riley, 2002a).

3.2.4. REGIONAL PROGRAMMATIC INTEGRATION

There can be little doubt that helping, in all ways, to increase the role played by regional organizations in confronting the causes of household food insecurity, could be beneficial. The issue, however, is that much of the causality of food insecurity is local, some is national, and a lesser number of causative factors are regional or global. The strongest emphasis needs to remain focused on factors operating at the community and local geographical levels. Regional efforts can not substitute for these efforts. They can, however, compliment them in many ways, particularly in creating enabling environments in intra-regional and international trade, integrated approaches to agricultural growth, sharing the costs (and the professional skills) needed in research and in gradually removing economic and non-economic barriers to overall growth. First among these, of course, is in the gathering and sharing of information regarding best practices in reducing factors causing food insecurity. This, in turn, requires much improvement in the collection and validation of data on effectiveness and impact. RCSA could be of inestimable help in this regard by, in effect, evaluating the quality and utility of baseline surveys, monitoring of the indirect indicators used to identify food security status (anthropometry, agricultural production and yield data, household income and expenditure surveys, and surveys of food availability and access, etc.) As almost all who participate as analysts of food security status can attest, the data are poor, the statistical validity of analyses of the data is often suspect, and the reporting is inadequately nuanced – leading to sometimes serious voids in understanding of what is cause and what is effect. RCSA could endeavor to improve the abilities of all who participate in gathering, analyzing and report the data and the abilities of those who use it to parse the good from the bad.

3.2.5. A GENERAL CAUTION

Since so many factors contribute to a "resultant condition" called "food insecurity", it is almost impossible for a development agency not to conclude that whatever development activities it is undertaking, and in whatever development sector or sub-sector the agency chooses to operate – that it is aimed at reducing food insecurity. Unfortunately, the food insecurity beast is so large, it is hard not to hit it, no matter which direction one is aiming. The trick is to select from among all possible food security-enhancing development endeavors those that would have the largest, most enduring, payoff in terms of sustained improvements in household food security among large sectors of the food insecure poor.

RCSA can be an active and effective partner with regional organizations, the member governments, all USAID missions, other donor organizations, private development agents and NGOs in a concerted effort to identify and counteract, if not eliminate, the major causes of food insecurity in the Southern Africa region. Of the options under review in its "enhanced food security strategic option", support for strong growth in the agricultural sector of a type similar to that proposed in the Mellor thesis is of primary importance. The case in made above that such a strategy needs something of a boost to speed the possible involvement of the poor majority of Southern Africans; that boost should occur in an identified livelihoods component aimed at improving the pace of asset creation – assets of all types – by the rural food insecure poor.

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Appendix 2. Research Questions

RCSA Food Security Strategic Objective: Proposed Research Questions

A. The following lines of inquiry and related questions are proposed by the Food Security Strategic Option Team to guide preparation of a draft "Technical Analysis for a Proposed Food Security Strategic Option" report for RCSA.

They are intended to guide elaboration on issues related to three thematic lines of inquiry:

1. What is the state of food insecurity and of rural livelihood security in the Southern Africa Region and who are the food insecure? What are principal causes, and recent trends in food insecurity in the region? Is there a major food crisis developing in the region?

2. What is being done, has been done, and should be done (in agriculture / agribusiness, livelihood strengthening and diversification, health and nutrition, improving governance, gender-specific activities, risk and vulnerability reduction and better monitoring and measuring of development program effectiveness) to improve livelihood security and reduce the numbers of food insecure?

3. For RCSO: What are the tasks needing to be undertaken to strengthen rural livelihood security and improve food security in the region that fall within the natural purview of the regional office and its 2004-2010 Strategic Plan?

B. The areas of proposed inquiry within each of these themes are:

1. *What is the state of food insecurity and of rural livelihood security in the Southern Africa Region and who are the food insecure? What are principal causes, and recent trends in food insecurity in the region? Is there a major food crisis developing in the region*? The more detailed areas of inquiry may, possibly, include:

- Who and where are the food insecure poor in Southern Africa and what is known about trends in distribution, duration and intensity of chronic, episodic and acute food insecurity in the region and the causes of inadequate *availability* of food at the household, local (e.g. "district"), sub-regional, national and region-wide. The literature reviewed is likely to include data / information analysis relating to: i) food security assessments; ii) trends in agricultural and food production (absolute and per capita) and the determinants of those trends, iii) the nature and magnitude of food carry-over stocks (including issues of national and regional "strategic"

food reserves); iii) the magnitude, direction and variance in food and agricultural trade within the region and with the outside world and a synthesis of what are believed to be the causes of these trends; iv) issues related to local market performance and producer prices; v) food transport issues; vi) policy issues; and vii) the role of food aid within the region.

- Causes of impaired household-level *access*. In this category, the literature reviewed will discuss: i) reviews of livelihood systems (and trends therein); ii) determinates of poverty and household income and expenditure trends; iii) marketing issues that affect consumer food prices (including seasonality issues, i.e., "hungry seasons"); iv) allocative issues at local, community and household level; v) a synthesis of methodological problems relating to the collection and analysis of data relevant to access-type issues; vi) the impact of the "policy" environment of impaired access; and vii) the state of "safety nets," mitigation, and coping / adaptation programs and strategies.
- Causes of impaired *utilization* (involving appropriateness of food consumed, issues of health and nutrition and health / nutrition knowledge and practice at the household level). In this category, the literature will deal with: i) the state of mal- and under-nutrition in the region and trends therein; ii) health issues (Note: the role of HIV / AIDS has an impact on all three—availability, access, utilization. The final report will probably have a separate section discussing the impact of HIV / AIDS on each); iii) the state of community-based maternal education / training in issues dealing with maternal and child health and the role of basic nutritional practices; iv) the adequacy of health (and nutrition) outreach.
- The state of thinking about the importance of "*risk*" and "*vulnerability*" in the food security equation. Recent analytical work related to food insecurity has increasingly been focused on either the "in" in food *in*security or the "*security*" side of the term "food security." This is particularly relevant in situations where natural or human-caused "shocks" and emergencies cause rapid deterioration in the ability of households to retain adequate levels of food consumption, (i.e. Southern Africa). The issues, abstracted from the literature review to be summarized include: i) what are the principal food security "risk" factors in Southern Africa (e.g., increased likelihood of drought, climatologically-caused increased variance in food availability, conflict and its food security impact in the region); ii) what are the principal "vulnerability" factors (e.g., decreased effectiveness of traditional coping strategies, resilience and recover rates at the household and community level, changes in rates of household asset depletion).

The importance of a rural "livelihood security" strategic focus as a means of securing improved household food security. The literature review will focus on the relationships between livelihood and food security and

2. What is being done, has been done, and should be done (in agriculture/agribusiness, livelihood strengthening and diversification, health and nutrition, improving governance, gender-specific activities, risk and vulnerability reduction and better monitoring and measuring of development program effectiveness) to improve livelihood security and reduce the numbers of food insecure?

This will at the same time the most difficult and, possibly, the most useful of the thematic lines of inquiry in the report. The proposed specific areas of possible inquiry include:

- What is the priority of the goal of improving food security in guiding government development policies in the region, donor resource allocation, and evaluation of program effectiveness?
- What, specifically, are the food security interventions in relevant sub-sectors of the economy, disaster mitigation and preparedness, in public policy, and in specific social service areas, and how closely tied are they to the real determinants of household food insecurity in the region?
- What is known about the overall effectiveness of these development programs in addressing the causes of food insecurity and their actual relationships to changes in food security status? Note: the issue of adequacy of linking hypotheses, data gathering methods, and statistical validity of indicators of progress will be addressed here.
- What is being thought about regarding performance in improving food security status in the region over the next several years? Is there any consensus about what needs to be accomplished—and at what level—if acceptable and sustainable levels of food security is the objective?

3. For RCSO: What are the tasks needing to be undertaken to strengthen rural livelihood security and improve food security in the region that fall within the natural purview of the regional office and its 2004-2010 Strategic Plan?

This, in effect, will be in the section of our team's report that provides guidance specifically to RCSO. The issues and questions to be investigated and summarized in the body of the Report include:

- What are the food security issues in the region that are best attuned to regional—as opposed to national or sub-national—responses? What is the role of a regional strategy as an overlay to country strategies?
- What are the regional organizations that impact food security and what do they do, what should they do to help set the enabling environment for improved household food security among poor rural and urban Southern African citizens?
- Is there a role for strengthened regional centers of excellence in: i) improved data gathering and analysis, ii) technical issues related to improved availability, access utilization and risk reduction—all specific to Southern Africa's particular context; iii) a food security training center for national officials and staffs of local NGOs (attempting to get all the players on the same "food security page").
- Given all the above: what should RCSO—a regional organization with a proposed strategic plan focused on areas of regional concern –do, specifically to combat the nexus of causality creating and perpetuating high levels of household food insecurity in the region?

Appendix 3. Research Questions: Approval Message

From: mamusisi-nkambwe@usaid.gov

The Food Security / Rural Livelihoods Working Group has asked that the following research questions be added to, or woven into, the ones you have identified (in order to explicitly address the rural livelihoods focus of the "food security" strategic objective:

1. What is happening to the importance of agriculture in rural livelihoods across the region? Has it remained the same? Has agriculture increased / decreased in importance?

2. Can any new / interesting rural activities be identified that might address food security from a rural livelihoods perspective? What facilitated or preceded their occurrence? Would these conditions be replicable?

3. What are some successful examples that you have seen of market principles being integrated into efforts to improve rural livelihoods?

4. What are the effects of transaction costs on rural livelihoods? What lessons can be learned from successful or non-successful attempts to reduce transaction costs?

5. What needs to be done to better link rural producers to rural markets? What factors are impeding regional and international trade in agricultural goods from rural producers?

6. What factors can constrain the multiplier effect in Africa (whereby increased agricultural incomes lead to increased non-farm incomes)? If agricultural production does increase, what follow-on services are needed to maximize the impact on rural livelihoods?

7. What are the best practices in the dissemination to technical services to rural producers?

With the above additions, I hereby give you approval on the research questions and you may proceed to the next stage. Thanks!

-----Original Message----- From: Andrea Camoens [mailto:Acamoens@Nathaninc.com] Sent: Monday, May 05, 2003 10:31 PM To: Musisi-Nkambwe, Marcia Cc: Mike Anderson; Paola Lang Subject: FW: RCSA Food Security Strategic Objective Team and research questions

Dear Marcia:

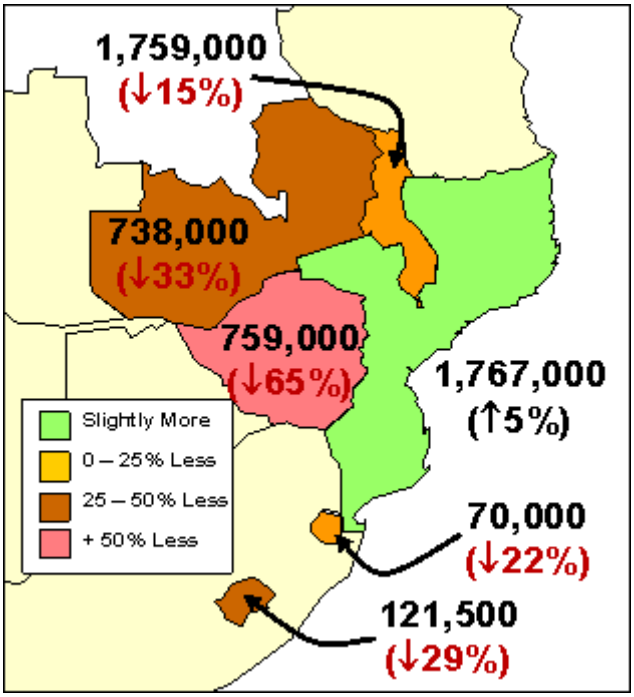
Please find attached the research questions from the Food Security Group.

Please do let me know if you have any questions.

Best, Andrea S. Camoens Associate Nathan Associates Inc. 2101 Wilson Blvd., Suite 1200 Arlington, VA 22201 Tel: 703-516-7759 Fax:703-351-6162

Appendix 4. 2001/02 Cereal production

2001/02 Cereal production (Mt) in affected countries ***of SADC compared with 5-year average***



Source: SOURCE: REWU, September 2002

Appendix 5. Export dependence

Primary commodity export earning dependence

Country	Level of Dependence	Product
Angola	95.8%	Crude oil
Botswana	73.6%	Diamonds
Malawi	58.4%	Tobacco
Mozambique	43.2%	Prawns
Namibia	60.8%	Diamonds, other minerals and fish
Seychelles	94.4%	Canned and frozen fish and prawns
South Africa	33.7%	Base metals and gold
Tanzania	32.6%	Cotton and coffee
Zambia	75.5%	Copper
Zimbabwe	42.9%	Gold, beverages and tobacco

SOURCE: *Allen,1999.*

Appendix 6. Timetable of reporting on events creating the 2001–02 food crisis

The timeframe of factors creating the 2001–02 emergency include:

- Late 2000 FAO / GIEWS food availability reporting indicating that regional crop production was near normal but that there would be higher than average import requirements to fill a 712,000 MT food gap in 8 countries in the region. WFP reported a 2001 food aid need of 500,000MT, mostly for Angola and the DRC and refugee populations in Tanzania, Namibia and Zambia.
- In February 2001 heavy rains and flooding occurred in some sub-regions and unseasonable low rainfall in others
- Early 2001: SADC and FAO forecast reduced cereal production as a result of drought in some areas, flooding in others. Prolonged dry spells in maize regions suggested likely poor crops.
- In July 2001, FAO reported the lowest maize production in the region in six years. Issue becomes the availability of carryover grain held in grain reserves. At that time there were 8 on-going food aid activities in 6 countries—protracted relief and recovery and emergency operations—primarily for refugees. The Zambian government requests relief for 2 million flood- or drought-affected people. Maize prices in South Africa are nearly 50% higher than a year earlier. Zimbabwe acknowledges a food import requirement of 544,000MT. Tanzania expresses concern over localized food shortages.
- In November 2001, SADC reports that all countries in the region had a cereals production deficit for the year caused by drought and flooding. Most governments in the region were increasing estimates of those requiring food assistance.
- As in the previous year, flooding in some areas and drought in others characterized the beginning of 2002. Nonetheless, some reporting suggested that overall rainfall was near normal.
- In April-May 2002, concerns were increased over growing estimates of food gap—especially in Zimbabwe, Zambia and Malawi. Much of the problem focuses on very low food stocks and carryover meaning that most of the anticipated gap of 3 million MT will have to be imported. Maize prices reported as abnormally high in all countries

- June-July 2002, country vulnerability assessments and other data show that Zimbabwe, Zambia and Malawi are moving from category of serious food shortages to category of humanitarian crisis. Pockets of vulnerability are recorded in Botswana, Lesotho, Mozambique, Namibia and Swaziland meaning that very poor households are likely to require food assistance as their own coping mechanisms are being exhausted. WFP launches Southern Africa Crisis Response EMOP to cover all emergency operations in the region. FAO / WFP assessment puts the number of those in need at 12.8 million.
- October—November. Assessment of those in need put at 14 million and cereal requirement at 1 million MT. It was also noted that "…estimates of those requiring food assistance do NOT include those households those households that are food insecure due to supply side factors." i.e., those with money who cannot find food to buy in the marketplace. Assessment data find a large number of people in this category. Reports that ordinary coping strategies (reducing intake, selling assets) are being exhausted. Vulnerability assessments in four countries show that the numbers of infants and small children demonstrating acute malnutrition ("wasting") are not increasing. Imports of food are behind requirements and occurring very slowly.
- Dec 2002. Reports over lack of seeds and inputs for new planting season and over ability of farmers to purchase needed inputs. Concerns over ability of countries' (e.g., Zimbabwe) ability to cover cost of needed commercial imports.
- February 2003 Early satellite data show continued dry conditions in maize growing areas experiencing low rains in previous year. On the other hand, there are reports that recent rains have been relatively good and that Zambia and Zimbabwe could increase maize production by 50 percent over 2001 / 2. To replenish grain reserves an estimated 1 million MT of maize will be required.
- April 2003 discussions initiated looking at ways to improve the ability of the countries in the Southern Africa region to improve trade integration as a means to confront food emergencies in the future.

Note: the reports are extracted from FEWSNET monthly reporting at **www.fews.net**.

Appendix 7.Extent of soil degradation in major regions of Africa, early 1980s

	Total productive drylands		Productive dryland type					
			Rangeland		Rainfed cropland		Irrigated land	
	Area (million ha)	Percent degraded	Area (million ha)	Percent degraded	Area (million ha)	Percent degraded	Area (million ha)	Percent degraded
Mediterranean Africa	101	83	89	85	20	75	1	40
Southern Africa	304	80	250	80	52	80	2	30
Sudano-Sahelian Africa	473	88	380	90	90	80	3	30

SOURCE: *Abula and Hassan, 1999:481. Adapted from WRI/IIED (World Resources Institute/International Institute of Environment and Development). (1988) World Resources, 1988-89: An assessment of the resource base that supports the economy. Basic Books: New York.*

Appendix 8. PRSP/HIPC Performance as of April 2003[47]

Congo, Democratic Rep. of

PRSP Status: The I-PRSP was completed in June 2002 and completion of a full PRSP is expected in early 2005. Social sector spending is targeted to increase from 7 percent of primary expenditure (0.5 percent of GDP) in 2002 to about 16 percent in 2003 (about 2 percent of GDP), to remedy the poor quality of, and access to, social services.

Policy Performance: A PRGF-supported program was approved in June 2002 after successful implementation of an IMF staff monitored program. Progress continues with an economic reform program under which the public finances have been strengthened, the cycle of hyperinflation and currency depreciation has been broken, major economic distortions are being removed, and significant improvements have been made in the judiciary and regulatory environment. Important reforms are also under way in the forestry, mining, and public enterprise sectors.

HIPC Status: The preliminary HIPC document was considered in June 2002. Arrangements have been put in place to clear arrears to multilateral creditors, and for the IMF and World Bank this was done in June/July 2002. The Paris Club granted a Naples flow rescheduling for nearly US$9 billion of arrears and debt service coming due during the PRGF period. The first review under the PRGF should be completed by end-March is and the decision point could be reached shortly thereafter. The timing of a possible three-year PRGF arrangement and the HIPC decision point will depend on progress in the implementation of the new SMP with a focus on improved fiscal performance, progress in transparency in the oil sector, and the normalization of relations with external creditors.

Malawi

PRSP Status: The PRSP launched in April 2002 articulates a well-developed and sound strategy. There are detailed action plans to generate growth, improve social sector outcomes, protect the vulnerable, and improve governance. The resources made available from interim debt relief have

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[47] Sources: Citations from Appendix II, World Bank, 2003a.

been used to fund an expansion in pro-poor spending programs, including the health and education expenditures identified in the PRSP as primarily benefiting the poor. Social expenditures, more broadly defined, for 2002 are estimated at 11 percent of GDP.

Policy Performance: Malawi's PRGF program went off-track soon after its approval in December 2000, mostly due to large slippages in fiscal policy. The first review could be completed by end-July, 2003. The World Bank has 10 active credits in Malawi, of which three projects (Environment Management, Fiscal Restructuring and Deregulation Project III TA, and Privatization and Utility Reform) currently have an unsatisfactory rating. Malawi has made good progress toward the fulfillment of HIPC completion point triggers. However, there is need to make substantial progress on the maintenance of macro stability. The completion point could be reached by the end of 2003 if Malawi demonstrates six months of good performance under the PRGF.

Creditor Participation: Malawi is receiving interim relief under the enhanced HIPC Initiative from IDA, AfDB, EU/EIB, and the Paris Club. IMF relief for 2002 is pending the conclusion of the first PRGF review. With respect to non-Paris Club creditors, South Africa has written off its debt; no agreement has yet been reached with Taiwan Province of China.

