Enhancing the Effectiveness of Food Security Information Systems in SADC

Issues Paper
December 2011

Economic Commission for Africa

Enhancing the Effectiveness of Food Security Information Systems in SADC

Issues Paper

December 2011

United Nations Economic Commission for Africa
Subregional Office for Southern Africa

Table of Contents

Abbreviations and acronyms

AFSUN	African Food Security Urban Network
AIMS	Agriculture Information Management System
AMIC	Agriculture Marketing Information Centre
CFSAM	Crop and Food Security Assessment Mission
DMC	Drought Monitoring Centre
EW	Early warning
EWS	Early Warning System
EPWP	Expanded Public Works Programme
FANR	Food Agriculture Natural Resources
FAO	Food and Agriculture Organization
FEWS	Famine Early Warning Systems
FEWS NET	Famine Early Warning Systems Network
FIVIMS-SA	Food Insecurity and Vulnerability Information Management System- South Africa
FSIS	Food Security Information System
GIEWS	Global Information Early Warning System
HDD	Household Dietary Diversity
HFIAS	Household Food Insecurity Access Scale
NEWS	National Early Warning System
NEWU	National Early Warning Unit
IFPRI	International Policy Research Institute
IPC	Integrated Phase Classification
KFSM	Kenya Food Security Meeting
KFSSG	Kenya Food Security Steering Group
MACO	Ministry of Agriculture and Cooperatives
MDG	Millennium Development Goals
MIS	Market Information System
NFCS	National Food Consumption Survey
NVACs	National Vulnerability Assessment Committees
OCHA	Office for the Coordination of Humanitarian Affairs
REWS	Regional Early Warning System
RHVP	Regional Hunger and Vulnerability Programme
RRSP	Regional Remote Sensing Project
RVAA	Regional Vulnerability Assessment and Analysis
RVAC	Regional Vulnerability Assessment Committee

SADC	Southern African Development Community
SADCC	Southern African Development Coordination Conference
SADC VAC	SADC Vulnerability Assessment Committee
SADC RVAC	SADC Regional Vulnerability Assessment Committee
SARCOF	Southern African Region Climate Outlook Forum
SAVAC	South Africa Vulnerability Assessment Committee
SAGIS	South African Grain Information Service
SGR	Strategic Grain Reserve
VAA	Vulnerable Assessment and Analysis
VACs	Vulnerability Assessment Committees
UNECA	United Nations Economic Commission for Africa
UNICEF	United Nations Children's Fund
WFP	World Food Programme
WFP VAM	World Food Programme Vulnerability Analysis and Mapping

Foreword

The recurrence and magnitude of food crises in Southern Africa underscore the need to improve prevention and response mechanisms in order to address the determinants and the dynamic nature of food insecurity, at both national and regional levels. The strong upward trends and increased variability in global food prices over the recent years have led to concern about the lack of sufficient information to gauge the likely effects of global food crises on the SADC countries and to identify, design, and implement policy actions that can best avoid risks and take advantage of opportunities.

The SADC Food Security Summit held in Dar es Salaam in 2004 emphasized the need to strengthen national early warning systems; enhance vulnerability monitoring capabilities; and develop a Regional Integrated Agricultural Information System to enhance agricultural development and sustainable food security in the sub-region.

Food security information is provided through a myriad of sources operated by governments, donors, multi-laterals and NGOs in Southern Africa. Designers and implementers of Food Security Information Systems (FSIS) need to enhance the credibility of the information through a process of consultation and coordination. A clear communication strategy and capacity building will allow policymakers to understand how the information is derived and analysis undertaken.

FSIS outputs have been characterized by the continued primacy of a food response despite their dual expected role in informing both relief and developmental actions. The scarcity of data on costs of FSIS and their various components constitutes a severe constraint on financial sustainability. While mainly focusing on food supply, FSIS in the SADC region lack information about underlying livelihoods and assets, longer-term vulnerability analysis and poverty monitoring. Linkages of FSIS to trade policy and private sector decision makers are poor. This limits the potential for private sector mitigation activities and response to disasters.

This Issues Paper, part of the ECA-SADC Multi-Year Programme, aims at assisting member States in facing these challenges. The Paper reviews issues and challenges faced by member States and other stakeholders in developing FSIS and makes recommendations to strengthen the production, delivery and consumption of quality agricultural and food security information in the SADC region.