Mozambique

PRSP Status: The PRSP, which was endorsed by the Boards of the Bank and the Fund in September 2001, has been central in guiding the government's efforts to improve social welfare conditions and track poverty-reducing expenditures. HIPC-financed spending is being allocated to priority areas that have been identified in the PRSP (PARPA). The PARPA priority sectors are in education, health, agriculture and rural development, basic infrastructure, good governance, and macroeconomic and financial management. Recent developments in social spending continue to be favorable with such expenditure reaching 9 percent of GDP in 2002 and expected to stay at around that level for the 2002–05 period.

Policy Performance: The fourth review under the PRGF arrangement was satisfactorily completed in June 2002. All quantitative and structural performance criteria and benchmarks were observed, except for a benchmark on reserve money. The macroeconomic outlook for Mozambique remains positive. Preliminary estimates indicates that GDP grew in 2002 by about 12 percent, while inflation stood at 9.1 percent, well below the level observed in 2001 (21.9 percent). For years 2003–04, it is expected that GDP growth would stabilize at around 9 percent per year. The HIPC completion point was reached in September 2001.

Creditor Participation: The completion point was reached in September 2001. Creditors holding about 88 percent of Mozambique's debt are providing debt relief. Several non-Paris Club official bilateral creditors have yet to respond to letters sent by the Mozambican authorities to begin negotiations for bilateral debt relief agreements on enhanced HIPC terms. Positive responses had been obtained from India and in principle from Libya, but further negotiations are needed to finalize the agreements. The Mozambican authorities have indicated that relief on non-Paris Club official debt has been completed with China, Kuwait, and South Africa.

Tanzania

PRSP Status: The poverty reduction strategy enjoys broad support and ownership. By the time the current PRGF expires, Tanzania is expected to have prepared two annual PRSP progress reports. Expenditure on health and education has been rising since fiscal year 1999/00. New education, agriculture, and rural development strategies are high-priority areas of the PRSP.

Policy performance: The Fund Board completed the fifth review under the PRGF arrangement in November 2002. The current PRGF, originally due to expire in early 2003, was extended until end-June 2003 to allow time for the final review to be completed. While Tanzania has achieved commendable progress in implementing macroeconomic and structural reforms in the last seven years, the country still faces a substantial reform agenda and other policy challenges that will require continued Fund engagement. The exit from Fund financial support may also be constrained by the linkage of donor support to a Fund-supported program. A new low access PRGF arrangement—largely focusing on ongoing structural reforms and second-generation reforms—may be envisaged. The focus of the current PRGF is on consolidating macroeconomic stability and achieving sustained high economic growth and poverty reduction through improvements in revenue mobilization, public financial management, promotion of private investment and financial intermediation. Notwithstanding delays in implementing some structural reforms (e.g., clearance of audited arrears, and use of land as a collateral for bank loans), progress under the PRGF has been satisfactory.

Creditor Participation: The completion point was reached in November 2001. HIPC relief amounted to 1.4 percent of GDP in 2001/02 and is expected to account for 1.3 percent of GDP in 2002/03. Tanzania has received financing assurances from creditors holding around 90 percent of total debt, with the exception of non-Paris Club creditors. Specifically, it has received assistance from IDA, the IMF (which together account for more than 40 percent), Paris Club creditors (accounting for another 40 percent), the AfDB (6 percent), and other multilateral creditors (4 percent). Among the non-Paris Club creditors contacted by the authorities, only Kuwait has confirmed relief on HIPC terms.

Zambia

PRSP Status: A full PRSP was received in April 2002 and considered by the Bank and Fund Boards. It aims to promote growth and diversification in production and exports, improve delivery of social services, and foster policies for HIV/AIDS, gender and the environment. Poverty-reducing spending was lower than programmed due to initial difficulties in establishing an accounting framework and lack of implementation capacity. Priority poverty-reducing programs amounted to 1.1 percent of GDP in 2000, 2.1 percent in 2001, and is projected to have been 2.2 percent of GDP in 2002.

Policy Performance: A fifth review of the PRGF was successfully completed in November 2002, notwithstanding capacity constraints and an adverse external environment, particularly in the copper sector. The government's financial policies in 2002 allowed for a reorientation of public

expenditure toward the social sectors. Despite a wage bill overrun which is being corrected, the overall fiscal outturn for 2002 is expected to be on track. With regard to the floating completion point triggers, progress is being made to divest a controlling share of ZNCB and ZESCO. Triggers in the health sector (including on HIV/AIDS) have been fully or partially implemented. While triggers in the education sector (budget outcome, student retention) are not yet achieved, corrective actions are being taken. The completion point is expected in December 2003.

Creditor Participation: Financing assurances have been received from creditors holding around 97 percent of total debt. IDA, the IMF, the AfDB, EU, and the Paris Club have provided interim relief. So far, Bulgaria, China, Iraq, Romania, and Saudi Arabia have not agreed to provide HIPC relief.

Appendix 9. Food Security Policies in Eight SADC Countries

Updated 9 May 2003

BOTSWANA
Food Security Policy Matrix

		POLICY	PRACTICE	IMPLICATIONS	RECOMMENDAITONS
TRADE & MARKETING POLICIES	Pricing – Farmgate	BAMB is buyer of last resort; sets floor prices on the basis of import parity. Government subsidizes BAMB for marketing production from small-scale producers	BAMB market prices set, private buyers adopt BAMB prices	Farmers with poor access to private traders get lower prices	Producer prices equal to the cost of landed imports are too low for farmers to cover production costs. Private sector participation must increase and reach more farmers so they receive higher prices
	Pricing – Retail	Selling price set at market level. BAMB prices approved by Board by Directors	Private sector prices lower than BAMB prices, supported by foreign suppliers	Sales by BAMB low, grain storage long and sometimes quality deteriorates	Subsidy required to improve competitiveness of sales of BAMB and local producers
	Import/Export ... Participation	Both BAMB and private sector import on their own. No restrictions that pose barrier to trade	Private grain dealers act as agents for RSA grain dealers and therefore out-compete BAMB in local markets. Government to assist BAMB to replenish SGR.	No food shortages but imports make local production appear very expensive	Policy to support marketing of local produce. Imports should not destroy domestic production
	Import/Export ... Duties	No export duties VAT effected 1 June 2002. Sorghum and maize grain exempt from VAT.		Trade is promoted in the absence of export duties.	Maintain the status quo.
	Domestic Marketing	BAMB sells at market prices	Private sector does not operate consistently from year to year	Private sector cannot alone be relied upon to ensure availability	Government must help BAMB to promote efficiency and outreach
	Food Reserves	BAMB maintains Government strategic reserves. Desired levels: Maize 20,000; Wheat 20,000; Rice 2,000; Sorghum 10,000 TOTAL CEREAL: 52,000MT	Usually holds less. Maize and Sorghum held by BAMB; wheat held by BOLUX; rice by private traders. Bulk of grain in SGR is imported. BAMB is not compensated for the costs of storing grain.	Insufficient to meet requirement but can support consumption for at least 1 month. Private sector has no incentives to participate.	Promote private sector participation
	Futures	Currently being studied	Never been tried, potentially useful	Price and supply stability.	Need for more information
	GMO	No official policy	A bio-safety committee has been set up to advise Government. GMOs being avoided if known	May already be buying GMOs	GMO policy must be developed Better still, a biotechnology policy encompassing GMO among others must be developed.
TRANS-PORT	Transport	Subsidizes BAMB for marketing production from small-scale producers		Transport is not considered an internal constraint. Grain movement is enhanced.	Transport is not considered an internal constraint
	Transit Fee	Government charges road transport/ferrying charges	Trucks ferrying goods and services are charged for road usage	Since this is a cost recovery strategy, Government can maintain roads	Road transport charges must continue
INPUT POLICIES	Distribution	BAMB provides timely inputs. Government wants private sector to participate effectively BAMB prices set on the basis of import parity	Private sector fully participates. Supply of open-pollinated varieties (non-hybrids) depend on availability from Department of Ag Research	Efficient delivery of services	Government should expedite implementation of privatization policy
	Pricing (subsidy)	Free seed distribution.	Government provides free seed enough to plant 5 hectares	Improved access to essential inputs.	Free seed distribution should be targeted carefully.
	Import/Export ... Participation	Open economy	Private sector participates fully	Efficient delivery of good and services	Private sector participation must continue to be strengthened
	Import/Export ... Duties	Duties are not imposed on agricultural imports	VAT will be introduced with effect from July 2002	Production costs for farmers are likely to increase	Review periodically with the view to exclude some sectors (e.g. agriculture) if necessary
MACRO-POLICIES	Foreign Exchange	Liberalized economy		No constraints	Maintain status quo
	Investment	Government encourages local investors and foreign investors (direct foreign investment)	Government is developing a strategy to provide basic infrastructure for agriculture development (roads, electricity, telecommunications, water etc)	The competitiveness of agriculture will be enhanced	Investment in agriculture must be increased
	Credit	Commercial banks provide credit but is usually above the reach of small farmers	Government will provide credit guarantee scheme, agricultural insurance during the upcoming national development plan period to address the inaccessibility of small farmers to credit	Farmers will be able to access credit and improve their productivity and competitiveness	Credit for small farmers must be developed and provided on a sustainable basis to enable them to become productive and graduate from poverty. Try other options of providing credit to small farmers e.g. IFAD
	Interest Rates	Market determined		High interest rates discourage investment.	

STRATEGIC FRAMEWORK	Safety Net Programmes	Disaster Management Office under President's Office provides temporary relief. Government has pension scheme for elderly people; supplementary feeding for primary school going children; under five children; expectant mother; lactating mothers; and TB patients; support programmes for destitute (temporary and permanent) and orphans.
	Longer-term Food/ Agricultural Sector Recovery Strategy	A Poverty Reduction Strategy has been developed focusing on increasing employment opportunities and strengthening organisational capacity of the poor. A destitute policy has been developed ensuring food provision for the poor. Sustainably diversifying agricultural production base; developing trade to meet import requirements; keeping a small physical food reserve as a contingency for drought years. To encourage private sector participation: (1) government commitment to infrastructure; (2) agricultural financing; (3) investment in agriculture.

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Updated 9 May 2003

MALAWI
Food Security Policy Matrix

		POLICY	PRACTICE	IMPLICATIONS	RECOMMENDAITONS
TRADE & MARKETING POLICIES	**Pricing – Farmgate**	Pricing liberalized	Private traders sell and buy	Farmers sell at low prices but buy at high price	Government to intervene in extreme cases
	Pricing – Retail	Pricing liberalized. Setting of minimum producer price stopped in 2000.	Some form of consumer price control implemented through ADMARC who sell maize at one price throughout the country. Private traders sell maize at their own price.	. Coexistence of a sudsidised public distribution channel alongside a free market in the staple grain creates opportunity for rent seeking behaviour.	Subsidy required to improve competitiveness of sales but should be done without disrupting the markets.
	Import/Export ... Participation	No restrictions on importation of maize/others liberalized. Restriction on maize exports.	In reality only the National Food Reserve Agency (NFRA) imports maize formally. Small private traders are involved in informal cross border trade	NFRA crowds out private sector participation.	Need for a clear food security policy.
	Import/Export ... Duties	No duties	No duties	A lot of cross border trade	There is need to capture cross border trade
	Domestic Marketing	Liberalized	Some intervention with regard to maize	Private traders are unable to make informal decisions	Should be transparent
	Food Reserves	National Food Reserve Agency is the custodian of the nations grain reserves created in mid 1999 to act solely a disaster and relief agency. Desired minimum stock is 60,000 MT	NFRA sets the minimum procurement price.	The existing institutional arrangements sometimes conflict with ADMARC	Establish a transparent management system and review institutional arrangements
	Futures	No policy		Price and supply stability is ensured through futures markets	Need information on this
	GMO	MASIP in place	Partnership Agreement signed	Provide Framework for sector coordination	Process should be supported
	Swaps				
TRANSPORT	**Transport**	Policy reforms underway.	Privatisation of Malawi Railways and Lake Service, Reduction of trucking tariffs and reduction of duty and surtax.	Improves the poor transportation system which has been slowing down distribution.	Implementation of policy reforms need to be monitored
	Transit Fee				
	Security				
INPUT POLICIES	**Distribution**	Liberalised	Various organisations distribute inputs in competition with ADMARC. Government distributes free inputs targeted to a few participants in the Targeted Inputs Programme.	Fewer recipients of inputs on the Targeted Inputs Programme, thus a reduction in surplus production due to lack of inputs	Maintain input distribution through the market. Targeting to be done carefully without disrupting the markets.
	Pricing (subsidy)	No subsidy	Private sector participates. Agricultural Productivity Investment Programme (APIP) (funded by EU) provides low interest rates	Price too high for inputs and there is limited availability of inputs in remote areas.	Create an environment for increased private sector participation especially in remote areas
	Import/Export ... Participation	Liberalized	Liberalized	Difficult to get information	Development market information system
	Import/Export ... Duties	Liberalized	Liberalized	Participation problem is information	Need for development dealers and information network
MACRO-POLICIES	**Foreign Exchange**	Liberalized. No restriction on foreign exchange movements	Fixed to some extent	Not very transparent	Need for transparent policy
	Forex facilities				
	Financing				
	Investment	Malawi Rural Finance Company (MRFC). Government is a majority stakeholder	MRFC provides loans to farmers at high interest rates.	Interest rate high	Reduce overhead
	Credit	Small Enterprise Development Organisation (SEDOM) is intended to provide credit to traders. MRFC offers credit to farmers.	MRFC offers credit to smallholder farmers at market determined rates.	MRFC coverage is limited in terms of numbers and delivery activities.	Need for a sustainable supply of credit.
	Interest Rates	Fixed by market	Very high rates	Farmers don't have access to inputs	Reduce Interest rates Need for competition

STRATEGIC FRAMEWORK	**Safety Net Programmes**	Government and NGOs have put in place the Targeted Inputs Programme, free food distribution to the most vulnerable population, Food for Work and Public Works Programme.
	Longer-term Food/ Agricultural Sector Recovery Strategy	PRSP was launched in April 2002. Food and Nutrition Policy under preparation. Vision and strategy for the agricultural sector under preparation

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Updated 9 May 2003

MOZAMBIQUE
Food Security Policy Matrix

		POLICY	PRACTICE	IMPLICATIONS	RECOMMENDAITONS
TRADE & MARKETING POLICIES	Pricing – Farmgate	Government liberalized farm gate prices in 1998, but fix for cashew	Producers sell their crops at their own prices	Farmers with poor road access get lower prices	Need to increase the role of private sector to stimulate higher farmgate prices
	Pricing – Retail	GoM liberalized in 1987	Private sector charges higher prices are higher than the government prices	Sharp retail price rises during the short supply period	Need to reduce food aid programs when food supply is adequate in the country
	Import/Export … Participation	GoM advise on contracts and private traders import	Informal sector actively engaged in cross-border trade.	Encourages competition and improves stock availability.	Current practice to continue.
	Import/Export … Duties	17% duties on all goods imported except for grain imports and exports of maize????	Import duties sometimes waived during emergency period	Private sector gets incentives to participate.	Waiver import duties under the current situation of food shortages.
	Domestic Marketing	GoM and private sectors market agencies sell	Government sets minimum prices	No timely and accurate information about present and prospective supplies of commodities. Marketing margins do not reflect commodity scarcities.	Need safety net for poor households
	Food Reserves	Desired situation is to store enough reserves for two months (5,000 to 7,000 MT)	No Strategic grain reserves are placed in the country. Cash flow constraints and uncertain market outlets are greater inhibitors to substantial bulking and gain storage.	No fallback, urgent need to import food.	Discussion on financial reserve is going on.
	Futures	No information is available		Price and supply stability is ensured through futures markets.	Need more information on this.
	GMO	Trade policy and strategy published in 1999		Uncontrolled and unmonitored importation and production of GMOs	Biotechnology policy encompassing GMOs among others must be put in place
	Swaps				
TRANSPORT	Transport		High transport costs to move food from northern or central surplus regions to southern deficit region of Mozambique. Poor rood connections.	Bad to very bad connection from the producers points to local market	Government need to improve transportation systems and road networks
	Transit Fee	No charges			
	Security				
INPUT POLICIES	Distribution	MADER and NGOs subsidize agricultural inputs and tools. Private sector sells them at full price.	Often late and do not meet the needs	Low production resulting in food insecurity	Maintain input distribution through the market. Targeting to be done carefully without disrupting the markets.
	Pricing (subsidy)	Subsidize prices or free distribution.		Private sector competes with non-subsidized inputs	Need to incentives to enhance increased private sector participation.
	Import/Export … Participation				
	Import/Export … Duties	GoM promotes minimum duties on inputs and capital goods		Movement of inputs is eased.	Current practice can continue but reduce/remove duties on inputs not available locally
MACRO-POLICIES	Foreign Exchange	Liberalized	Parallel market with higher rate	Overvalued exchange rate discourages foreign investment.	Need for transparent policy whilst maintaining market determined exchange rate
	Forex facilities	Liberalized since 1987			
	Financing				
	Investment				
	Credit		Lack of credit is a major operating constraint for many private intermediaries	Farmers lack adequate financing for inputs to increase production.	Set up policies that will ensure easier and cheaper access to credit for smallholders
	Interest Rates		18 to 22% per year for the Metical (MZ local currency) 9% per year for foreign currency	Limited potential for accessing credit by smallholders	Need to enhance competition among financial institutions.

STRATEGIC FRAMEWORK	Safety Net Programmes	Government cash transfer programmes
	Longer-term Food/ Agricultural Sector Recovery Strategy	Agriculture Rehabilitation Program (PROAGRI) at MADER that promotes rehabilitation of irrigation skim, small industries and increase of cash crop cultivation.

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Updated 9 May 2003

NAMIBIA
Food Security Policy Matrix

		POLICY	PRACTICE	IMPLICATIONS	RECOMMENDAITONS
TRADE & MARKETING POLICIES	**Pricing – Farmgate**	Not controlled, free market policy. Pre-harvest contracts offered by millers.	Price determined by import parity. Guideline price as determined by NAB	Prices determined by SAFEX prices plus transport costs. Producers receive competitive prices stimulating production.	None, works well
	Pricing – Retail	Free competition between maize millers	Big millers are price leaders but geographical price differences are normal. Retail prices determined by transport costs for raw material & milled products	Free market mechanism can disadvantage rural poor because of high transport costs	Need to carefully target food assistance in times of shortage without disrupting domestic markets.
	Import/Export ... Participation	Free market policy Millers import against permit from SA	Millers have to take up local harvest at import parity prices	None for consumers. Producers have ready market access	No participation by Government
	Import/Export ... Duties	No import duties applicable Permit costs N$40 per permit	Permits are readily given	No negative effect on consumer prices	None, works well
	Domestic Marketing	Protection of domestic producers	No import permits for maize until local harvest has been bought by millers	No negative implication for consumers	None, works well
	Food Reserves	No national food security policy in place	Maize is imported commercially without Government interference	No Government expenditure for storage facilities and stocks	None, works well
	Futures	Are used in pre-planting contracts offered to producers, not presently available for small scale farmers	Futures are an important instrument to stabilize commercial production	SAFEX futures are important to Namibia	Instruments have to be developed for small scale farmers to participate in pre-planting contracts
	GMO	Namibia is presently developing a national policy	A Bio-safety Act drafted. Policy recommendations expected end of July 2002	Presently, white maize imports have to be GMO free	Transparent SADC policy, taking individual country's decisions into consideration
TRANSPORT	**Transport**	Free market policy, no Government interference	Millers arrange own transport, very few constraints. However, small scale producers find it difficult to reach markets because of high transport costs	Shortage of trucks in SA can be a constraint. Namibia owns 72 grain trucks only. Lower prices to small scale producers due to high transport costs	Better management of trucks by Spoornet. Better organization of access of small-scale producers to markets.
	Transit Fee	None. In-transit permit costs N$40.			
	Security	Presently not a problem may be in connection with GMO policy	No losses are experienced	Implications with a 'GMO policy' spillage have to be investigated –if any	None
INPUT POLICIES	**Distribution**	Free market. By co-operatives and extension services to small scale farmers. Government in cooperation with NGOs.	Free market constraints to producers because of limited storage of inputs by co-operatives and traders	Not all production inputs are always available to especially small-scale farmers	Strengthening of co-operatives and extension services to address small-scale farmer's needs.
	Pricing (subsidy)	Maize seed package programme introduced. Donated fertilizer to small scale farmers and subsidized prices. Ploughing subsidies to subsistence and communal farmers.	Not much fertilizer is used by small scale farmers	Below average yields by small scale farmers	Empower extension services
	Import/Export ... Participation	None by GoN other than management of donated fertilizer	Dist. through extension to small-scale farmers only	No subsidies or. interference to commercial producers	None, but see above.
	Import/Export ... Duties	None		Free movement of inputs is encouraged.	Maintain the status quo.
MACRO-POLICIES	**Foreign Exchange**	No constriction for staple food imports. Namibia is part of the CMA	Application to Bank of Namibia through normal commercial banks	None	None
	Forex facilities	Available through Bank of Namibia for imports from outside the CMA	See above	None	None
	Financing	Available through Agribank, commercial banks and some smaller NGO schemes	Normal interest rates to commercial farmers, subsidized interest rates to small-scale farmers by some NGO's.	Incentive value low	None
	Investment	Government investment in food security stores at household, village and central level for small scale farmers only	Pilot project in small scale farmers maize producing areas (Caprivi Region)	Outcome of pilot project is evaluated before Government policy will be implemented	Government inputs on storage and transport for small scale farmers to be intensified
	Credit	Credit available to small-scale producers through Agribank against collateral. Commercial credit available to millers and producers at normal rates	Because of Government land policy, collateral not always obtainable by producers	Little use of credit facilities due to collateral constraints and ignorance	Better or more applied credit facilities through Agribank to small-scale farmers. Revisiting of the collateral clause in progress.
	Interest Rates	Commercial rates are applicable to all participants in the maize chain with the exception of small scale producers	See credit	See credit	See credit

STRATEGIC FRAMEWORK	**Safety Net Programmes**	Uninterrupted food aid to vulnerable groups (school-children, lactating mothers and pensioners) through Government and NGO's. In times of drought food aid is also made available to essentially small- scale farmers where household food security is not guaranteed any longer. Government Food for Work Programmes are in place.
	Longer-term Food/ Agricultural Sector Recovery Strategy	Vision 20/30 of the Namibian Government tries to address the status of Namibia as net food importing developing country (WTO classification application) in two ways: firstly to increase production of staples in Namibia in the context of natural limitations and secondly to develop agriculture in Namibia in a holistic way to diversify into agricultural high value export crops without jeopardizing household food security. Namibia has a food and nutrition policy and associated action plan as well as the "Green Plan" of the Ministry of Agriculture, Water and Rural Development.

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Zambia

Updated 9 May 2003

SOUTH AFRICA
Food Security Policy Matrix

		POLICY	PRACTICE	IMPLICATIONS	RECOMMENDAITONS
TRADE & MARKETING POLICIES	Pricing – Farmgate	Market deregulated, no government policy	None	Free market prices determined by local S&D and world price plus exchange rate	Maintain the status quo.
	Pricing – Retail	Market deregulated, no government policy	None	Market power of retailers and millers can be problem	Need to carefully target food assistance in times of shortage without disrupting domestic markets.
	Import/Export ... Participation	No government participation – traders play role	None	Traders respond to world/regional prices – international arbitrage apply	Practice encouraged under current situation of food shortages.
	Import/Export ... Duties	R137/t tariff on maize also import duty on wheat, meat		Discourages free crossborder trade.	Waiver duties when there are food shortages.
	Domestic Marketing				
	Food Reserves	None	None	No need	
	Futures	SAFEX operational	Used widely by traders, millers and some larger producers	Price risk minimized	Practice to be promoted
	GMO	GM maize approved for commercial use in SA	GM maize planted on 3% of total maize area	No problem	
	Swaps	????			
TRANSPORT	Transport	Rail transport controlled by state monopoly - SPOORNET		Monopoly pricing and inefficiencies in structure – turn around time for truck high	Free up market
	Transit Fee				
	Security				
INPUT POLICIES	Distribution	None			
	Pricing (subsidy)	None			
	Import/Export ... Participation	None			
	Import/Export ... Duties	Duties on most chemicals/ tractors/machinery/fertilizer		Movement of inputs is discouraged.	Reduce/remove duties on inputs not available locally
MACRO-POLICIES	Foreign Exchange	Open market	Traders determine Rand/US$ exchange rate through demand and supply.	Subject to large volatility	Maintain market determined exchange rates.
	Forex facilities				
	Financing				
	Investment				
	Credit	Provided by Land Bank (state) and commercial banks			Need to explore more alternatives for providing credit to smallholders
	Interest Rates	Market related	Adjustment of interest rates by Government monetary policy.		

STRATEGIC FRAMEWORK	Safety Net Programmes	Limited intervention by government
	Longer-term Food/ Agricultural Sector Recovery Strategy	New strategic plan for South African agriculture approved by President Mbeki

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Updated 9 May 2003

ZIMBABWE
Food Security Policy Matrix

		POLICY	PRACTICE	IMPLICATIONS	RECOMMENDAITONS
TRADE & MARKETING POLICIES	Pricing – Farmgate	Gov't announces farmgate buying price, Private traders set own price. Gov't sets minimum buying prices	Private sectors offers better prices than government when there are shortages; Payments are made in cash	Farmers with poor access to private traders get lower prices. Distorts internal production and consumption patterns	Increase private sector role so farmers get higher prices. Improve infrastructure instead of merely increasing buying points which just increases the

Updated 9 May 2003

TANZANIA
Food Security Policy Matrix

		POLICY	PRACTICE	IMPLICATIONS	RECOMMENDAITONS
TRADE & MARKETING POLICIES	Pricing – Farmgate	Market participants set own prices. No government intervention.	Price fluctuations depending on overall production levels and access to the market.	Farmers with poor market accessibility get lower prices.	Need to improve market accessibility through improved infrastructure.
	Pricing – Retail	Market participants set own prices. No government intervention, except when food is short, then they subsidize	Markets not integrated and prices differ. Price levels depend on seasonal production levels and market accessibility.	Retailers experience price fluctuations depending on production levels.	Need to improve market accessibility through improved infrastructure
	Import/Export ... Participation	Currently no restrictions. Cross border trade is legalized, facilitated and encouraged.	GoT restricts exports when production is low. Local administrations also impose restrictions in their locations.	Farmers do not benefit from price variation according to production. Import/export restrictions do not encourage cross border trade leading to high transaction costs.	Need to eliminate interventions in cross-border trade in food grains.
	Import/Export ... Duties	Export tax abolished. Import duty currently levied at a maximum rate of 25%.	Import duties sometimes waved in times of food shortages.	Waiving import duties encourages private sector importations.	Continue imposing import duties and do not re-instate export duties, thus protecting domestic producers unless there is a food shortage.
	Domestic Marketing	Liberalized domestic marketing system and removal of state monopolies.	Government intervenes in restricting movement across internal boundaries.	The market does not assure poor households have access to food throughout the year.	There is a need for safety nets for poor households.
	Food Reserves	The SGR remains the main policy instrument the government uses to deal with emergency situations.	Desired maize stocks of 150,000 MT, but finance is not available to maintain that level of stock.	High costs to operate reserve. Difficulties associated with long-term storage and with distribution.	Reduce physical stocks, consider alternatives such as financial reserves, and greater reliance on privately held stock.
	Agricultural Taxation	No mention of agriculture taxation in current policy documents.	District produce cess is the only tax levied on marketed food crops ranging from 5% to 10% of farmers price per kg.	Most of food crops produced and marketed by small farmers have small gross margins and a cess of 10% on producer prices is relatively high.	Taxes levied by local authorities should be rationalized and streamlined.
INPUT POLICIES	Distribution	With liberalization, input supply is now to be undertaken by the private sector.	Often too late or short supply for the season.	Reduction in input usage.	Devote resources to improve physical infrastructure, especially in rural areas.
	Pricing (subsidy)	Input subsidies have been removed.	Farmers subjected to unsub-sidized inputs. Input distribu-tion not coordinated; supplies often come too late and in short supply.	Prices have gone up and overall terms of trade have turned against food crop production resulting into a reduction in input usage.	GoT should create an enabling environment for efficient private sector operation, and encourage more competition in the marketing chain.
	Import/Export ... Participation	With liberalization, importation of inputs is now done by the private sector.	Inputs are in short supply.	Decrease in input usage.	GoT should create an enabling environment for efficient private sector importation and distribution of inputs.
MACRO-POLICIES	Foreign Exchange	Liberalized and market determined.	Overvaluation of the real effective exchange rate has tended to rise in recent years.	Foreign currency shortages, Discouraging exports and reducing international competitiveness.	Maintain market determined exchange rates.
	Investment	Increased government spending to agriculture sector and savings resulting from rationalization of functions and services be retained by the Ministry of agriculture.	Low government spending in the sector. Currently total government expenditure on agriculture averages 7.2% of all budgetary expenditure.	The declining share of government spending is especially worrisome for future productivity growth in agriculture.	Public spending on agriculture coupled with investment in supporting infrastructure will have considerable impact on rural led growth.
	Credit	Liberalized financial Sector	Private Financial Institutions concentrating in urban centers.	Rural sector deprived of financial services and agriculture has experienced the steepest decline in the sectoral share of credit.	Need for strategy to intensify micro-finance services in rural areas.
	Interest Rates	Free determination of interest rate in the financial markets.	Deposit rates range between 5% and 9% while lending rates between 18% and 22%.	Limited potential for lowering costs of finance for investment while low real deposit rates deter higher financial savings.	Need to further enhance competition among the financial institutions specifically commercial banks.

STRATEGIC FRAMEWORK	Safety Net Programmes	Those food insecure households who have insufficient land and labor resources to achieve food security through producing their own food, estimated at 300.000 – 400,000 households, will depend on labor markets or selling non-agricultural outputs for their food entitlements. They can be assisted with targeted programs offering a combination of training and credit to enhance income-generating opportunities. However, even when successful, these programs are very expensive, and they often have a poor track record. Realistically, the best hope for these households depends on generating growth in rural areas, and thus stimulating labor productivity and employment opportunities. Access to education is an important element in breaking this cycle of rural poverty.
	Longer-term Food/ Agricultural Sector Recovery Strategy	Within a given timeframe (by 2005) and resource envelope, the Agriculture Sector Development Strategy should focus on the following critical issues: (i) Strengthening the institutional framework for managing agricultural development in the country; (ii) Increase private sector participation by creating a favorable environment for commercial activities; (iii) Clarifying public and private roles in improving support services including research, extension, training, regulation, information and technical services and finance; (iv) Paying attention to the marketing of inputs and outputs so as to increase net farm returns and commercializing agriculture; and (iv) mainstreaming planning for agriculture development in other sectors so that due attention is paid to issues such as rural infrastructure development, the impact of HIV/AIDS, gender issues youth migration, environmental management etc.

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Appendix 10. Example of Smallholder Nontraditional Exports: Mexico

Cereals	Amaranth, blue corn, popcorn
Native fruits	Custard apple, cactus pear, sapote (custard apple), pitahaya, passion fruit, guava, coconut
Exotic fruits	Kiwifruit, persimmon, lychee, pomegranate, rambutan, star fruit, jackfruit, small bananas, sweet lime, breadfruit, kumquat, gooseberries
Dried fruits	Dates, macadamia, cashews, pistachio, white figs
Non-traditional vegetables	
Industrial	Cocoa, organic coffee, cardamom, vanilla beans, Agave, natural fibers, tamarind
Oil seeds	Chia, African palm oil
Tubers	Taro root, yucca root (cassava)
Spices and medicinal herbs	Rocket, bay leaves, chives, dill, garlic, purslane, sorrel, sage, hibiscus flowers, Chinese parsley, coriander, marjoram, Mexican tea, tarragon, rosemary, basil, thyme, cumin, feverfew, chamomile, mustard, ginger root, rosemary and lemon tea, mushrooms
Other	Exotic cattle, commercial marketing of insects for collectors

Source Farías (2001)

Appendix 11. Data Tables relating to HIV/AIDS in Southern Africa

Table 1
Number of People Living with HIV/AIDS in Southern Africa in 2001 ('000)

Country	Adults[1]	Women[1]	Women, percent of total	Children[2]	Total	Adultrate[3]	Deaths	Orphans[2]
Angola	320	190	54%	37	350	6%	24	100
Botswana	300	170	52%	28	330	39%	26	69
Lesotho	330	180	50%	27	360	31%	25	73
Madagascar	21	12	55%	1	22	0.3%	0	6.3
Malawi	780	440	52%	65	850	15%	80	470
Mozambique	1,000	630	57%	80	1,100	13%	60	420
Namibia	200	110	48%	30	230	23%	13	47
South Africa	4,700	2,700	45%	250	6,000	20%	360	660
Swaziland	150	89	52%	14	170	33%	12	35
Tanzania	1,300	750	50%	170	1,500	8%	140	810
Zambia	1,000	590	49%	150	1,200	22%	120	570
Zimbabwe	2,000	1,200	52%	240	2,300	34%	200	780
Totals	12,101	7,061	49%	1,092	14,412		1,060	11,060

[1]Adults and women: 15-49 years of age; [2]children and orphans: 0-15 years of age;

[3] rounded percents.

Source: UNAIDS, UNICEF, and WHO Epidemiological Fact Sheets, 2002

Table 2
Increase in Reported AIDS Cases in Southern Africa, 1980s to Present

Country	Number of Cases			Percent increase, 1995 to end year
	Base year[1]	1995	End year[2]	
Angola	1985: 4	427	2000: 1,271	198%
Botswana	1987: 3	1,172	1998: 2,992	155%
Lesotho	1986: 1	341	2000: 3,760	1,003%
Madagascar	1988: 1	6	2001: 6	0
Malawi	1985: 17	5,209	1999: 1,711	-67%
Mozambique	1986: 1	1,380	2000: 7,800	465%
Namibia	1992: 430	1,836	2000: 4,503	145%
South Africa	1992: 2	4,219	1996: 738	-82%
Swaziland	1987: 1	154	1999: 1,259	717%
Tanzania	1983: 3	4,722	2000: 11,673	147%
Zambia	1984: 1	5,950	1997: 1,676	-71%
Zimbabwe	1987: 119	13,356	1998: 4,113	-69%

[1]First year cases were reported; [2] last year cases were reported.

Source: UNAIDS, UNICEF, and WHO Epidemiological Fact Sheets, 2002

Table 3.
Southern Africa: Trends in Pregnant Women's1 Median HIV Prevalence Rates (UNAIDS, UNICEF, and WHO Epidemiological Fact Sheets, 2002; approximate percents taken from graphs)

Country	Urban		Rural	
	Base year, rate	End year, rate	Base year, rate	End year, rate
Angola	1987: 0.3%	2000: 3.4%	no year, 7%	no year, 8%
Botswana	1991: 6%	2001: 45%	1991: 5%	2001: 35%
Lesotho	1992: 6%	2001: 42%	1993: 3%	2001: 20%
Madagascar	no data			
Malawi	1991: 20%	2000: 25%	1993: 5%	2000: 22%
Mozambique	1993: 2%	2001: 14%	1995: 11%	2001: 10%
Namibia	1993: 4%	2001: 30%	1993: 3%	2001: 18%
South Africa	1993: 3%	2001: 25%	1995: 7%	2001: 25%
Swaziland	1993: 4%	2001: 33%	1993: 3%	2001: 35%
Tanzania	1991: 25%	2000: 17%	1991: 8%	2000: 15%
Zambia	1991: 25%	2000: 33%	1991: 17%	1999: 13%
Zimbabwe	1991: 19%	2001: 30%	1991: 18%	2001: 33%

[1]Pre-natal clinic attendees.

Table 4.
Projected Labor Force Losses in Southern Africa due to HIV/AIDS (percents)

Country	National labor force		Agricultural labor force		Estimated decrease in agricultural production[1]
	by 2005	by 2020	1985–2000	1985–2020	1985–2020
Botswana	-17.2	-30.8	-6.6	-23.2	-7.0
Lesotho	-4.8	-10.6			
Malawi	-10.7	-16.0	-5.8	-13.8	-4.1
Mozambique	-9.0	-24.9	-2.3	-20.0	-6.0
Namibia	-12.8	-35.1	-3.0	-26.0	-7.8
South Africa	-10.8	-24.9	-3.9	-19.9	-6.0
Tanzania	-9.1	-14.6	-5.8	-12.7	-3.8
Zimbabwe	-19.7	-29.4	-9.6	-22.7	-6.8

[1]Adelski's calculations based on USDA's formula of a 0.3% decrease in production for every 1% decrease in the supply of labor, in Shapouri and Rosen 2001.

Source: de Waal and Tumushabe, 2003

Table 5
Change in Number of Hectares and Metric Tons of Cereals Harvested in Southern Africa, 1990-1999

Country	Hectares harvested			Metric tons produced		
	1990	1999	Percent change	1990	1999	Percent change
Angola	775,127	887,148	15	248,500	549,781	121
Botswana	202,900	97,300	-52	52,630	29,800	-62
Lesotho	233,450	175,809	-25	241,903	173,852	-28
Malawi	1,425,342	1,587,563	8	1,413,293	2,634,797	86
Mozambique	1,549,497	1,762,392	14	734,326	1,821,615	148
Namibia	214,180	330,668	54	97,948	71,595	-27
South Africa	6,146,300	4,570,283	-26	11,555,300	10,034,513	-13
Swaziland	93,377	63,215	-32	99,469	114,000	15
Tanzania	2,627,560	3,153,693	20	3,842,000	3,800,502	-1
Zambia	895,163	760,426	-15	1,210,317	1,057,419	-13
Zimbabwe	1,575,933	1,903,450	21	2,560,241	1,986,960	-22
Region	15,738,829	15,291,941	-3	21,966,407	22,264,834	1.4

Source: Agricultural Tables.xls, no date

Box 1.
HIV/AIDS Impacts and Responses in a Farming Household

- Adult becomes sick
- S/he reduces work
- Replacement labor is imported, perhaps from relatives
- Adults work longer houses on farm
- Health care expenses rise (e.g. drugs , transport)
- Household food consumption is reduced
- Households switch to labor-extensive crops and farming systems and small livestock
- Nutritional status deteriorates
- Adult stops work
- Increased care for the sick adults, less time for child care
- Divisible assets are disposed (e.g. livestock)
- Debts increase
- Children drop out of school to help with household labor
- Adult dies
- Funeral expenses arise
- Household may fragment as other adults migrate for work
- Reduced cultivation of land , more left fallow
- Inappropriate natural resource management may lead to increased spread of pests and diseases
- Effects of knowledge loss intensify
- Increased mining of common property resources
- Access to household land and property may be affected (regarding rights of surviving widow)
- Solidarity networks strained, possibly point of exclusion
- Partner becomes sick
- Downward spiral accelerates.