The final draft of the study benefited from experts who took part in the Seminar on "Enhancing the Effectiveness of Food Security Information Systems in the SADC Sub-Region" held in Johannesburg, South Africa, in September 2011. The Seminar was organized through a collaborative effort between

Executive Summary

Due to the inadequacies in the Food Security Information Systems (FSIS) at SADC and member States levels, ECA-SA commissioned a background paper to critically review the gaps and recommend ways for enhancing their effectiveness. The Issues Paper assesses the national and sub-regional FSIS in terms of efficiency, levels of partnerships and initiatives, capacity-building needs as well as methodological, institutional, technological and political issues influencing their performance.

Food security is a complex and multi-dimensional subject that cuts across a diversity of sectors and issues. For this reason, several diverse information systems contribute data for building a composite understanding of food security. The analysis of food security in the region is informed by information systems operating at basically three levels: global, regional and national levels in response to the socio-economic and environmental challenges.

Analysis of the effectiveness of FSIS

While SADC countries have diverse information systems that contribute to the understanding of food security, their effectiveness in informing decision-making is not adequately understood. An analysis of FSIS shows various limitations in the following areas:

Relevance in terms of thematic focus and data disaggregation: Most existing information systems are responsive to natural events affecting food security but not so much on the effects of economic crises, household coping strategies and long-term trends such as climate change. It is essential that responses to food insecurity in the region go beyond short-term food aid needs to longer-term livelihood programmes, addressing chronic issues, such as poverty, poor macroeconomic conditions and HIV/AIDS. In terms of geographic coverage, the current focus of FSIS is on rural areas and yet the rapid population growth in the SADC region has brought urban development challenges.

Integration and coordination of information systems: Existing information at both regional and national levels is not integrated and hence there is lack of a holistic picture of food security conditions. For example, at national levels, there is no integration within government departments as various sections function in cubicles. The underlying problem is the lack of coordination within and across departments.

Data accuracy and credibility: Data inaccuracy presents serious challenges for food security analysis in member States. However, of greatest concern is the credibility given to official over unofficial sources. This demonstrates that a hierarchy exists in food security information systems, with formal

(government-run and donor-funded) systems given priority while informal reports are considered least credible.

The levels of networking and partnerships: The levels of networking and partnerships among stakeholders in many countries is improving, although much needs to be done particularly in terms of sharing of data. In some instances, there exists a disconnect between information generated and what users need. At national levels, there is limited interaction within departments and, worse still, across departments.

Institutional arrangements for FSIS: The institutional architecture of FSIS involves a complex web of relationships within and between public, private and civil society actors. There is a lot of duplication in roles and activities among government departments dealing with food security issues. In most countries, it is unclear which institutions have a mandate to deal with food security activities. Another challenge is that of insufficient structures that bring all public and private actors to identify vulnerability and food security concerns at national levels.

Usefulness of methodologies: Despite the diverse information systems, methodological limitations exist. There are methodological differences in the national data sets and indicators that measure different dimensions of food insecurity within and between countries. The countries use different sampling approaches and there is lack of consensus on methodologies used across the region. In addition, there are no standardized definitions for indicators and no agreement on sampling methods

Funding and sustainability: FSIS at both regional and sub-regional levels are largely dependent on external funding. Nevertheless, a general decline in investment in these systems, lack of resources for specialized inputs such as satellite imagery and lack of resources to carry out in-depth assessments has been observed.

Dissemination and communication: A general trend in most FSIS in the region is that information produced does not meet the needs of the users, is not produced timely for decision-making and is poorly disseminated. The lack of communication strategies exacerbates the situation. Current communication of information systems is one-way with those issuing warnings not aware of the needs and priorities of vulnerable communities.

Capacity-building: National institutions have limited capacity at the central and decentralized levels in collecting, analysing, reporting and communicating food security information. Capacity-building is particularly needed at the provincial and district levels, the current focus of decentralization efforts for food security information. Countries lack simple methods for assessing and monitoring food insecurity that could easily be transferred to national staff at the decentralized level.