(Gillespie S., Haddad, L., Jackson, R., 2001)

Households in Malawi, Zambia, and Zimbabwe with chronically ill household heads (proxy HIV / AIDS individuals) cultivated less cash and cereal crops, and more tuber crops:

Table 6
Change in Cropping Patterns1 with a Chronically Ill Household Head

Household head	Percent of cash crops	Percent of tuber crops	Percent of cereal crops
Healthy	14	28	58
Chronically ill	5	53	42

[1]Percent of area or production not specified.
Source: SADC FANR, 2003

Proxy indicators for HIV / AIDS in Zambian households indicate that the disease increases the household cereal gap:

Table 7
Zambia: HIV/AIDS Proxy Indicators and Change in the Household Cereal Gap

Indicators	Percent change in household cereal gap
Morbidity indicators	
Chronically ill household head	+26
Chronically ill adult 15-59 years	+21
Mortality indicators	
Death of household member in last 6 months	+8
Death of adult 15-59 years in last 6 months	+9
Hybrid morbidity/mortality indicators	
HIV / AIDS-affected households	+16
Highly affected households	+26
Dependency ratio indicators	
Orphans in the household	-3.5
No adults 15-59 years in the household	+15

[1]Cereal gap: unmet annual household grain needs after all actual and predicted availability and access to food has been exhausted.
Source: SADC FANR, 2003

Staple food production and income from cash crops decreases considerably in households without an active adult, i.e. those households composed of the young (less than 15 year) and the elderly (60+ years):

Table 8
Change in Crop Production in Households Without an Active Adult: Malawi, Zambia, Zimbabwe

Country	Percent change in cash crop income	Percent change in Tuber production	Percent change in Cereal production
Malawi	-51	-26	-53
Zambia	-85	-69	-57
Zimbabwe	-77	no data	-24

Source: (SADC FANR, 2003).

Incomes in households in Malawi affected by HIV/AIDS, based on SADC's proxy variables, decreased considerably:

Table 9
Malawi: Effects of HIV/AIDS on Household Income

HIV/AIDS proxy	Percent change in per capita income	Percent change in household income
Extremely high dependency ratio (household members are <15 or >59 years of age)	-37	-65
No active adults	-31	-55
Recent active adult death	-35	-24
Chronically ill active adult	-66	-49

Source: SADC FANR, 2003

Appendix 12. Regional Policy Dialogue, March 26-27—Recommendations

Achieving long-term food security in the region requires an evaluation of policy interventions and mechanisms for their effectiveness, and a sharing of that information with policymakers on a regular basis to change policies and programs on a constant basis.

The promotion of agriculture production in the smallholder sector will require increased investment for developing irrigation systems that are sustainable and that effectively manage water resources. Improving access to credit for agriculture, particularly for women farmers, is important. The promotion of crop diversification towards high value and drought tolerant crops is important for reducing the dependency of the smallholder sector on cereal crops. Increasing the availability of inputs, particularly fertilizers and high yielding varieties of seeds, by reducing the marketing costs and improving private sector participation in input markets are important for increasing smallholder productivity.

To increase agriculture production, investment in agricultural research is fundamental. Such investment can be organized through a regional/integrated approach to agricultural research. This requires a review of past experiences in terms of organizing regional research programs, collaboration between SADC, NARS, and IARCS to identify the priorities for agricultural research, and capacity development for agricultural and modern biotechnology research. Capacity building is also necessary for developing biosafety research systems that will facilitate technology transfer. Also needed is a regional strategy for biotechnology that revitalizes the existing technologies and selects and borrows technologies from developed countries.

Improving food security information systems such as the early warning systems, market information systems, and providing institutional support for translating information generated by these systems into policies and programs is essential. Such information system will help in the provision of information, the planning and organization of food related interventions, and the prevention of future food crises.

The use of market and trade to solve food security problems should be given the highest importance. This requires organizing the smallholder sector into producer associations,

developing and harmonizing trade protocol, removing non-price trade barriers, reducing transaction costs by improving market infrastructure, and increasing private sector participation by providing training for development of agribusinesses.

In reducing and then gradually eliminating the role of food grain parastatals in food markets, private sector activity will improve locally, regionally, and internationally. Decoupling food security and the existence of parastatals is an urgent need for the region. Encouraging regional commodity exchange and regional trading activities in the food sector will reduce the role of parastatal organizations, which are inefficient and ineffective in achieving food security.

Investing for the improvement of the production base, such as infrastructure, particularly roads, for agriculture development, marketing institutions, and human resources that enable better participation of the smallholder sector in the agricultural economy is important. In doing so, the role of private and public sector participation is important.

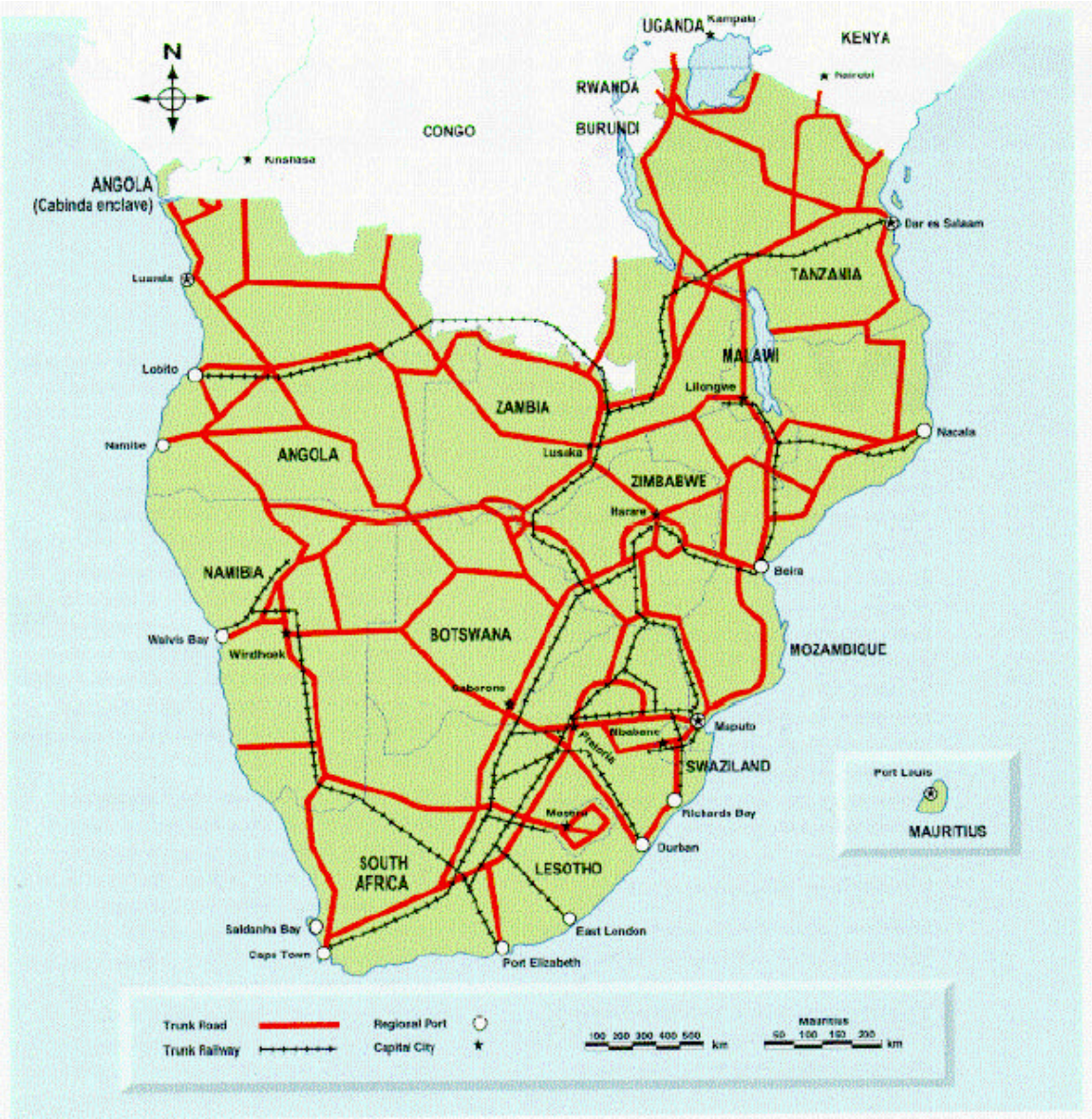
The elimination of intraregional tariffs which frequently occur during the time of food crises should be immediately implemented. Countries should focus on food self-reliance strategies rather than on food self-sufficiency strategies.

There is a need for a regional policy for establishing laws and regulations for the general acceptance of modern technologies, such as biotechnology, based on a scientific approval process and a scaling up and out from existing technologies in the region.

In achieving long-term food security there is a need for improving good governance in the region by implementing a zero-tolerance policy for corruption and by strengthening local and community civic organizations to effectively participate in the governance process.

The political commitment of Southern Africa's leaders for regional integration of trade and development strategies by implementing the agreed upon protocols, and developing a commercial code of conduct for SADC trade protocol would be beneficial for achieving long-term food security. To address the food security problems of the region there is a need for developing a regional vision and a strategy process that can be used for monitoring and measuring performance. Conducting additional research for identifying food security policies and programs and sharing the knowledge with policymakers on a routine basis through the system of SADC is essential.

Appendix 13. Southern African Transport Network



Source: World Bank http://www.worldbank.org/transport/tr_facil/docs/smak1.pdf

Appendix 14. Mellor Agricultural Growth Thesis

Structure of Growth and Poverty Reduction

1. There has been for some decades a literature on the strong linkages between growth in agriculture and multipliers in the non-farm sector arising from the expenditure of incremental farm income. The labor intensity of those multipliers has been emphasized; e.g. Mellor and Lele 1972, Mellor 1978, Mellor 1985.

2. Empirical support until recently depended on micro studies (the above, Hazel for Malaysia and Africa, Delgado for Africa.)

3. Around the 1980's, phenomenal reductions in poverty occurred in Asian countries—25 percent in 15 years in India; 1/3 to 1/2 in Southeast Asian countries; similarly in China; the virtual eradication of absolute poverty in Taiwan.

4. In that context, it has become possible to statistically relate poverty not only to growth but to the structure of growth.

5. The results have been startling (only matched by the startling lack of attention to these sterling empirical studies.)

- Manufacturing growth has essential no effect in reducing poverty (Ravallion and colleagues) or very little (Timmer.)
- Urban growth reduces the dominant rural poverty not at all and has only modest effect on urban poverty
- Agricultural growth has an immense effect on poverty.
- Rural growth reduces rural poverty sharply and reduces urban poverty more than does urban growth.
- There is a two to three year lag in the effect of agricultural growth on poverty reduction (showing that it is the indirect effects that are most important.)

- Further corroborating that it is the indirect effects, agricultural growth with Latin American levels of inequality in land distribution has little effect in reducing poverty.
- Growth per se does little to reduce poverty, it is the structure that matters.

6. Growth in income of the middle peasant has a very favorable effect in reducing poverty by making employment for the poor who are so deficient in non labor resources. It is better to get big increases in income for those with resources and let the multipliers carry the effects to those deficient in resources.

7. Empirical evidence is now accumulating that for every job made directly in agriculture from agricultural growth two to three jobs are made in the non-farm sector (see Mellor on Egypt, 1999.)

8. Thus, it is not surprising that manufacturing is far more important than agriculture in generating GDP growth, but that agriculture, through its direct and indirect effects, is far more important than manufacturing in generating employment.

9. In the absence of rising farm incomes, attempts to reduce poverty through direct action in the non-formal (small scale) non-agriculture sector fail. The market for those goods and services is from the prospering agricultural sector.

10. Agricultural benefits immensely from international prices and an open economy; but agricultural growth and multipliers are more inward looking than the export led growth that depends on foreign markets for essentially all of incremental output.

11. Why is agriculture little emphasized for poverty reduction?

- Contemporary low income countries have largely urban oriented governments, as was historically so in Asia.
- Foreign aid, because of the myriad special interest groups, can no longer have a steady focus on agriculture, further weakening national forces that are rural oriented.

12. What is the optimal policy for poverty reduction?

- Emphasis on formal agricultural growth plans with tight priorities and clear sequences to counter the dispersal inevitable in contemporary foreign aid.
- Four to six percent growth rates (not the three percent rates feasible in earlier decades) and halving poverty in 15 years, given the far better opportunity for high value agricultural commodities for domestic and foreign markets.
- Emphasis on resources productivity, particularly fertilizer and pesticides with favorable effects on the environment and on farm incomes.
- Massive rural infrastructure investments lifting many immediately out of poverty while sharply reducing transaction costs for agriculture.
- Actions to include women to ensure broad participation, given the tendency for women to be excluded from modern institutions even though dominant in traditional ones.

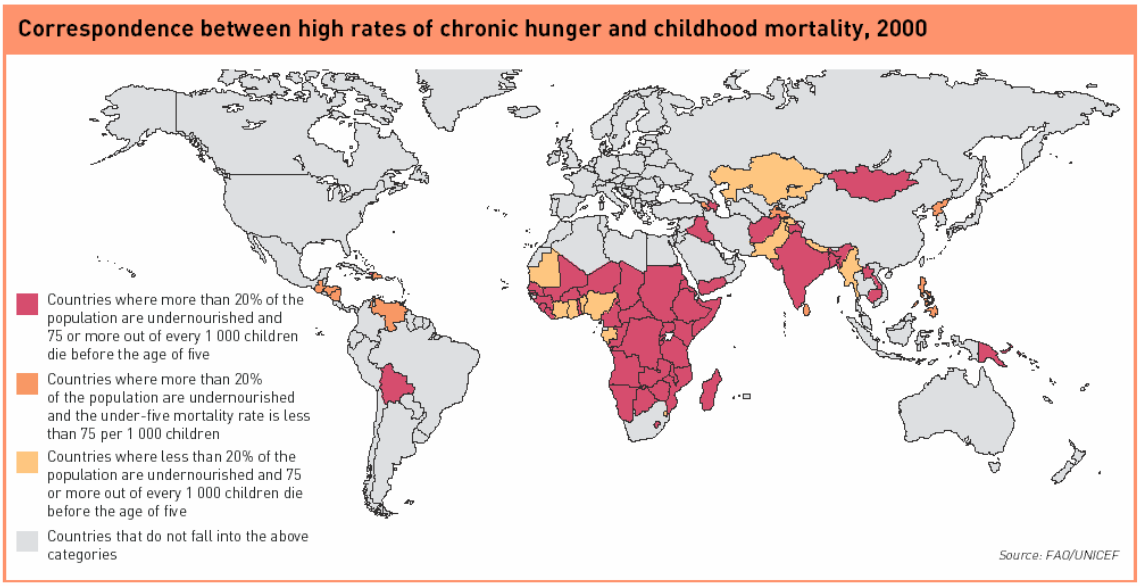
- Assist the growth of small firms in the context of rising farm incomes, to eventually build connections outside agriculture, per the Taiwan experience.
- Programs for child survival, nutrition, female education, in the context of rising farm incomes that make the jobs and hence high returns to that human capital.

Poverty reduction must start with solving two-thirds of the problem - broad based agricultural growth, rising farm incomes, and hence rising effective demand for the high employment farm driven non-farm sector. Then, the thrusts for GDP growth can go ahead with minimal social tensions and direct action programs to reach the poor can succeed.

This précis abstracts from a paper titled Poverty Reduction—Sequences and Priorities presented at WDR on Poverty and Development 2000/01, Stiglitz Summer Research Workshop on Poverty, Washington DC, July 6—8, 1999, by John W. Mellor, Abt Associates, Inc., and available at john_mellor@abtassoc.com[48]

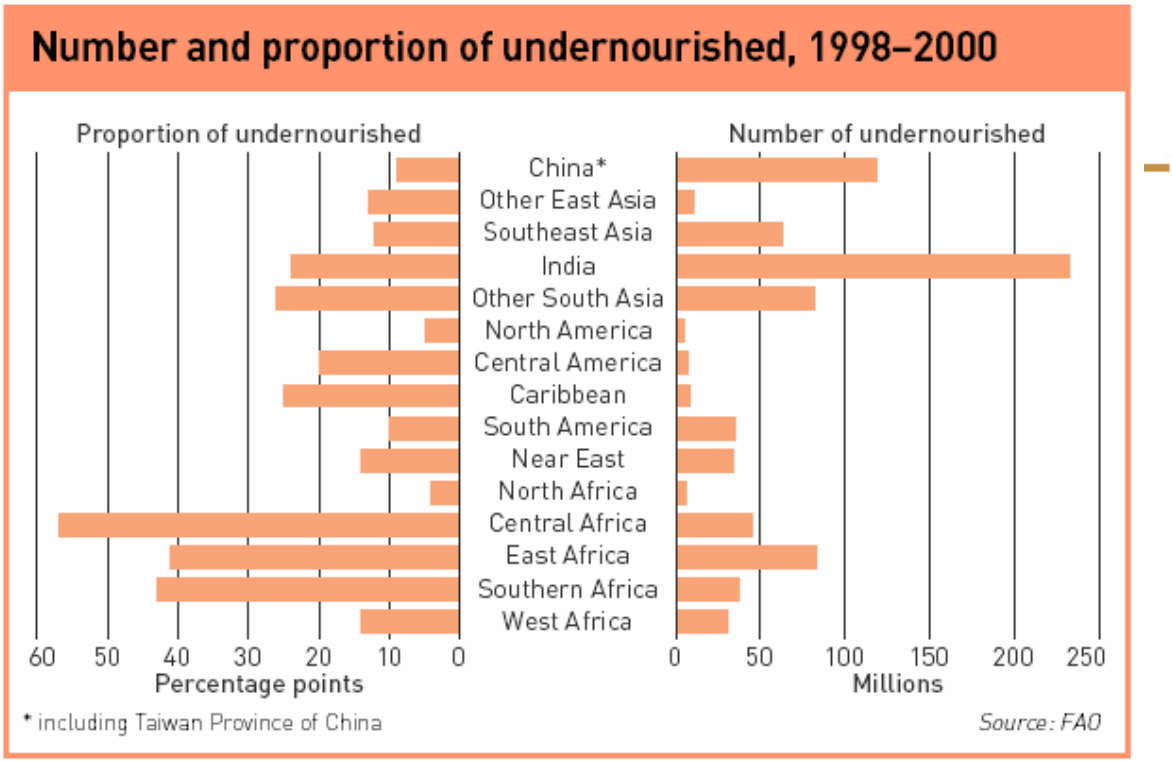
[48] http://www.worldbank.org/poverty/wdrpoverty/stiglitz/Mellor.pdf