Policy Recommendations For Enhancing Effectiveness Of FSIS In The SADC Sub-Region

1. The SADC region needs to strengthen Food Security Information Systems through:
Strengthening Early Warning Systems

> » As an initial step, a detailed review of EWS is needed for identifying the gaps as well as assessing their effectiveness in both crises and non-crises years.
> » At a basic level, this could involve integrating EWS with market information systems and livelihood monitoring systems that assess non-drought issues such as chronic food insecurity and seasonal under-nutrition.
> » Urban vulnerability and food insecurity issues need to be captured and this can be achieved by building partnerships with research institutions such as the African Food Security Urban Network (AFSUN).
> » Integration of food security indicators in existing general household surveys as recently initiated in South Africa should be encouraged.
> » Developing an Economic Early Warning System to detect economic and financial sector vulnerability, design appropriate remedial policy responses and undertake preventive actions to address vulnerabilities.

Strengthening Market Information Systems (MIS)

It is recommended that the region develops a Market Information and Intelligence System (MIIS) that will provide up-to-date price and trade flow information and analysis; offer service such as information on import/export regulations and procedures, generate data on current road and rail haulage rates, provide world and border price analysis, provide inventories of traders, transporters, clearing agents, provide an informal market place where interested buyers and sellers can place enquiries, and news updates on issues related to food marketing and trade.

The Need for Harnessing Indigenous Knowledge to Supplement Conventional Information Systems

While indigenous agricultural knowledge is of immense value in improving food production, its documentation and dissemination remain a big challenge confronting food security analysis experts. It is recommended that member States investigate the role of indigenous knowledge in the mainstream FSIS.

2. Supporting the integration of FSIS in SADC
The integration of FSIS can be enhanced through the following recommendations:

Building and learning from success stories: In supporting the integration of FSIS, there is need for building stakeholder committees to strengthen linkages among different components and dimensions of food security. The national Vulnerability Assessment Committees established through the SADC Regional Vulnerability Assessment Committee (RVAC) and the Kenya Food Security Steering Group (KFSSG) provide good examples of integrated analysis systems.

Integration of livestock information into the FSIS: Member States should include Livestock departments in stakeholder committees. This may also entail building capacity in the data collection and analysis of livestock data.

Integrating HIV and AIDS, chronic vulnerability and climate change in vulnerability assessments: It is recommended that VACs develop simple indicators they can use for understanding the impacts of HIV and AIDS on food security such as numbers of chronically ill per household, number of AIDS deaths per household and presence of orphans per household. In addition, FSIS should integrate VAA with long-term development issues (e.g. climate change, poverty) and other risk management information into a more holistic service to enhance long-term policy and programme design.

3. SADC needs to facilitate and support the harmonization of information systems and methodologies at all levels:
Harmonization of information systems is essential as it creates a platform for interaction and sharing of information. This can be done by creating synergies among stakeholders as well as developing joint projects on information systems. WFP and FAO have started work on a joint Information System for Food Security (ISFS) strategy on the basis of complementarity and their agreed comparative advantages. At the SADC level, the Secretariat should provide overall guidance on this matter based on RVAA's vision and objective and the strategic frameworks on food security and poverty.

4. The need for strengthening partnerships at regional and national levels
Sharing of data and technologies needs to be strengthened. For example, the Regional Centre for Mapping of Resources for Development (RCMRD) geo-information role in Southern Africa needs to be made visible particularly in supporting capacity-building in EWS and disaster management. There is also need to cultivate deep collaboration between SADC and COMESA crop forecast reports, food balance sheets and other early warning initiatives. Other continued partnerships with global organizations such as FEWS NET, WFP and FAO are commendable, although the clarification of roles and responsibilities is necessary.

5. Enhance capacity-building efforts at regional and member States levels
The capacities of national centres need to be strengthened and linkages with regional centres reinforced. For example, linkages with centres such as the African Centre for Meteorological Applications of Development (ACMAD) are necessary for supporting national systems. Most fundamentally

at the member States levels, there is need for building and enhancing the capacity of core staff and established secretariats of stakeholder committees particularly in data analysis. Training should also be targeted at unfamiliar theme areas such as urban food security analysis, chronic food security, climate change, high vitality of commodity prices etc. This will require development a0nd testing of such methodologies and it is expected that SADC plays a leading role in this aspect.