Appendix 15. Useful charts



FAO 2002

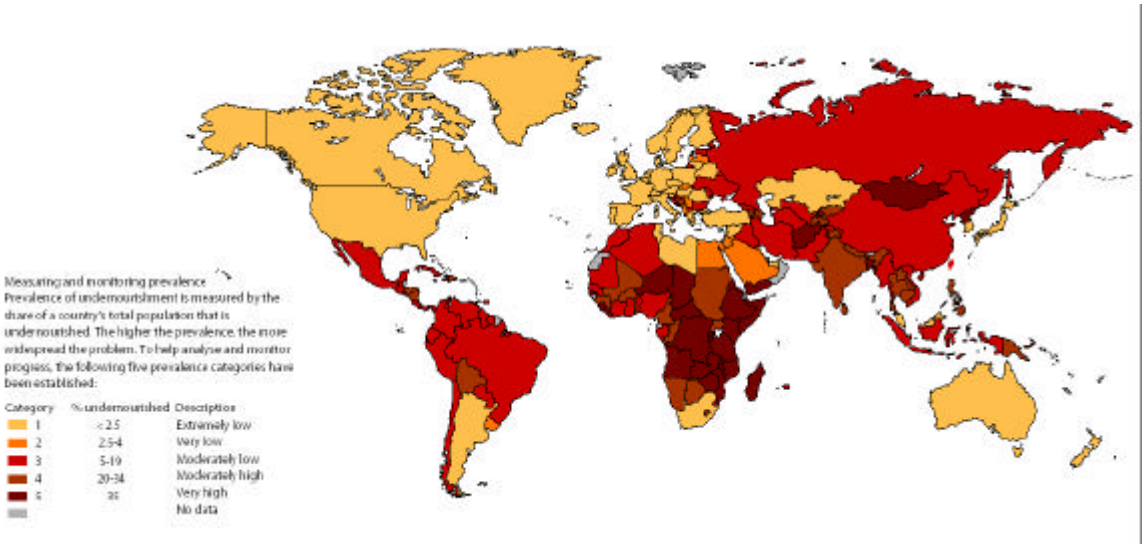
Source: IFAF 2002, p. 89



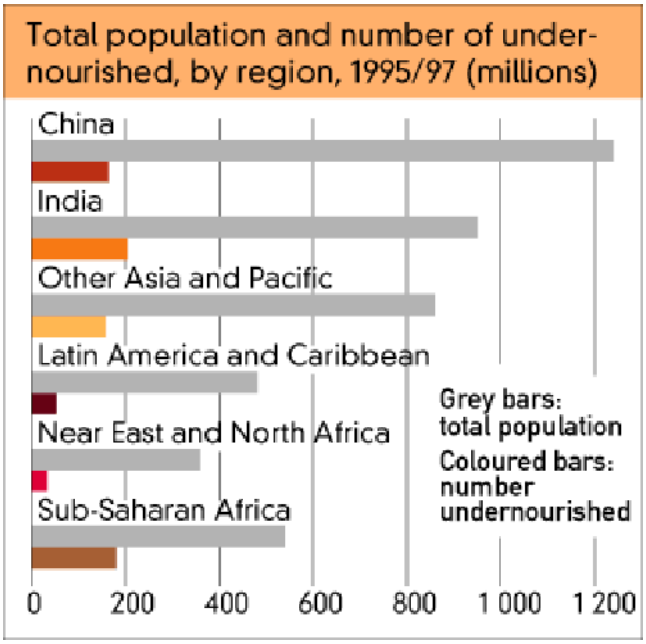
Source: www.unaids.org

Source: FAO data

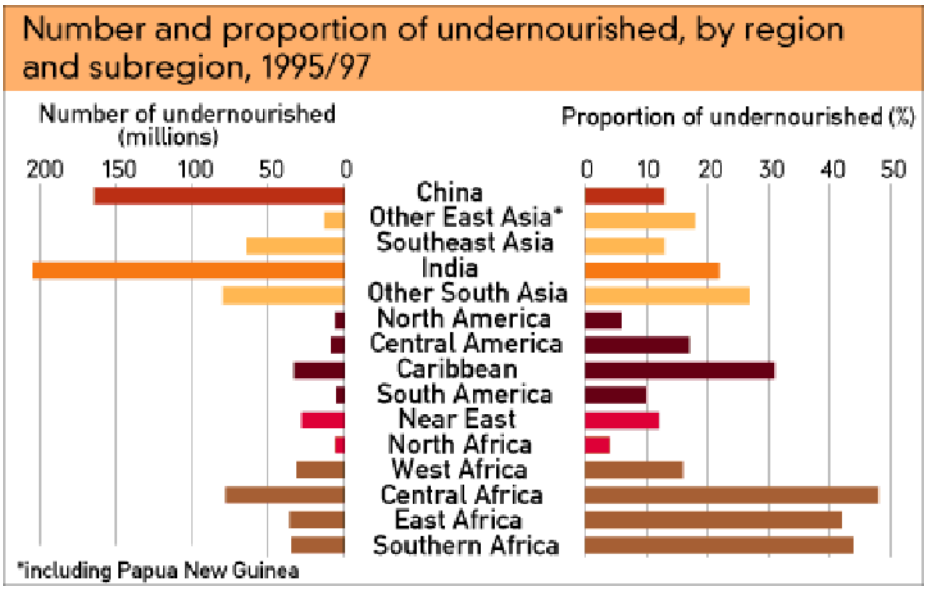
Undernourishment around the World



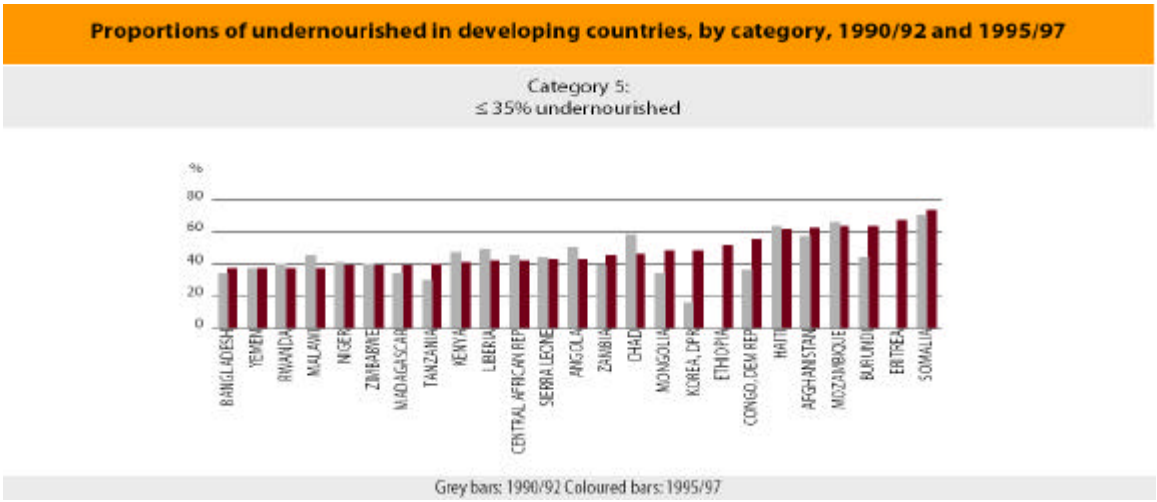
Source: FAO data; http://www.fao.org/FOCUS/E/SOFI/img/map-e.pdf



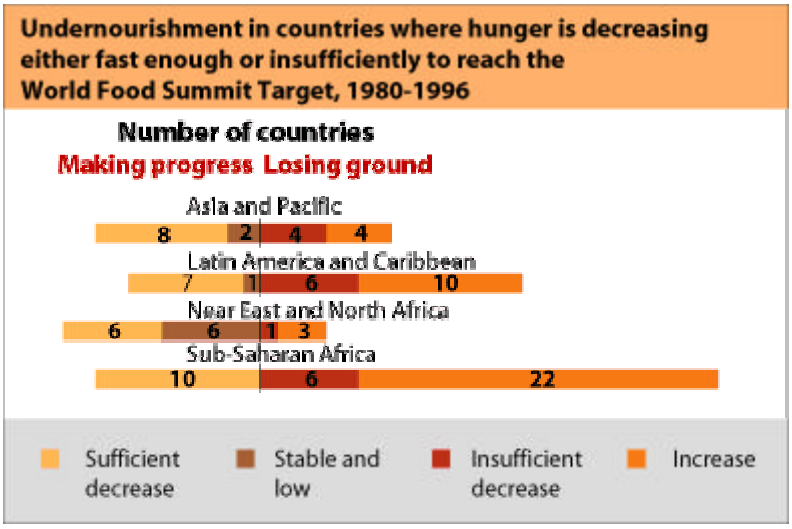
Source: FAO data ; http://www.fao.org/FOCUS/E/SOFI/img/04-e.gif



Source: FAO data; http://www.fao.org/FOCUS/E/SOFI/img/05-e.gif



Source: FAO data; http://www.fao.org/FOCUS/E/SOFI/img/03e-e.pdf



Source: FAO data; http://www.fao.org/FOCUS/E/SOFI/img/07-e.gif

1. Global Food Deprivation

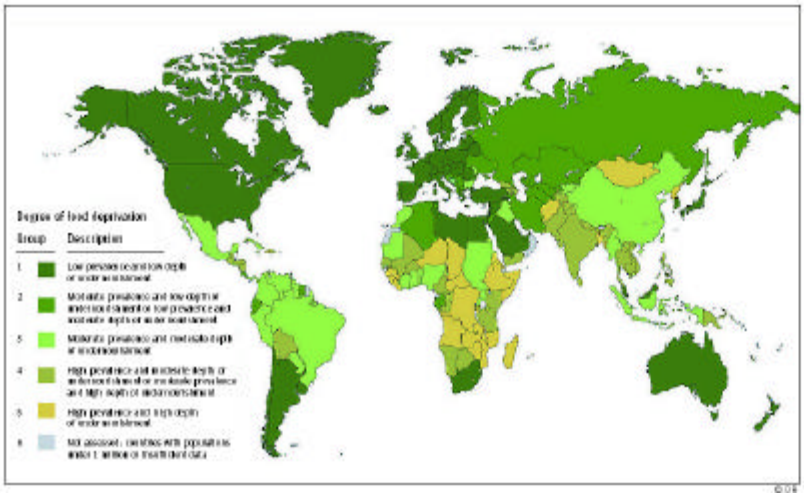


Figure 1.
Degree of food deprivation in 1996-98 (from FAO, 2000).

Source: Gregory, et al. (2002)

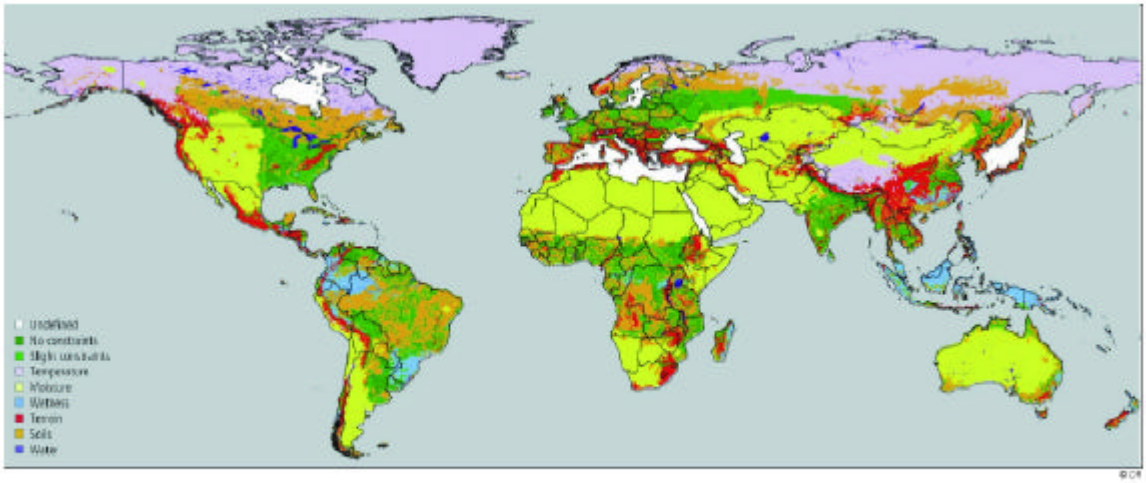


Figure 2.
Environmental constraints to rainfed agriculture (from IIASA, 2002).

Source: Gregory et al (2002)

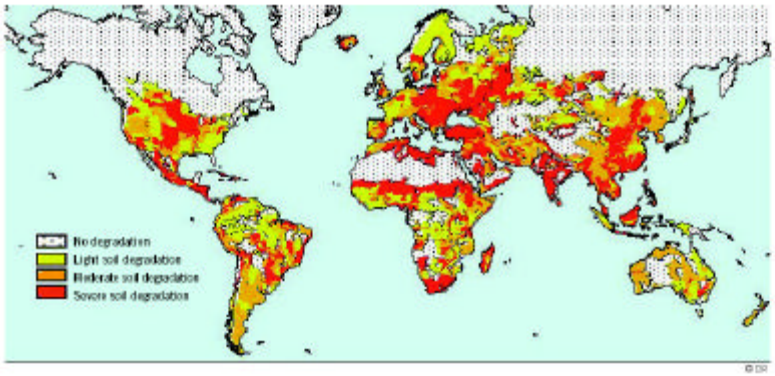


Figure 3c.
Results of the Global Assessment of Human-induced Soil Degradation (GLASOD) published by Oldeman et al., 1990.

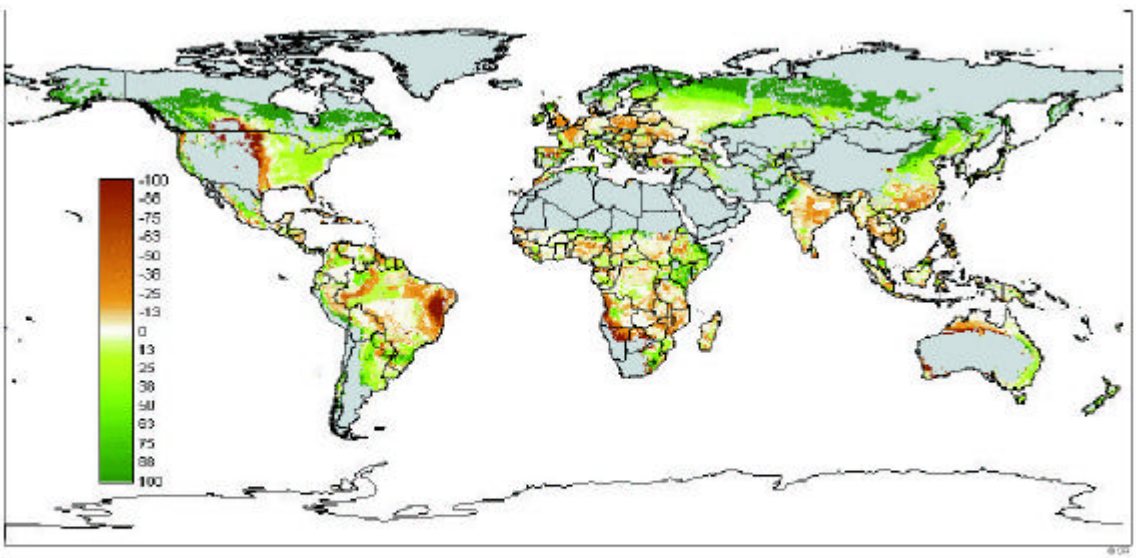


Figure 4c.
Projected impacts (% change) of climate change on multiple cropping potential production of rainfed cereals. Based on climate projections by the Max Planck Institute for Meteorology/ ECHAM4 2080 (from Fischer et al., 2001).

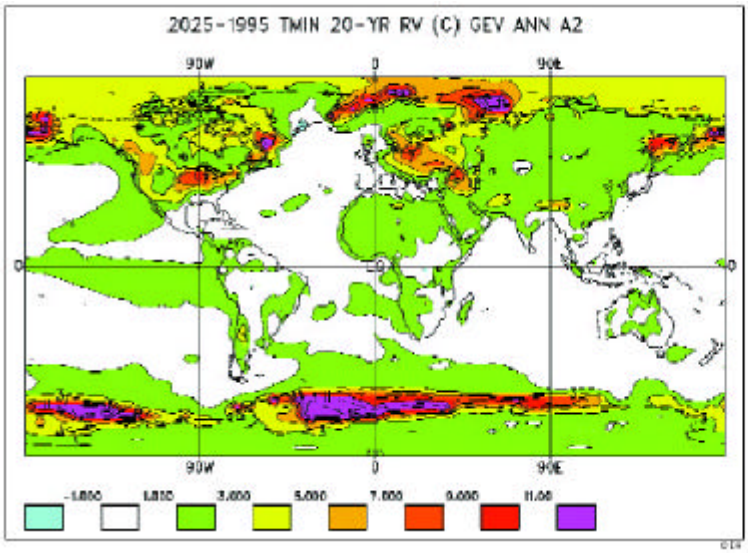


Figure 3a.
The change in estimated 20-year return values for extreme minimum temperature projected by the Canadian GCM2 between the decade of the 1990s and the decade of the 2020s. The colour scale is in degrees C. A 20-year return value for minimum temperature is the extreme minimum temperature that is expected to occur, on average, once every twenty years. (Figure provided courtesy of V. Kharin and F. Zwiers, Canadian Centre for Climate Modelling and Analysis, Meteorological Service of Canada.)

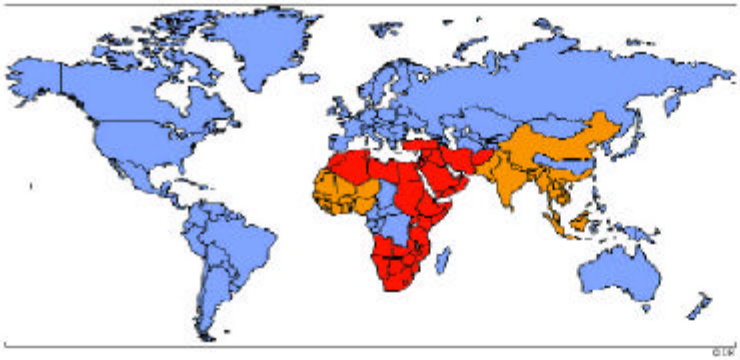


Figure 3b.
Estimated global water scarcity in 2050. Regions are coded according to their per capita annual renewable freshwater resource. Red- less than 1000 m^3 per person per year, orange- between 1000 and 2000 m^3 per person per year and blue- greater than 2000 m^3 per person per year (from Wallace, 2000).

Appendix 16. Nutrition Data

Table 1

Prevalence of Stunting, Wasting, and Underweight in Children in Southern Africa (percent of children under five

Country	Year	Stunting (chronic malnutrition)		Wasting (acute malnutrition)		Underweight (global malnutrition)	
		Moderate plus severe[1]	Severe[2]	Moderate plus severe	Severe	Moderate plus severe	Severe
Angola[3]	1996	58	33	7	2	49	17
Botswana	2000	23	8	5	1	13	2
Lesotho	1996	44	20	5	3	16	4
Madagascar	2000	49	26	14	5	33	11
Malawi	2000	49	24	6	1	25	6
Mozambique[4]	1997	36	16	8	2	26	9
Namibia	1992	28	8	9	2	26	6
South Africa[5]	1994	25	--	3	--	9	1
Swaziland	--	30x[6]	--	1x	--	10x	--
Tanzania	1999	44	17	5	0.6	29	7
Zambia	1999	59	--	4	--	25	--
Zimbabwe	1999	27	9	6	2	13	2
Sub-Saharan Africa		41	20	10	3	30	9

1. Moderate plus severe: < -2 SD.
2. Severe: <-3 SD.
3. The figures for Angola are from the Angola 1998 Multiple Indicators Cluster Survey.
4. Mozambique: children under three years of age.
5. South Africa: children 7-60 months.
6. The "x" denotes data that differ from standard definitions or are from only part of the country.