6. Creating financial and institutional sustainability for FSIS

In the long to medium term, SADC and member States need to develop an Integrated Financing Strategy (IFS) that will assist in securing sustainable financing for FSIS at all levels. At the regional level, the idea of basket funding is currently attractive although issues of sustainability remain. An Integrated Financing Strategy will thus entail analysing the region or country's capacity to raise financial resources from domestic sources and proposes means for improving the mobilization of resources from within the country. In this regard, governments should have budgetary allocations for FSIS that include operational costs. Where possible, governments should also identify means for raising funds such as charging user fees to sustain systems, cost-sharing arrangements and engaging the private sector through advertising.

Concerning institutional sustainability at the SADC level, the issue of FSIS should be a standing agenda at Ministerial, Council and Summit levels for awareness raising at the highest decision-making body. At member States levels, food security information should be coordinated by a high level ministry or statutory body. The stakeholder committees should be chaired by Permanent Secretaries or presidential appointees so that the institution is able to coordinate information from other ministries and departments.

7. Strengthening communication and dissemination initiatives: In order to strengthen communication and dissemination initiatives, the following is recommended:

Establishing user needs: An initial step towards addressing communication and dissemination deficiencies would be the establishment of user needs at all levels.

Development of a communication strategy: To ensure that outputs inform programming and decision-making, dissemination of information should be informed by a communication strategy.

Linking FSIS with small-scale farmers: Early warning can be disseminated through extension services to small-scale famers and more importantly, practical and timely advice could have a significant impact on household and national level food security.

Reinforcing the role of the media in the communication of food security information: The media's role in communicating food security information in SADC should be defined and established. Ministries coordinating food security information should establish linkages with the media. Suggested

regular publications can include press releases, which are 1-2 page statements written in the form of a news story that can be sent to the mass media. Another more detailed and relevant publication can be in the form of feature stories that can cover a particular subject in some depth.

1.   Background and objectives

Agricultural development and food security are increasingly recognized as key in attaining the Millennium Development Goals (MDGs) in the Southern African Development Community (SADC) region. For this reason, efforts towards revitalizing these sectors can be traced back to the formation of the Southern African Development Coordination Conference (SADCC) in 1980 and, later on, the Food Agriculture and Natural Resources (FANR) directorate under SADC. Intensified political commitment to agriculture and food security was endorsed in the Dar es Salaam Declaration on Agriculture and Food Security signed by the SADC Heads of State in 2004. These commitments are based on a common understanding of the multifaceted causes of food insecurity. The fact that many of these causal factors emanate from a combination of environmental, social and economic factors indicates that solutions must lie not only in the agriculture sector but should also encompass various sectors throughout the market value chain.

Key SADC economic indicators show a murky picture. In general, there has been a low average rate of economic growth in the region, which is largely attributed to low rates of investment. In 2010, the region's average real Gross Domestic Product (GDP) growth rate was predicted to be 5.9 per cent; 2.9 percentage points above the 2009 average of 3.0 per cent (SADC, 2010). This notable satisfactory performance is likely to be retarded or offset by the uncertain global economic outlook. The International Monetary Fund (IMF) Managing Director, Christine Lagarde, warned that "the world economy is in a new dangerous phase" with many downside risks (23 September 2011). The large sovereign debts currently witnessed in advanced countries, especially in the Euro-zone caused in part by limited political and/or leadership commitment, are making the economies of every country in the world extremely vulnerable. As such, there are calls for collective leadership since the world is increasingly interconnected.

Another challenging socio-economic factor that drives increasing food security demand in SADC is population growth. Although between 2001 and 2009, SADC recorded a steady population growth averaging 2.5 per cent, a sharp increase to 4.3 per cent growth was recorded in 2010 (ibid). The report released by the United Nations Population Division (2011) projected increases in the world population to 10.1 billion by 2100. According to the same report, growth in Africa could triple during this time rising from 1 billion to 3.6 billion. Even a small country like Malawi with 15.9 million people is expected to have 129 million people by the end of the century. Such high population growth has serious implications for the ability of SADC to provide food, water, energy, employment and other services. According to the report by FAO on "How to Feed the World by 2050", all of the largest growth in the world's population will take place in urban areas. Urbanization is expected to

grow exponentially with more than 70 per cent of the world's population expected to be urban. For these reasons, the same report indicates that in order to feed this larger and more urban population, food production must increase by 70 per cent.

SADC still struggles with eradicating hunger. Most fundamentally, we see the region struggling with addressing the persistent problem of undernourishment. The number of undernourished remain stubbornly high in spite of food supplies that are sufficient at aggregate levels. SADC countries exhibit high levels of undernourishment in terms of increasing trends in numbers of undernourished for some countries. For example, according to FAO global statistics (2010), Zambia, Angola, Mozambique and Zimbabwe had 43 per cent, 41 per cent, 38 per cent and 30 per cent respectively of their population in 2005-07 (the most recent period for which complete data are available) undernourished. The prevalence of undernutrition in these countries is higher than in sub-Saharan Africa measured during the same period. Poor access to food continues to be a major cause of undernutrition in the region and this is due to a myriad of reasons including poverty, income inequalities, population growth and many others.

There is also the impact of HIV and AIDS in SADC countries, which is profound, affecting the social and economic fabric of society. This is because 34 per cent of all people living with HIV and AIDs in the world reside in the SADC region. Its impact on food security and agriculture, particularly on crop production due to labour constraints, is pronounced. In this respect, extraordinary efforts have been made to ensure the stabilization of HIV prevalence rates in the region through universal access to ART (antiretroviral treatment), resulting in a slowing down of the deaths from AIDS over the last few years. Admittedly, gender disparities continue to be a major driver of the HIV epidemic in the region in the face of many targeted programmes that address vulnerability of women such as the PMTCT (Prevention of Mother to Child Transmission) programmes that reduce infections in newborns.

Current concerns over climate change and variability have also arisen as a result of the unprecedented pace of change and the extent to which expected changes in climate will affect human and environmental systems. A trend of increasing temperatures has been confirmed in different parts of the SADC region. Based on the IPCC (2007) assessments, temperatures over Southern Africa are predicted to rise between 2°C and 5°C by 2050. This is likely to affect precipitation patterns, which will affect the length of the growing season. The impacts of climate variability and extreme events are already being felt among the many rural communities in the region who are dependent on rain-fed agriculture.

Against this background, the role of food security information systems in decision-making at all levels is paramount. In the quest for addressing such socio-economic and environmental challenges, the member States have been obligated to critically question and examine the adequacy of their food security information systems, particularly in response to non-climatic shocks/stresses. The recurrence and magnitude of food crises in Southern Africa underscore the need to improve prevention and re-

sponse mechanisms in order to address the determinants and the dynamic nature of food insecurity, at both national and regional levels. Indeed, the lack of sufficient information to gauge the likely effects of global food price increases in 2008 in the SADC region confirms this limitation in information systems.

Food security information is currently provided by diverse actors from governments, donors, multilaterals and NGOs in the region. The apparent gap in food security information systems includes generation of appropriate information to guide decision-making and for assessing and measuring progress. For example, there are concerns about the accuracy and reliability of some data, the lack of coordination that has led to duplication, lack of standardization of information and confusion for decision makers. To assist member States to overcome such challenges, and as part of its Multi-Year Programme with the SADC, ECA-SA commissioned an Issues Paper to specifically:

   » Assess the national and sub-regional FSIS efficiency in terms of their objectives and actors, coverage (geographic and thematic) and credibility, methodology, sustainability, institutional management and ownership and communication strategy and consider possible solutions to strengthen the agricultural and food information systems at the level of the consumer and across value chains.
   » Critically review the existing partnerships and initiatives aimed at strengthening the linkages between food security information, market information, early warning systems and agricultural information systems and highlight good practices in terms of better linking food security information with decision makers.
   » Identify key capacity-building needs at the sub-regional and national levels to not only enable decision makers and other stakeholders to access and apply available information but also to integrate FSIS with poverty and vulnerability monitoring mechanisms and adapt elements of the FSIS to their local situations.
   » Assess the performance of Agricultural and Food Market Information Systems in the region and define ways of integrating them within the FSIS to promote agricultural and food market transparency trough efficient, sustainable and cost-effective collecting, analysing, and disseminating information about food prices, deliveries, supply, demand and stocks.
   » Identify methodological, institutional, technological and political issues to consider in defining a strategy aimed at improving the technical quality and the scope of the analysis provided by the FSIS and enhancing their impact.
   » Propose recommendations and the way forward from the findings.