SOURCE: UNICEF, no date

Table 2
Underweight Children in Southern Africa: 1970, 1975, and 1990-98[1] (percent under five)

Country	1970	1975	1990-98
Angola	--	--	42
Botswana	44	--	17
Lesotho	47	20	16
Madagascar	--	--	--
Malawi	38	19	30
Mozambique	16	--	26
Namibia	--	--	26
South Africa	70	--	9
Swaziland	49	--	10
Tanzania	37	25	27
Zambia	48	17	24
Zimbabwe	66	25	15

1. Moderate plus severe underweight: < -3 SD.

SOURCE: UNICEF, no date

Table 3
Changes in Children's Chronic Malnutrition Rates in 5 Southern African Countries in the 1990s (rounded percents; children <5)

Characteristic	Years	Moderate plus severe stunting[1]			Severe stunting[2]			Urban-rural differences, moderate plus severe stunting		
		1st year	2nd year	Change	1st year	2nd year	Change	1st year[3]	2nd year[4]	Change
MADAGASCAR										
National	1992, 1997	55	49	-6				11	4	-7
Urban		45	45	0						
Rural		56	59	-6						
MALAWI										
National	1992, 2000	49	49	0	23	24	+1	15	17	+2
Urban		35	34	-1	11	14	+3			
Rural		50	51	+1	24	26	+2			
TANZANIA										
National	1992, 1999	47	44	-3	20	17	-3	19	22	+3
Urban5		29	26	-3	11	8	-3			
Rural		48	48	0	21	19	-2			
ZAMBIA										
National	1992, 1996	40	42	+2	15	18	+3	13	16	+3
Urban		33	33	0	11	10	-1			
Rural		46	49	+3	19	22	+3			
ZIMBABWE										
National	1994, 1999	21	27	+6	6	9	+3	5	7	+2
Urban		18	21	+3	6	7	+1			
Rural		23	29	+6	6	11	+5			

1 Moderate plus severe: < -2 SD.

2 Severe: <-3 SD.

3 Difference between the urban and rural rates in column three.

4 Difference between the urban and rural rates in column four.

5 Urban = only data from Dar es Salaam in 1992; from all urban areas in 1999.

Sources: Madagascar: Sahn and Stifel, 2002; Malawi, Tanzania, Zambia, Zimbabwe: Demographic and Health Surveys

Table 4
Malawi: Children's Nutritional Status in 1992 and 2000 (rounded percents; children <5)

Year	Stunting[1] (Chronic Malnutrition)		Wasting[2] (Acute Malnutrition)		Global Malnutrition[3] (Stunting and Wasting)	
	Moderate Plus Severe[4]	Severe[5]	Moderate Plus Severe	Severe	Moderate Plus Severe	Severe
TOTAL POPULATION						
1992	49	23	5	1	27	8
2000	49	24	6	1	25	6
URBAN						
1992	35	11	3	1	15	4
2000	34	14	5	1	13	1
RURAL						
1992	50	24	6	2	29	8
2000	51	26	6	1	27	7
MOTHER: NO EDUCATION						
1992	52	26	6	2	31	9
2000	54	29	7	1	29	7
MOTHER: PRIMARY EDUCATION, 1-4						
1992	52	23	5	1	27	8
2000	52	27	7	1	29	7
MOTHER: PRIMARY EDUCATION, 5-8						
1992	42	17	5	0.7	21	5
2000	45	21	5	1	23	5

1. Height for age.
2. Weight for height.
3. Weight for age.
4. Moderate plus severe: < -2 SD.
5. Severe: < -3 SD.

Table 5
Namibia: Changes in Child Malnutrition, 1992–2000 (percent of children under five)

Year	Stunting (chronic malnutrition)		Wasting (acute malnutrition)		Underweight (global malnutrition)	
	Moderate[1]	Severe[2]	Moderate	Severe	Moderate	Severe
1992	28	8	9	2	26	6
2000	24	8	9	2	24	5
Percent change, 1992-2000	-14	0	0	0	-8	-17

1. Moderate: < -2 SD.
2. Severe: < -3 SD

Table 6
Tanzania: Children's Nutritional Status in 1992 and 1999 (rounded percents; children <5)

Year	Stunting[1] (chronic malnutrition)		Wasting[2] (acute malnutrition)		Global malnutrition[3] (stunting and wasting)	
	Moderate plus severe[4]	Severe[5]	Moderate plus severe	Severe	Moderate plus severe	Severe
TOTAL POPULATION						
1992	47	20	6	1	29	7
1999	44	17	5	0.6	29	7
URBAN DAR ES SALAAM						
1992	29	11	7	1	20	4
OTHER URBA						
1992	45	16	4	4	27	4
URBAN						
1999	26	8	6	0.4	21	5
RURAL						
1992	48	21	6	1	29	8
1999	48	19	5	0.7	31	7
MOTHER: NO EDUCATION						
1992	50	23	6	0.7	32	9
MOTHER: PRIMARY EDUCATION						
1992	43	17	6	2	25	6

1. Height for age.
2. Height for height.
3. Weight for age.
4. Moderate plus severe: < -2 SD.
5. Severe: < -3 SD.

Table 7
Zambia: Children's Nutritional Status, 1992 and 1996 (rounded percents; children <5)

Year	Stunting[1] (Chronic Malnutrition)		Wasting[2] (Acute Malnutrition)		Global Malnutrition[3] (Stunting and Wasting)	
	Moderate plus Severe[4]	Severe[5]	Moderate plus Severe	Severe	Moderate plus Severe	Severe
TOTAL POPULATION						
1992	40	15	5	1	25	6
1996	42	18	4	0.6	24	5
URBAN						
1992	33	11	5	1	21	4
1996	33	10	3	0.5	17	3
RURAL						
1992	46	19	5	1	29	7
1996	49	22	5	0.8	28	7
MOTHER: NO EDUCATION						
1992	46	21	5	0.8	29	8
1996	50	23	6	0.8	31	7
MOTHER: PRIMARY EDUCATION						
1992	42	16	6	1	27	6
1996	45	19	4	0.7	25	6
MOTHER: SECONDARY EDUCATION						
1992	31	10	4	0.8	18	3
1996	33	10	3	0.3	16	3

1. Height for age.
2. Weight for height.
3. Weight for age.
4. Moderate plus severe: < -2 SD.
5. Severe: < -3 SD.

Table 8
Zimbabwe: Children's Nutritional Status in 1988, 1994, and 1999 (rounded percents; Zimbabwe 1988, 1995, and 2000)

Year	Stunting[1] (Chronic Malnutrition)		Wasting[2] (Acute Malnutrition)		Global Malnutrition[3] (Stunting and Wasting)	
	Moderate plus Severe[4]	Severe[5]	Moderate plus Severe	Severe	Moderate plus Severe	Severe
TOTAL POPULATION						
1988	30	8	1	0.3	13	2
1994[6]	21 (23)[6]	6 (7)	6 (6)	0.7 (0.8)	16 (17)	3 (3)
1999	27	9	6	2	13	2
URBAN						
1994	18	6	6	0.5	13	2
1999	21	7	4	1	8	0.7
RURAL						
1994	23	6	5	0.8	17	3
1999	29	11	8	2	16	2
MOTHER: NO EDUCATION						
1994	27	10	6	0.6	26	5
1999	35	13	8	3	21	3
MOTHER: PRIMARY EDUCATION						
1994	25	7	5	0.9	17	3
1999	29	11	7	1	16	2
MOTHER: SECONDARY EDUCATION						
1994	15	2	5	0.5	10	2
1999	23	8	5	2	9	0.9

1. Height for age.
2. Weight for height.
3. Height for age.
4. Moderate plus severe: < -2 SD.
5. Severe: < -3 SD.
6. Data from children <3 years of age in the 1994 survey; data from children <5 years in the 1988 and 1999 surveys. The figures in parentheses are the 1994 data from children <3 years only in order to allow direct comparison with the figures from 1988.

Table 9

Comparative Child Nutritional Status by Urban-Rural Residence and Poorest Income Quintile[1] in Seven Southern African Countries (rounded percents

Country	Year	Moderate Stunting[2] (Chronic Malnutrition)		Moderate Underweight[3] (Global Malnutrition)		Severe Underweight[4] (Global Malnutrition)	
		Urban	Rural	Urban	Rural	Urban	Rural
Madagascar[5]	1997	52	49	50	45	17	16
Malawi[6]	1992	(Q.3)[7] 53	55	(Q.3) 23	34	(Q.3) 3	13
Mozambique[5]	1997	(Q.3) 40	48	(Q.3) 30	37	(Q.3) 10	15
Namibia[6]	1992	(Q.3) 34	37	(Q.3) 29	36	(Q.3) 8	8
Tanzania[6]	1996	(Q.2)[8] 36	51	(Q.2) 27	40	(Q.2) 6	12
Zambia[6]	1996	(Q.2) 52	53	(Q.2) 24	32	(Q.2) 3	9
Zimbabwe[5]	1994	(Q. 4)[9] 26	24	(Q.4) 16	19	(Q.4) 4	3

[1]Except for Madagascar, the poorest rural quintiles are compared with the first urban income quintile for which data were available. Data were not available in the poorest urban quintiles of the six other countries due to the small number of cases in the sample.

[2]Height for age, below –2 standard deviation (SD) Z-score.

[3]Weight for age, below –2 SD Z-score.

[4]Weight for age, below –3 SD Z-score.

[5]Data from children <3 years of age.

[6]Data from children <5 years of age.

[7]Quintile 3 = middle income.

[8]Quintile 2 = poor.

[9]Quintile 4 = rich.

SOURCE: Gwatkin et al., 2000

Table 10

Comparative Child Nutritional Status by Income Quintiles in Seven Southern African Countries (rounded percents)

Country	Year	Moderate Stunting[1] (Chronic Malnutrition)				Moderate underweight[2] (Global Malnutrition)				Severe Underweight[3] (Global Malnutrition)			
		Poorest	Middle	Richest	Average	Poorest	Middle	Richest	Average	Poorest	Middle	Richest	Average
Madagascar[4]	1997	49	52	43	48	45	39	32	40	16	13	8	13
Malawi[5]	1992	55	51	36	49	34	29	17	28	12	8	4	8
Mozambique[4]	1997	48	35	22	36	37	27	14	26	15	8	5	9
Namibia[5]	1992	37	30	17	29	36	31	13	26	9	7	0.8	6
Tanzania[5]	1996	51	47	29	43	40	32	18	31	12	9	3	8
Zambia[5]	1996	53	46	25	42	32	24	13	24	9	5	2	5
Zimbabwe[4]	1994	24	23	12	21	19	14	9	16	3	4	2	3
UNICEF[6]	2000				49				25				6

[1]Height for age, below –2 standard deviation (SD) Z-score.

[2]Weight for age, below –2 SD Z-score.

[3]Weight for age, below –3 SD Z-score.

[4]Data from children <3 years of age.

[5]Data from children <5 years of age.

[6]UNICEF's global end-decade indicators for 2000.

SOURCE: Gwatkin et al., 2000

Table 11

Comparative Child Nutritional Status by Rural Residence and Income Quintiles[1] in Seven Southern African Countries (rounded percent)

Country	Year	Rural Children: Moderate Stunting[2] (Chronic Malnutrition)					Rural Children: Moderate Underweight[3] (Global Malnutrition)					Rural Children: Severe Underweight[4] (Global Malnutrition)				
		Poorest	Q.2	Q.3	Q.4	Richest	Poorest	Q.2	Q.3	Q.4	Richest	Poorest	Q.2	Q.3	Q.4	Richest
Madagascar[5]	1997	49	45	53	51	49	45	39	39	41	33	16	13	13	12	8
Malawi[6]	1992	55	56	51	49	39	34	33	29	25	21	13	7	8	7	5
Mozambique[5]	1997	48	40	35	38	24	37	33	27	22	14	15	11	7	8	2
Namibia[6]	1992	37	31	30	26	(16)[7]	36	30	31	22	(13)[7]	8	7	7	5	0
Tanzania[6]	1996	51	48	47	43	29	40	34	32	29	20	12	8	8	7	4
Zambia[6]	1996	53	48	46	39	*[8]	32	29	25	18	*[8]	9	7	5	3	*[8]
Zimbabwe[5]	1994	24	26	22	18	*[8]	32	29	25	18	*[8]	9	7	5	3	*[8]

[1]Quintile 1 = poorest; quintile 2 = poor; quintile 3 = middle; quintile 4 = rich; quintile 5 = richest.

[2]Height for age, below –2 standard deviation (SD) Z-score.

[3]Weight for age, below –2 SD Z-score.

[4]Weight for age, below –3 SD Z-score.

[5]Data from children <3 years of age.

[6]Data from children <5 years of age.

[7] ( ) = large sampling error due to the small number of cases.

[8] = results not shown due to the very small number of cases.

SOURCE: Gwatkin et al., 200

Table 12

Low Body Mass Index in Women by Income Quintiles and Urban-Rural Residence in Seven Southern African Countries[1] (rounded percents)

Country	Year	All Women, by Income Quintiles					Average of all women	Urban, by Income Quintiles			Rural, by Income Quintiles		
		Poorest	Q.2[2]	Q.3[3]	Q.4[4]	Richest		Poorest	Middle	Richest	Poorest	Middle	Richest

Madagascar	1997	24	23	18	19	15	21	23	(15)[5]	16	24	19	12
Malawi	1992	14	11	8	9	6	10	*[6]	*[5]	6	14	8	6
Mozambique	1997	17	14	11	6	4	11	*	18	6	17	11	1
Namibia	1992	29	17	15	14	5	14	*	14	6	20	16	(3)[5]
Tanzania	1996	12	8	9	9	7	9	*	4	7	12	10	7
Zambia	1996	10	10	10	7	8	9	*	12	8	10	10	*[6]
Zimbabwe	1994	6	8	6	5	1	5	*	*	0.6	6	6	*

[1]Body Mass Index (BMI) is an indicator of adult nutritional status, defined as weight in kilograms divided by the square of height in meters.

[2]Quintile 2 is poor.

[3]Quintile 3 is middle.

[4]Quintile 4 is rich.

[5]( ) indicates large sampling error due to the small number of cases.

[6] * results not shown due to a very small number of cases.

SOURCE: Gwatkin et al., 2000

Table 13
Angola: Children's Nutritional Status in 1996

Population	Stunting (chronic malnutrition)		Wasting (acute malnutrition)		Underweight (global malnutrition)	
	Moderate plus severe[1]	Severe[2]	Moderate plus severe	Severe	Moderate plus severe	Severe
Rural	58	33	7	2	49	17
Urban	47	20	5	1	32	10
Total	53	27	6	2	42	14

[1]Moderate: < -2 SD.

[2]Severe: < -3 SD.

SOURCE: Government of Angola and UNICEF, 1998

Table 14
Lethoso: Child Malnutrition Rates in 2000(rounded percents; children under five)

Social Characteristic	Stunting[1] (Chronic Malnutrition)		Wasting[2] (Acute Malnutrition)		Global Malnutrition[3] (Stunting and Wasting)	
	Moderate plus Severe[4]	Severe[5]	Moderate plus Severe	Severe	Moderate plus Severe	Severe
Total population	46	21	5	1	18	4
Poorest income quintile	55	29	7	1	26	7
Poor quintile	50	23	6	2	22	5
Middle quintile	46	21	6	2	16	3
Rich quintile	42	19	5	1	16	3
Richest quintile	34	14	4	0.5	9	2
Urban residence	39	17	6	0.9	13	3
Rural residence	47	22	5	2	19	4
Mother: no education	54	27	6	2	19	4
Mother: primary education	48	23	6	2	20	5
Mother: secondary education	39	17	5	0.7	12	2

[1]Height for age. [2]Weight for height. [3]Weight for age. [4]Moderate plus severe: < -2SD. [5]Severe: < -3 SD.

SOURCE: Government of Lesotho and UNICEF, 2000

Table15
Madagascar Children's Nutritional Status in 1992 (rounded percents, children <5)

Social characteristic	Stunting[1] (Chronic Malnutrition)		Wasting[2] (Acute Malnutrition)		Global Malnutrition[3] (Stunting and Wasting)	
	Moderate plus Severe[4]	Severe[5]	Moderate plus Severe	Severe	Moderate plus Severe	Severe
Total population	51	24	5	0.3	39	9
Urban residence	44	19	3	0.3	33	7
Rural residence	52	24	5	0.3	40	10
Mother: no education	45	19	6	0.7	34	9
Mother: primary education	54	26	5	0.3	43	11
Mother: secondary education	53	25	3	0	36	7

[1] Height for age.

[2] Weight for height.

[3] Weight for age.

[4] Moderate plus severe: < -2 SD.

[5] Severe: < -3 SD.

SOURCE: Government of Madagascar, 1992

Table 16
Swaziland: Child Malnutrition Rates in 2000 (rounded percents; children under five;)

Social characteristic	Stunting[1] (chronic malnutrition)		Wasting[2] (acute malnutrition)		Global malnutrition[3] (stunting and wasting)	
	Moderate plus severe[4]	Severe[5]	Moderate plus severe	Severe	Moderate plus severe	Severe
Total population	30	12	1.0	0.2	10.0	2.0
Poorest income quintile	38	16	2	0.1	15	3
Poor quintile	33	12	1	0.1	10	2
Middle quintile	32	13	2	0.3	10	3
Rich quintile	24	10	0.6	0.2	8	1
Richest quintile	13	3	1	0.3	3	0.3
Urban residence	24	9	0.7	0	8	1
Rural residence	32	13	1	0.2	11	2
Mother: no education	36	14	2	0	13	3
Mother: primary education	33	13	1	0.4	12	3
Mother: secondary education	25	9	1	0.2	7	1

[1] Height for age.

[2] Weight for height.

[3] Weight for age.

[4] Moderate plus severe: < -2 SD.

[5] Severe: < -3 SD.

Source: Government of Swaziland and UNICEF, 2000

Appendix 17. Intraregional Trade—Further Discussion

Regional Programmes for Food Security (RPFS) offer measures to expand intra-regional trade and competitiveness in external markets, to assist in creating improved conditions for the sustainable growth of agriculture, including through trade facilitation. According to SADC food security documentation (SADC Ministerial Briefs, 2003; FANRVAC Highlights, 2002and 2003) prior to the mid-1980s, most SADC countries had adopted inward-looking development strategies and interventionist / protectionist trade policies. Since then, most countries have undertaken substantial trade policy reforms in line with market liberalization and regional integration initiatives. In Namibia for example, the government has privatized support services such as tractor and seed provision and agricultural boards no longer set prices nor procure agricultural products. Most governments have reduced trade-restricting practices in both tariff and non-tariff areas as part of comprehensive economic reform programmes.

Current trade policies in most SADC countries aim at developing competitive economies with export- led growth, by harmonizing trade policies in line with the SADC Protocol on Trade and other regional and international trade agreements. The Economic and Social Research Foundation (ESRF) issued a similar report in March 2003. In this ESRF final synthesis report of the combined findings based on five country studies (South Africa, Tanzania, Zambia, Malawi and Namibia), substantial liberalization of trade policy, along with complementary domestic policy reforms over the 1990s, are observed. In a few cases, policies were found to be inconsistent with the SADC trade protocol. However, the policy environment has generally become more favorable to increased regional trade over the past decade. The table below summarizes the evolution of trade policies in the five countries that participated in the “Trade Policies and Agricultural Trade in the SADC Region study and presents the recent trends in intra- SADC trade.

Trade Policy Evolution and Trends in Intra-SADC Trade

	Trade Policy Evolution	Trends in Intra-SADC Trade
South Africa	Substantial liberalization of the economy through reform of the import regime and deregulation of the agricultural sector.	Rapid growth of agricultural exports to SADC member states, primarily of high value products. Much slower growth in imports than exports.
Namibia	Namibia has an open economy, with liberalized trade policies in line with WTO commitments.	Trade remains dominated by SACU Angola represents an important potential market.
Zambia	Standard trade reforms through SAP during 1990s. In 2002, introduced a six-month ban on imports for 14 Zimbabwean products (most of them agricultural).	Erratic but upward trend in non-traditional ag. exports. Increased imports especially of primary and high value products primarily from South Africa.
Malawi	Reduced tariff rates to a maximum 25%, eliminated some discriminatory taxes, and broadened tax base. Import/export licensing has been abolished for most, but not all products. Maize exports require a license.	*Declining* trade with other SADC countries, including both exports and imports.
Tanzania	Deep economic reforms over the past 15 years with an explicit export oriented development strategy. Export licenses still required for staple food products. Maize exports may be banned in times of shortage.	Share of exports to SADC in total increased from 3.3% in 1990 to 3.9% in 2000. Share of imports from SADC (mostly South Africa) increased from 1.2% in 1990 to 12.4% in 2000.

Source: FANRPAN Agricultural Trade Study, 2003

While substantial steps to liberalize trade have been taken, current policy still falls short of the free trade ideal. Many countries within SADC continue to impose some types of tariff, non-tariff and other technical barriers to agricultural trade. The SADC Protocol on Trade implies policy reforms to dismantle existing protectionist measures. The elimination of intra-regional tariffs, which frequently occur during the time of food crises needs to be immediately implemented. Countries should continue to move toward food self-reliance strategies and away from food self-sufficiency strategies.