2.   Theoretical understanding and approach

A Food Security Information System (FSIS) comprises a succession of related food security information activities involving data collection; data management techniques and software; data analysis and communication of information through appropriate channels (FAO, 2007). Using this general understanding of FSIS, the paper applies the food security definition agreed upon at the 1996 World Food Summit i.e., "when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life". This definition consists of four key elements: adequate availability, accessibility, utilization and stability of supply. Against this understanding, food security is multi-dimensional, multi-sectoral and can be measured and analysed at different levels (global, national, community, household, individual). The analysis of the effectiveness of FSIS in the sub-region was assessed against four objectives of the paper aforementioned.

The paper was informed by a detailed literature review of FSIS implemented by divergent actors in the region. Contacts with some major stakeholders in the agriculture and food security sectors in South Africa and at SADC FANR were made. The exercise complemented a general analysis of background documents on general livelihoods and food security conditions in Southern Africa.

3. Status of food security information systems in Southern Africa

The objective of a FSIS is to provide well-analysed food security information in order to support decision-making processes (FAO, 2007). As already stated, food security is a complex and multi-dimensional subject that cuts across a diversity of sectors and issues. For this reason, it is essential that several diverse information systems contribute data for building a composite understanding of food security. The analysis of food security in the region is informed by information systems operating at basically three levels: global, regional and national levels in response to the socio-economic and environmental challenges thus becoming of utmost importance.

3.1 Global Information Systems

A brief synopsis of FAO, WFP and FEWS NET's FSIS is discussed in the following section illustrating their role in supporting regional and national information systems. FAO's Global Information and Early Warning System (GIEWS) has established itself as the leading source of information on food production and food security throughout the world. Since its establishment during the world food crisis of the early 1970s, the System supports national and regional level initiatives to enhance food information and early warning systems. FAO also plays a significant role in capacity development support to member States, in such areas as methods for crop yield forecasts, market information systems, food security monitoring and early warning systems, emergency needs assessments, response analysis and integrated analysis of food security, vulnerability and resilience. The Integrated Food Security Phase Classification (IPC) is one such tool that FAO developed in Somalia in 2004. The IPC is a set of analytical protocols to consolidate food security information for decision-making on current situations and future scenarios. In this aspect, it is attractive because it provides a platform for sharing information and enabling stakeholders to work together. Since it is designed to strengthen existing information systems and institutions, it has a strong capacity-building component. In Southern Africa, an IPC global partnership between FAO and eight major food security organizations1 was established in 2007 to further develop and disseminate protocols and processes for food security analysis and classification. So far, IPC is being introduced in six countries (Zimbabwe, South Africa, Mozambique, Malawi, Tanzania and DRC) under the coordination of an IPC Working Group established within the SADC-RVAC.

---

1   These agencies are: CARE International, FAO, FEWS NET, the EC Joint Research Centre (JRC), Oxfam GB, Save the Children UK & US and WFP.

In the mid-1990s, WFP established the Vulnerability Assessment and Mapping (VAM) unit, which began to establish baseline vulnerability for numerous countries where WFP was working. Initially, VAM was dependent on secondary data although the mandate has broadened to include the generation of primary data. VAM's activity has also evolved to a Comprehensive Food Security and Vulnerability Analysis (CFSVA), which is designed as an early warning baseline information system. In Zambia, the CFSVA has been piloted in 21 districts out of 74 districts and the exercise is funded by the government and WFP. Besides generation of data, WFP also provides specialized knowledge, capacity enhancement in data collection and analysis and advice, which supports national efforts to develop and sustain early warning capabilities.

FEWS NET's overall goal of the activity is to help prevent food insecurity and famine through early identification and warning to decision makers. FEWS NET's key partners at national and regional levels are the VACs and the National Early Warning Units (NEWUs). Data on the country food security situation is supplied by NEWUs and various government departments. FEWS NET's methodology provides a good example of an integrated food security information system. Besides generation of data, FEWS NET also provides specialized knowledge, capacity enhancement in data collection and analysis and supports national efforts to develop and sustain early warning capabilities. One of the notable products of FEWS NET in Southern Africa is the Informal Cross Border Trade Monitoring System that is funded by USAID and WFP.

In terms of their limitations, global information systems rely on partnerships and information generated at national levels. As such, these information systems have faced challenges due to lack of information in some countries, and the need to ensure quality and timeliness. Another major challenge is the lack of sustainable institutional in-country arrangements and simple and effective information dissemination mechanisms. Successful global monitoring systems for food security have been those that are integrated into national systems.