Substantial cross-border trade opportunities exist in the southern African region, given its large size and diverse agro-ecological and climatological variations, which virtually assure good production potential in at least some parts of the region in any given year. Inappropriate and constraining policies can cause domestic market failures in some countries, perpetuating food insecurity. Within the SADC region there appears to be a direct and positive correlation between the degree of domestic market liberalization for food commodities and the level of national food security. Increasingly some southern African countries are using the private sector for targeted safety net programs.

Recommendations put forward by ESRF (2003) include curtailing policy "backsliding" by eliminating and renouncing temporary import and export bans or increases in tariffs, and eliminating licensing and publishing applicable tariffs well in advance. There is also need to capitalize on regional economies of scale by, for example: i) adopting common and mutually recognized standards and grading methods, ii) harmonizing regulations, and iii) coordinating market information services to make information available on a region-wide basis. The borders

should be made less restrictive by simplifying customs procedures, and adopting as simple a rate structure as possible. The role and scope of existing regional and international agreements should be clarified and differences between intra-SADC bilateral agreements and regional policies eliminated. Areas, which require further study, include; financial sector issues (cross border payments systems, financing of storage and implications for trade and Intra-SADC capital flows and controls). Others are relationship between retail FDI and agricultural trade flows, and the possibility of adopting a common external tariff so that rules of origin issues can be avoided and links with agreement proliferation.

Intra-regional trade should increase economic growth in the region by directing scarce productive resources to their best uses. A unified approach of maximizing comparative economic advantages (CEA) in agricultural production and trade in southern Africa, as proposed by Hassan, Fairbanks, Magagula and Faki, (1999) needs to be implemented. Donors need to provide support to member countries in defining priority lines of regional action plans for greater mutual benefit, based on their CEAs, and in identifying policy issues whose success in one country depends on collaboration and support from the others. For that to happen it is crucial for every country to understand intra- regional agricultural trade patterns and policies, and the associated challenges and implications. Some of the challenges related to the development of trade in for example the SADC region include:

- A need for freer movement of good and services across borders.
- Improved competitiveness and quality of sanitary and phytosanitary standards and other food safety issues such as pest risk assessments, diseases and pests affecting sustainable use of cross boundary natural resources (such as water and fisheries resources), as well as mobilization of resources for addressing regional constraints to food security, agriculture and rural development.
- Progress towards harmonizing trade policies not only in the region but also to be in unison with development investors and the private sector.
- Ensuring that SADC trade policies conform to the global economy, as per WTO regulations.
- Diversification in tradable commodities according to each country's comparative advantage.
- Ensuring that membership in multiple trade blocks does not lead to conflicting or contradicting policies.

Appendix 18. Annotated Bibliography

1. Agricultural Initiative to End Hunger in Africa (AICHA). World Summit for Sustainable Development (WSSD) Event Highlights. Johannesburg, South Africa, 29 August 2002. The report clearly lays out the United States' financial commitments to boost agricultural production and trade in Africa. The investments will focus on harnessing science and technology and unleashing the power of market forces to increase smallholder agricultural productivity. The Initiative envisions strengthened bilateral partnerships with governments, NGOs, and private sector partners in Mali, Mozambique, and Uganda. In addition, three regional programs in West, East and Southern Africa working with regional trade and science organizations will serve as the basis for developing initiative platforms, around which other science / technology and market and trade actions can be organized. While ambitious, the initiative is timely in focusing on and tackling a strategic challenge that Africa and its partners must deal with to improve conditions (economic, social, environmental and conflict) of current and future generations. The approach proposed to establish regional platforms, begin efforts in a few countries, and focus on priority themes and interventions in a constructive and useful manner. The focus on and integration of efforts to harness science and technology and make markets work for smallholder farmers in the region, is long overdue. The initiative acknowledges the importance of partnerships for the success of the initiative. The U.S.government needs to engage the international development community, donor organizations, and private sector groups in tackling the problem of hunger. On the other hand, African governments need to be active players in the coordination among partners to mobilize resources from the development community; as well as to shape, focus and implement action plans.

2. Delgado, Christopher L., Jane Hopkins and Valerie A. Kelly. (1998) "Agricultural growth linkages in Sub-Saharan Africa." International Food Policy Research Institute (IFPRI). Research Report 107. Delgado et al. examine the literature on agriculture growth linkages in Africa to help prepare an analysis of the farm and non-farm goods and services that rural Africans purchase and the implications of these purchases for rural economic growth in five countries (including Zambia and Zimbabwe in Southern Africa). Goods are classified as tradables or non-tradables and by geographic zones of interest. Food was found, not surprisingly, to be the major item in household expenditures. The majority of food purchased

was in the non-tradable category. This is important since early studies in Asia had categorized all food purchased as tradables (i.e., purchases that decrease the amount available for export out of the region). A more "Africa-realistic" definition of food as largely a non-tradable (i.e., not traded outside the local area of production) has important implications for agriculture-growth links and multipliers since the marginal budget share of local household expenditures on non-tradables as a group "…is the single most important determinant of the magnitude of estimated growth multipliers." The study finds that the farm sector in Africa is better able to propagate income growth than had been surmised earlier. Household income growth is spent largely on perishable foods, local services and locally-produced non-farm goods. In Zambia, adding $1.00 of new farm income generates an additional $1.48 in income—largely in the local area. This is an upper boundary result. The actual multiplier is likely to be some 30 percent less, but nonetheless a substantial positive income effect.

3. de Waal, A., and Tumushabe, J. (2003). "HIV / AIDS and food security in Africa." de Waal and Tumushabe address two major issues: 1) the impact of HIV / AIDS on agrarian livelihoods and how it can be mitigated and 2) the implications of the HIV / AIDS epidemic and regional food insecurity occurring simultaneously. This paper on AIDS and food security takes a more dire view of the situation than many, calling it the "new variant famine" that must be researched and understood as the basis for policy and practical responses. How and why the HIV / AIDS epidemic is disproportionately affecting agriculture and particularly the small-holder subsector is reviewed extensively in terms of the range of negative effects on rural livelihoods, communities, and social services, and the failure of coping strategies. "Success stories" about mitigation strategies, mainly from Uganda, are provided as potential models for the region. The potential program responses to mitigate the impacts of HIV / AIDS that are discussed include micro-credit for AIDS-affected households, addressing the loss of labor AIDS causes, the potential role of agricultural extension and research, and integrating HIV / AIDS education and prevention into mitigation. The paper concludes with a mainly conjectural section on the effects of southern Africa's concurrent HIV / AIDS epidemic and food crisis. The interaction between HIV and malnutrition, necessary responses to the situation such as methodological revisions in the early warning systems, and emergency food relief are covered.

4. Diskin, Patrick. (1995) "Understanding linkages among food availability, access, consumption, and nutrition in Africa: Empirical findings and issues from the literature." USAID. Bureau for Africa. Office of Sustainable Development. Technical Paper No. 11. Diskin, an economist in Michigan State University's Department of Agricultural Economics, argues that policymakers are constrained in designing effective food security strategies by a lack of reliable and relevant information concerning the causes of food insecurity and their linkages to nutritional status which leads to designing policies as "…an exercise in planning without facts…" . He cites several examples of well-meaning, but flawed, policies leading to unintended consequences. For example Zimbabwean maize pricing and marketing policies of the early 1990s actually increased food availability while at the same time reducing access by reducing the purchasing power of many poor households. In 1980s Kenya the source, periodicity, and control of income was probably more important to household food security than was the amount of income. His conclusion is that simplistic notions about the food availability-nutrition pathway

need to be replaced with appropriately disaggregated empirical information, carefully identifying the nature, extent and causality among food and nutrition security variables to better understand the primary factors limiting food access, consumption, and nutrition. Too much food security data is being collected for unspecified reasons and without knowing reliability. Too many indicators are ambiguous with respect to *causes* of changes in the level of the indicator. They thus deliver information which is, in effect un-actionable. Another problem limiting the usefulness of some research results. Weight / height measures and nutritional status may be correlated, they are not conceptually equivalent—a point that seems obvious, but one often overlooked on practice.

5. Duncan, Alex. (1999) "The food security challenge for Southern Africa." Food Policy 23 pp. 459-475. The aim of the paper is to consider what governments should be trying to do to improve food security in Southern Africa and how they should do it. Food security aims and instruments in Southern Africa are considered against a background of changed international and regional circumstances. These include: i) enhanced focus on macro-economic stabilization, ii) a decline in funding for agriculture; iii) a reduction in government involvement in commercial activities; iv) movements toward greater integration in world markets; v) efforts in Southern Africa to move toward greater cooperation and trade within a reduction, in the region, in conflict and inward-looking economies. The author suggests the main roles for governments in the region in promoting food security are: i) creating enabling environments for development; ii) correcting for market failures, and iii) targeted measures to achieve social objectives. More specifically in rural areas, governments need to: i) support household strategies aimed at raising and stabilizing incomes through diversification, ii) intensification of farming, and iii) support migration. The major areas of public emphasis ought to be trade policies and smallholder farming. With regard to the latter "…the challenge for governments…is to define with greater rigor than in the past the priority uses for public funds, and, second, to find much more efficient ways of delivering services than in the past." Foreign aid should be used to support "mainstream development" by: i) assisting in strengthening an appropriate enabling environment for growth; ii) providing funds and technical assistance to enable smallholder services to be provided in ways that compensate for market failures while complementing private sector endeavors; and iii) assign in the design of cost-effective social programs in health, education and safety nets.

6. Edwards, N., Tokar, M. and Maxwell, J. (1997) "Agribusiness development in ub-Saharan Africa: optimal strategies and structures." Technical Paper No. 83. Abt Associates. The document, "Agribusiness Development in Sub-Saharan Africa: Optimum Strategies and Structures," is the product of a series of country case studies to examine and analyze existing structural arrangements, organizations and operating strategies of micro, small and medium size enterprises (MSMSEs) in non-traditional agricultural exports in order to determine optimum structures and strategies. It presents research findings for six countries, Tanzania, Zambia, Mozambique, Ghana, Malawi, and Kenya, as well as conclusions and recommendation to enhance the MSMSEs' capacity to start and develop business activities centered on non-traditional agricultural exports (NTAEs). The purpose of this research activity is to broaden and deepen both African policy makers' and USAID Africa Bureau's understanding of the

existing structural arrangements, organizations and operating strategies available to MSMSE entrepreneurs as well as the major operating constraints they face when engaged in the non-traditional export market, and to offer structural and operating strategies for developing and sustaining MSMSE support entities. USAID is increasingly looking to the private sector for new and innovative ways of improving competitiveness, and often to agriculture as the potential catalyst for generating broad-based, sustainable economic growth. The findings and recommendations contained in this report are helpful not only to the Africa Bureau of the USAID, but to the field missions, host country governments, and private sector groups make more informed decisions on the promotion of initiatives on alternative types of support structures and operating strategies as well as insights, ideas, and information for MSME development and marketing efficiency.

7. FAO. (1995) "A synthesis report of the Africa region: women, agriculture, and rural development." This synthesis report provides both macro- and micro-level information on African women and rural development, and includes quantitative examples from three countries in the southern African region (Namibia, Tanzania, Zimbabwe). Information on gender inequality in power-sharing and decision-making in terms of membership in rural / agricultural organizations, government positions, local power structures, and at the farm level is presented. The conclusion, illustrated with examples from nine African countries, is that women's participation at all levels is limited and they often are not represented in higher leadership levels. The governmental ministries / departments responsible for women's affairs in each country are summarized in a table. Rural poverty, increases in the proportion of women-headed households, and the implications for household income and food security are discussed in brief. Inequalities in women's access to and participation in economic structures and productive processes is reviewed in eight areas: land ownership, access to credit, extension services and agricultural training, the gender composition of extension departments, and the gender composition of extension service clients. Examples illustrate women's marginalization in these areas, despite their important role in agriculture. The lack of gendered data on the nature and role of women's contribution to agriculture is discussed, and how it has made women "invisible" to agricultural policies and programs.

8. Gallup, John Luke, Jeffrey Sachs and Andrew D. Mellinger. (1998) "Geography and Economic Growth" Paper prepared for the Annual Bank Conference on Development Economics, Washington DC, April 20-21, 1998. The authors argue that too little account is taken of basic elements of geography as important determinants of economic growth. Their econometric model suggests areas of complex relationship between geography and economic growth, policy choices and institutions. Their paper finds that location and climate have large effects on income levels and income growth through effects on transport costs, disease burdens, and agricultural productivity. There is a disjunction between areas of high economic growth and areas of high population density and high population growth—especially when these latter are far from coastlines or navigable rivers. Much of the population growth projected for the next 30 years will likely occur in these geographically disadvantaged regions. The paper starts from comparative income date suggesting that 1992 African per capita income is approximately on par with average per capita GDP in the Europe of 1820. In addition where

African per capita income of 1970 and that of Asia were roughly comparable, 30 years later, average Asian income had risen more than 2 1/2 times while Africa's remained more or less the same. Does geography contain some of the answers for this difference. Gallup et al,, believe it to be so. There research shows no high income country is found in tropical regions and that coastal economies generally have higher incomes than landlocked economies. Western Europe, northeast Asia and the Eastern and Western seaboards of North America are the core economic zones of the modern world. Looking at only those areas of these countries that lie within 100 km of the coastline—a mere 5 percent of the world's inhabited land area—the study finds they account for 37 percent of the world's GNP. WTO data shows that just 11 countries account for 88 percent of all global exports. Sub-Saharan Africa, the poorest region of the world has 82 percent of its population more than 100 km from the coast and a very high concentration of its landmass in the tropics. The authors argue that geography continues to matter importantly for economic development. This paper should be of considerable interest to those engaged in development planning for Southern Africa.

9. Gillespie, S., Haddad, L., and Jackson, R. (2001). "HIV/AIDS, food and nutrition security: impacts and actions." In Nutrition and HIV/AIDS, Nutrition Policy Paper # 20, UNAIDS, ACC/SCN. This paper is a thorough and very useful presentation of the links between HIV/AIDS and food security, and the options for mitigating the disease's negative effects on food and nutrition security. The list of the "dynamics of HIV/AIDS impacts and household responses" is a good resource and quoted in many other papers. The characteristics that make HIV/AIDS a unique shock to the developing world and its gender dimension are summarized. The authors detail the impacts of HIV/AIDS on nutrition, food security, and agrarian livelihoods. The latter includes the disease's negative effects on human, financial, social, physical, and natural capital. A section on "policy and programming principles," based on a literature review and WFP case studies, includes information on mainstreaming HIV/AIDS; the need to integrate prevention and mitigation; using an "HIV lens" for effective programming; targeting AIDS interventions; the need to take HIV/AIDS programs to scale; and monitoring. Specific options for action to mitigate the impacts of HIV/AIDS on food and nutrition security also are discussed. These include nutritional support for AIDS-affected individuals, the need for community-level targeting, and programming principles for food aid for mitigation. Examples of prevention, mitigation, and care-related intervention options that use food aid are given. The paper concludes with a brief discussion of some mitigation options related to agricultural policies and programs.

10. Gladwin, C.H., Thomson, A.M., Peterson, J.S., Anderson, A.S. (2001) "Addressing food security in Africa via multiple livelihood strategies of women farmers." *Food Policy*, 26, 177-207. The theme of this paper is that food insecurity is primarily a problem of low household income and poverty, not just inadequate food production, and that interventions to improve food security should aim to increase women's incomes and help make their livelihoods more sustainable. The assumption that improving food security should be based on helping women farmers in SSA grow more subsistence crops is incorrect. Governments and development projects must seek to improve returns to women's resources in a broader context, including more opportunities for non-farm microenterprises, cash cropping, and agricultural labor. The

link between agricultural production and access to food is strong because agriculture is the basis of most rural households' economic systems. But rural African women have "multiple livelihood strategies" in order to survive and work toward food security, so agriculture may not be the only or the most important source of income. Women work as farmers, petty traders, food processors, and informal labor in order to make ends meet. Having multiple economic irons in the fire is necessary in Africa's problematical economic context, for married women and for women household heads. Development programs must recognize and support women's diverse economic roles and not just focus on increasing their food production. Several factors must be considered in planning interventions to improve food security by increasing women's incomes and making their livelihoods more sustainable. Women farmers may need a long adjustment period to fully diversify their income sources because of their national economic contexts: most African countries are in the early stages of structural transformation from mainly agricultural economies to having developed their other economic sectors. The interventions must be designed to fit the varying assets and household composition of the women targeted; they cannot be generic. Women are not a homogeneous group: for example, the control of money that comes into the household will differ depending on the sex of the household head, and older women are more likely to have labor and cash available than younger women. Cultural factors such as women's tendency to define themselves by their social roles as household food-producers also will affect their adoption of new economic activities. A four-pronged sustainable strategy is recommended: 1) encourage women's income-generating activities and multiple livelihood strategies; 2) complement the foregoing with agricultural research programs aimed at increasing women's returns to their land; 3) recognize that rural women are not a homogeneous group; and 4) in the short term, provide the poorest women farmers with productivity-enhancing safety nets to address household food consumption deficits.

11. Haidari H.K.R. Amani, H.K.R. (2003) "Trade policies and agricultural trade in the SADC Region: challenges and implications." Regional Synthesis Report. Economic and Social Research Foundation (ESRF), Tanzania. This Economic and Social Research Foundation (ESRF) Synthesis report provides up-to-date information on the reforms that SADC member countries have implemented to improve trade regimes since the 1980s. Such reforms have been supported by the implementation of multilateral, regional and bilateral trade agreements. The report demonstrates that the motivation for SADC countries to engage in trade agreements has been to secure an improvement in market access for exports and attain efficiency in sourcing of imports. The empirical findings of this study summarized in the report show that trade, through Multilateral Trade Agreements (MTA) and through Economic Partnership Agreements (EPAs), has improved substantially in the region and it will grow more when the SADC "Trade Protocol" becomes fully implemented. However, there is much more to be done in order to achieve a fully integrated regional trade zone in agricultural and food products in the SADC region; for that to happen policy backsliding has to cease, the region has to capitalize on regional economies of scale, the border should be made less wide and the role and scope of the existing regional and international agreements have to be clarified.

12. Hassan, R.M., Fairbanks, D.H.K., Faki, H. and Magagula G. (1999) "Analysing comparative advantage of agricutural production and trade options in Southern Africa: guidelines for a unified approach." Technical Paper No.100. September 1999. The study on which this technical paper is based is one in a series of studies on Africa's regional trade and comparative advantage, a joint activity of USAID Africa Bureau's Office of Sustainable Development, Agriculture, Natural Resources, and Rural Enterprise (ANRE) Division and the Regional Economic Development Services Office for Eastern and Southern Africa (REDSO/ESA). Seven countries in southern Africa(SA) have participated in the research program. The document develops a unified analytical framework and guidelines for the comparative economic analysis (CEA) studies of the seven countries. These studies do not only examine the existing comparative advantages, but also provide a means to evaluate the impact of different agricultural policies on comparative advantage. This proves to be an especially valuable tool to guide policymakers in the region. The focus of the document is on the operational aspects of implementing CEA analysis with special emphasis on the use of spatial analysis and geographic information systems (GIS) tools to conduct CEA analysis within an agro-ecological zone framework. The study was necessitated by the evidence that all countries in the SA region impose high tariff and quantitative (non-tariff) restrictions on imports, mainly to protect infant industries and subsidize domestic food production for food security and reduced reliance on food imports. That means, policy reforms aimed at dismantling protectionist measures will no doubt result in significant reductions in the magnitudes and extent of distortions in relative prices caused by such measures. As free trade will direct productive resources to their best uses on the basis of economic efficiency

13. Lewis, J.D., Robinson, S., and Thierfelcler, K. (2002) Free trade agreements and the SADC economies." The Africa Region Working Paper Series. World Bank Group, February 2002. This paper discusses a variety of trade liberalization initiatives that countries in southern Africa have engaged in under international and bilateral agreements, for example, South Africa and the European Union (EU) negotiated a free trade agreement (FTA) in 1999; the South African Customs Union (SACU) arrangement by which customs revenues are shared amongst South African and its smaller neighbors (Botswana, Lesotho, Namibia, and Swaziland); the Southern African Development Community (SADC) has been discussing the formation of a free trade area within the region. Independent of these regional trade agreements, some of the SADC countries have access to EU markets under the EU's "Everything But Arms" (EBA) Initiative, approved in February 2001. The EBA initiative provides full access to the EU markets for the world's 49 least developing countries (LDC), which includes the SADC countries Lesotho, Malawi, Mozambique, Tanzania, and Zambia. The EU has removed tariffs and quotas on most imports except arms. The three exceptions - sugar, bananas, and rice - have a longer phase out period.2 In addition to participating in regional trade agreements, countries in Southern Africa are also members of the World Trade Organization (WTO) and therefore have an interest in multilateral tariff negotiations. Prior to the WTO, developing countries were often at the periphery. The paper focus on the impacts of the EU-South Africa Free Trade Agreement (FTA) on trade welfare, and economic structure in South Africa and the rest of Southern Africa; the benefits of unilateral access to the EU for the SADC countries that qualify for the EBA initiative and on whether South Africa can serve as a growth pole for the SADC region.

14. Mellor, John W. and Chandrashekhar Ranade. (2002) "The impact of agricultural growth on employment in Egypt: a three-sector model" Abt Associates Special Study Report No. 4. Prepared for USAID / Egypt Office of Economic Growth and Agricultural Development Division. Mellor and Ranade investigate the hypothesis that accelerated growth in the agricultural sector is the basic determinant of increased demand for labor and resultant reduced poverty among laboring classes. Utilizing findings of Martin Ravallion, Peter Timmer, and Carl Liedholm that it is rural and agricultural growth, not urban or industrial growth that reduces poverty and increases demand for labor with a three-to-four year lag period, Mellor and Ranade present a three-sector model of Egyptian data to test the hypothesis. The sectors are Agriculture (Tradable), Urban Tradable (most of large-scale urban enterprise) and Non-Tradable (goods and services, rural or urban, not saleable because of low quality and high transaction costs). The model looks at factor shares in these three sectors, consumption patterns of the recipients of capital income, including human capital, spent entirely on tradables, and income from labor and land spent on non-tradables. The Model determined that the structure of growth makes a tremendous difference. With rapid agricultural growth, demand for labor grows rapidly; when urban tradables grow rapidly GDP grows rapidly; when the structure is weighted toward agriculture is weighted toward benefits to labor; a structure weighted toward urban tradables is weighted toward fast GDP growth. Agricultural growth increased the income of labor through its impact on demand for goods in the rural non-tradable sector. Agriculture grows largely through technological change, in turn dependant on investment in research and extension. It is this agricultural growth that, with lags, drives the engine of overall economic growth.

15. Morris, J.T., and Lewis, S. (2003) "Mission report: Lesotho, Malawi, Zambia, Zimbabwe, 22-29 January 2003." UN document. This is a hard-hitting report on the immediate and long-term implications of the crisis in southern Africa due to the concurrent HIV / AIDS epidemic and food shortages, in the context of the regions' chronic poverty, drought, problematic government policies, and natural resource degradation. The authors' view is that there is an urgent need for a profound shift in humanitarian and developmental strategies to address the crisis. The conclusion is that HIV / AIDS is the fundamental, underlying cause of the crisis. Its impact on the region's already-overworked women and the need for a broadly implemented joint effort to take action on gender and HIV / AIDS without delay is highlighted. The factors that make the current food crisis unique and require a different definition of "emergency" and a different set of responses are reviewed. The report identifies three results of the pandemic that are priorities for urgent action—women's increasing vulnerability, orphans, and the decimation of the region's most productive, skilled, and educated people—and recommends a series of new responses to address them. The need to use a "HIV / AIDS lens" to respond to emergencies, for development programming, and to increase the understanding and measurement of the complex crisis is stated. There is a summary of the current status of the agricultural crisis and the effects of the HIV / AIDS pandemic for each country, based on information from field visits to agricultural areas, hospitals, the private sector, and meetings with senior government officials. Recommendations for further action in each country are made based on this information.

16. New Partnership for Africa's Development (NEPAD). (2002) "Increasing food supply and reducing hunger: Strengthening national and regional food security. An extract from 'Comprehensive Africa Agriculture Development Program (CAADP).'" August 2002. NEPAD is a vision and programme of action for the development of the African continent. It is a plan that has been conceived and developed by African leaders presenting a comprehensive integrated development plan that addresses key social, economic and political priorities in a coherent and balanced manner. More importantly, NEPAD presents a commitment that African leaders are making to the African people and to the international community, to place Africa on a path of sustainable growth, and the integration of the African continent into the global economy. It is a call to the rest of the world to partner Africa in her own development on the basis of her own agenda and program of action. The NEPAD-CAADP is a document that has been endorsed by the governments of Africa through the Ministers of Agriculture. It was prepared by FAO in co-operation with the NEPAD Steering Committee as a plan of action to revitalize African agriculture. The document offers a broad frame of priorities from which more precise strategies and programs can be derived for operationalization. Therefore, the program on agriculture proposed therein is open to continuing improvement and to interpretation for each of Africa's sub-regions in order to best address that continent's diversity. NEPAD and AICHA programs are quite complementary.

17. Otsuki, Tsunehiro, John. S. Wilson and Mirvat Sewadeh. (2001) "Saving two in a billion: quantifying the trade effect of European food safety standards on African Exports." *Food Policy* (26), 495-514.[49] The authors, both World Bank economists, use regression analysis to examine the potential impact of European sanitary and phytosanitary standards on food trade between 9 African and 15 European countries. The authors found that the new harmonized EU standard for aflatoxin contamination, one considerably more restrictive than Codex-established guideline, will impose a considerable loss of export revenue for African exporters—estimated at $670 million per year compared to estimated trade levels—if the Codex guideline were used. Cereals, dried fruits, and edible nuts are found to be affected by aflatoxin standards. A 1 percent lower standard maximum allowable level of contamination results in a 1.1 percent decline in African cereal exports to Europe and a 0.43 percent reduction for fruit, nuts and vegetables. The estimated reduction in deaths in the EU from aflatoxin-induced liver cancer resulting from introduction of these more restrictive standards is 2.3 deaths per billion per year vs. the number of estimated deaths were the Codex standard. WHO estimates that 33,000 people die from liver cancer annually in EU countries. Thus the $670 million loss to African exporters caused by the higher-than-Codex levels set by the EU will result in the saving of approximately 2 lives per billion risk per year. The authors suggest that the cost to African agricultural exports is too much to pay for this modest saving of lives. They recommend use of the WTO's Codex standard in the EU.

18. Rathgeber, E. (2003) "Dry taps...gender and poverty in water resource management." FAO document. Rathgeber reviews integrating gender concerns into water programs. The review

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[49] An earlier version of this article can be found at the World Bank website at: http://econ.worldbank.org/files/1424_wps2563.pdf

also includes the position of disadvantaged social groups such as the poor and landless in the allocation and control of water resources. The central theme is that women and the poor are the most vulnerable members of society and often have no voice in decision-making about a key productive resource, water, and little priority given to their needs. The gender issues in water policy and strategy, and power and powerlessness in water projects and management, are discussed. The gendered nature of water use and decision-making are examined in irrigated and rainfed agriculture, watershed development, fisheries, and disaster preparedness and response.

Women's participation in the utilization and management of water resources must be examined in the broader context of their gender roles in different societies, and their access to productive resources. There is more literature about women's domestic roles related to water than about their economically productive roles related to water. Gender generally is not integrated into water-related projects, particularly watershed or irrigation development projects, because these are technical projects implemented by engineers who lack the requisite training. Large-scale irrigation projects rarely integrate gender issues, with the result that women usually are excluded or have roles as laborers rather than landowners. The impacts of watershed development projects usually are described from a gender-neutral perspective, which conceals their differential impact on men and women and different social groups. Assuming that men and women farmers have homogenous water needs and taking men as community representatives does not represent all the actors who have a stake in decision-making about managing water. One result is that women often have been marginalized in water-allocation policies, which has an adverse effect on gender equality and on addressing food security problems. Rathgeber's analysis indicates that development planners have used traditional views about women's water use and set priorities assuming that it is primarily a household responsibility, rather than recognizing their important role in agriculture as part of water resource planning. Thus there is a need to promote gender equality in the access to, control over, and management of water resources. FAO's 2001 "Irrigation Sector Guide" was designed to respond to this problem: it is designed for a wide audience to support the gender-sensitive participatory planning of irrigation schemes and to integrate socio-economic and gender issues into the planning process.

19. SADC FANR. Vulnerability Assessment Committee. (2003) "Towards identifying impacts of HIV / AIDS on food insecurity in Southern Africa and implications for response: findings from Malawi, Zambia and Zimbabwe."This SADC report is very useful because it is thorough, current, and provides statistics and graphs that quantify the impact of HIV / AIDS on household food security in three southern African countries. The purpose of the vulnerability assessment was to help fill the information gap on the impact of HIV / AIDS on acute food insecurity in the southern region. SADC's perspective is that household food insecurity in rural and urban southern African can only be understood if HIV / AIDS is factored into the analysis, and that an effective analysis of the causes and outcomes of the disease requires a contextual understanding of livelihoods unique to particular areas and / or social groups. The data were collected in August and December of 2002. The results of the assessment indicate that households affected by HIV / AIDS—as indicated by adult morbidity, mortality, and high

dependency ratios—are significantly more vulnerable to food security shocks than other households. Affected households suffer from marked decreases in agricultural production and income, which lead to distress coping strategies, including strategies that erode household resources, and ultimately to decreased food security. The data show that different morbidity, mortality, and demographic profiles have different effects on food security. Key differences include if a household includes an active or a chronically ill adult, if the household head is chronically ill, the dependency ratio, and the presence of orphans. Differences in gender and age have an influence on these factors and thus ultimately on household food security. The survey data are organized into tables and graphs that quantify the effects of these key differences, including gender, on critical topics: household income, purchasing power, food and cash crop production, area planted, agricultural input use, and cropping patterns. The data also are used to calculate a food consumption index and household cereal gaps that show the effects of HIV / AIDS on food security. A "three-pronged" programming response is recommended, based on the assessment findings: consumption-side support, productivity-enhancing support, and household and community safety nets. The former includes school feeding programs and food-for-work designed for the elderly or the ill. Support of agricultural productivity must be adapted to the needs and capacities of HIV / AIDS-affected households. Safety nets, that must be tailored to different types of households and areas, include microfinance, savings schemes, savings-led credit initiatives, and community resource mobilization campaigns that tap external resources.

20. Smith, L.C., and Haddad, L. (2000) "Overcoming child malnutrition in developing countries: past achievements and future choices." IFPRI 2020 Brief 64. This paper is an overview of two decades of trends in child malnutrition in developing countries, with regional analyses that include SSA. The major topics covered are the causes of malnutrition, the determinants of children's nutritional status, the determinant variables associated with malnutrition, how malnutrition has been reduced in the past, and projections of child malnutrition in 2020 using alternative scenarios (pessimistic and optimistic). Typical of IFPRI's work, it is empirical, quantitative, thorough, and provides numerous examples and statistics from SSA. It is a useful reference for contextual, regional information with data from a considerable time-depth, 1970-1995. Tables and graphs provide quantitative information by region so that SSA, which has the world's greatest problem with child malnutrition, can be seen in the global context. The reasons why child malnutrition has increased in SSA are addressed briefly. They include the declining relative status of women; the deterioration in per capita national income, and thus rising poverty; stagnant per capita food availability; and lack of education for women. Debt, structural adjustment, conflict; and the HIV / AIDS pandemic also are postulated as reasons although they were not analyzed in this paper due to lack of data. The authors conclude that SSA will make little progress in reducing child malnutrition by 2020. Given the slow rates of decrease in the prevalence of malnutrition and the large increases expected in the total number of children under five in the region, the number of malnourished children is expected to increase regardless of pessimistic or optimistic future scenarios. The authors' analysis shows that there are four explanatory variables that represent the underlying determinants of child malnutrition: national food availability, women's education, women's status relative to men's, and access to safe water. Of these, women's education has the strongest impact on child

malnutrition, followed closely by per capita food availability. Increases in women's status and improvements in the quality of a country's health environment also have strong effects on malnutrition and are necessary to reduce it. The differential importance of these variables in different regions is shown in tables. The aim of the analysis is to provide information to help policy-makers prioritize their investments to reduce child malnutrition. Investing in improving these variables could help change the predicted increase in SSA's share of the total number of malnourished children, from the current 19% up to 35% in 2020.

21. UNAIDS. (2002). "Epidemiological Fact Sheets on HIV / AIDS and Sexually Transmitted Infections, 2002 Updates". UNAIDS is the Jointed United Nations Programme on HIV / AIDS that works with WHO on the global surveillance of HIV / AIDS and other sexually transmitted infections. Information on these topics is available from UNAIDS online at "www.unaids.org" and from WHO at "www.who.int." The program began its global surveillance in late 1996, in collaboration with national AIDS programs and the national and international institutions that provide country-specific data. The UNAIDS "Epidemiological Fact Sheets on HIV / AIDS" are probably the best source of up-to-date, country-specific information on the HIV / AIDS epidemic in each of the twelve countries where RCSA works. Much of the information in the Fact Sheets is standardized and therefore can be compared and aggregated to the regional level. The Fact Sheets provide information on the prevalence and incidence of HIV / AIDS and on some of the behaviors that affect its transmission, such as condom use and casual sex. This includes information on the number of people living with HIV / AIDS by year and by type (adults, women, children); the annual number of HIV / AIDS deaths; and the current number of orphans left by the disease. HIV sentinel surveillance from prenatal clinic attendees in rural and urban areas provides information on changes in HIV prevalence rates in different age groups over time. Some information on HIV rates in other social groups—sex workers, injecting drug users—also is in the Fact Sheets. There is information on the number of AIDS cases by year and by mode of transmission, and on the number of cases by sex and age by year. Maps show the location and HIV prevalence of HIV sentinel sites in relation to population density, major urban areas, and communication routes.

22. Van Rooyen, Johan, and Howard Sigwele. (1999) "Towards regional food security in Southern Africa: a (new) policy framework for the agricultural sector." *Food Policy* 23. pp. 491–504. The article argues the importance for food security of agricultural development in Southern Africa. "Sustained agricultural performance will play a significant role in the improvement of food security and livelihoods in the region." However, consideration must be given to the dramatically increasing number of urban food insecure in the region and feeding the urban masses at affordable prices will increasingly become a high priority consideration for agriculture. Household-level poverty reduction, economic development and growth are important components of a food security strategy. Agriculture is key to all of these and the development of a productive agricultural sector will depend on investment in infrastructure and marketing systems as well as in making appropriate technological advances available to farmers. Agricultural transformation must proceed through four phases or environments: i) getting agriculture moving; ii) agriculture as the major generator of economic growth; iii) agriculture increasingly integrated into the economy; and iv) agriculture as a component of

industrial economies. The ability of agriculture to play these consecutive roles in Southern Africa will be determined, in part by the nature if political and government support for agriculture, regionalism, and trade integration. Meanwhile per capita food production has fallen by nearly two percent per year since the 1980s while demand for cereals in the region will grow from an estimated 27 million MT in 1989 to about 70 million MT in 2025. the sector, the authors conclude, is not yet performing in an optimal manner.

23. von Braun, J., Hazell, P., Hoddinott, J.and Babu, S. (2003) "Achieving long-term food security in southern Africa: International perspectives, investment strategies and lessons." Keynote paper prepared for the Southern Africa Regional Conference on Agricultural Recovery, Trade and Long-term Food Security, March 26-27, 2003, Gaborone, Botswana. Von Braun and his team at IFPRI nicely present a synthesis report on most aspects of food security and rural livelihoods. The paper presents some of the approaches that other developing countries once threatened by famine used to avert future food crises and embarked on a path towards long-term food security, the approaches suggested present options for the countries of southern Africa. The paper also argues that for long-term investments to work, the countries must develop the capacity of their public institutions, particularly in the areas of policy analysis, research support, data and information collection and management, analytical capacity for strategy development, and planning, monitoring and evaluation. Considerations of what kinds of investments are needed to get agriculture moving again in the region and that will create conducive situation for relief and development are also necessary. Designing the appropriate policies is the key to all the other impact strategies and investments that will effectively place the region on a path to food security. However, policy-based approach are not enough to avoid food shortages and achieve long-term food security. A rights-based approach to food security is necessary, coupled with good governance: rule of law, democracy, accountability and transparency.

24. Webster, J. (2003) "Biotechnology policy framework: A presentation made to the FANRPAN Conference on Agricultural Recovery, Trade and Long-Term Food Security." March 26-27, 2003. Gaborone, Botswana. During the FANRPAN organized policy dialogue (26-27, 2003) Jocelyn Webster, of AfricaBio made some recommendations regarding a regulatory system for GM organisms (GMOs) and a harmonization at national, regional and international levels which can be developed further and can provide a framework for developing a biotechnology policy. She proposes a GMO Act, the aims of which would be to provide for measures to promote the responsible development, production, use and application of genetically modified organisms (including importation, production, release and distribution) and to limit possible harmful consequences to the environment, including giving attention to the prevention of accidents and effective management of waste. The fears and uncertainties regarding GMOs may be unfounded, but they cannot be wished away, they have to be dealt with in a systematic and clear framework. A number of biotechnology policy recommendations for southern African regional level have been proposed and discussed. The pre-requisite to such policy is the harmonization between national policy development and regional and international structures as well as virtual structures for regional harmonization.

25. Wiggins, S. (2003) "Lessons from the current food crisis in southern Africa." A paper offering an outline of the findings emerging from a meeting arranged by SARPN with CARE and IFAS on 18 March 2003.[50] Wiggins documents some of the most recent reviews on food security in Southern Africa and other initiatives carried out by several official donors and NGOs including, for example the EU, CARE International, formal research, including a review of relief efforts by academics in the southern African region and others such as Georgetown University, the Institute of Development Studies, Sussex, Imperial College at Wye, University of East Anglia, the Natural Resources Institute, Greenwich and at the Overseas Development Institute, just to mention a few. In the region, networks such as Food, Agriculture and Natural Resources, Policy Analysis Network (FANRPAN) and Southern African Regional Poverty Network (SARPN) have initiated overall reviews. However the focus of the paper is twofold, first, to outline an initiative called the Forum for Food Security in Southern Africa and then to report the findings emerging from a meeting arranged by SARPN with CARE and IFAS on 18 March 2003. The results of that meeting provided background information for the FANRPAN organized regional policy dialogue aimed at identifying and articulating key policy constraints to agricultural recovery, trade and the food security requirements within the context of the 2002 food emergency, which took place on March 26-27, in Gaborone, Botswana. The paper demonstrates that there is much relevant high quality research-based evidence and economic analysis on the rural economy in Southern Africa, but it is not being synthesized and fed into public policy processes for rural growth and poverty alleviation. The paper thus, summarizes a proposed project, which will support strategic thinking on food security issues in Southern Africa by facilitating a forum of specialists and key policy stakeholders from the international and regional research community, donors, NGO, civil society and private sector with identified specialist knowledge of the issues and the region. The project will be funded by the UK Department for International Development and implemented by a consortium of institutions in the UK and Southern Africa.

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[50] Note: The Wiggins paper cited in the main report is a later (March 23, 2003) and much modified version of this paper.