3.2   Regional Information Systems

SADC has long recognized the importance of information systems in the spheres of agriculture, food security and disaster preparedness and response. This realization dates back to the formation of the food security projects in the 1980s that focused, among other things, on early warning, crop assessments and remote sensing. Furthermore, the region has always seen the necessity for an integrated regional information system to support national level initiatives and to provide a consolidated analysis.

Information systems in the early 1980s initially emphasized on the creation of a Regional Early Warning System (REWS)2 that could provide sufficiently-reliable crop production forecasts several months in advance of the harvest to enable the orderly importation of commercial imports and food aid to offset domestic deficits resulting from adverse climatic conditions. As such, the early warning system was instrumental in supporting major relief interventions in response to severe region-wide droughts, which affected southern Africa, especially during the 1980s and 1990s. The programme was considered valuable enough to encourage member States to take over the financing of the regional early warning unit for a number of years following the end of donor support (from DANIDA and FAO) in the late 1990s. In recent years, support for early warning systems has declined. For example, the Regional Remote Sensing Unit (RRSU) was forced to disband at the end of 2009 when funding expired.

Another dimension is that in the past, information systems focused on the macro-level (food balance sheet) assessments of regional and national food supply situations and short-term and reactive responses focusing on food aid. However, this focus has evolved over the years to include disaggregated analysis using Vulnerability Assessment and Analysis (VAA) methods focused on understanding the intra-country livelihood zoning and household food security conditions. Informed by the fact that food security is linked to chronic vulnerability and poverty, this has led to a more holistic approach that links information systems with policy design and response mechanisms. As of November 2009, a total of nine countries had created functional VAC structures under the Regional VAA programme. The degree of their effectiveness varies between countries and is highly dependent on where they are housed and the related political and institutional frameworks.

While each of the above systems has purpose and value in their own right, the integration and coordination of the individual systems is more ideal than the sum of the component parts. The ultimate idea is to eventually integrate all these subsystems into one information system for FANR through an integrated database at SADC Secretariat level and help member States to do the same at national levels. Theoretically, the main FSIS at this level should fall under the Agriculture Information Management System (AIMS). The AIMS then ideally includes the Regional Early Warning System (REWS), Vulnerability Assessment and Analysis (VAA) System, Livestock Information Management System (LIMS) and the proposed Food Reserve Management Information System. The AIMS's objective is to "provide planners and policymakers with easy access to information necessary for revitalizing agricultural and natural resources growth, enhancing food security and promoting rural development." The AIMS is not fully functional at this stage due to resource limitations.

---

2   Adapted from the Regional Agriculture Policy (RAP) Pre–feasibility Study 4: Social and Vulnerability Policy Issues, Instruments and Measures, Wahenga Institute (2011) – Final Report.

3.3 National Food Security Information Systems

A comprehensive food security analysis will require data that support the measurement of each of the four dimensions (availability, access, utilization, stability) and related vulnerabilities. Each factor or variable is measured by its related indicators. Member States have several types of information systems that are relevant for understanding vulnerability to food insecurity. Table 1 reflects the objectives, methodology used, examples of indicators tracked, coverage and actors for each type of information system.

Table 1: Information Systems for Food Security at National Levels

TYPE	THEME	OBJECTIVES	METHODOLOGY	INDICATORS	COVERAGE	ACTORS
EARLY WARNING	Meteorology	Provide weather and climate forecasting over a wide variety of timelines	Weather prediction models Satellite information Global circulation models	Average rainfall Average temperature Climate forecasts	National	Weather services Met offices
	Agriculture Disasters (hazards/shocks, pests, diseases)	Early warning for agriculture disasters (droughts, floods, fires etc.)	Crop assessments by agronomists	Rainfall, temperature vegetation (NDVI), livestock, crops, agriculture markets	National Provincial District	Departments of Agriculture (Early Warning Units) Weather services
	Water	Provides information on dam capacities and levels as well as hydrological information	Secondary sources Primary data collection (dam levels)	Annual rainfall patterns; dam monthly levels and capacity; water supply and quality	National	Departments of water
	Migration	Warning of vulnerabilities associated with migration, displacement and social exclusion	Local level studies using surveys	Migration profiles Social analysis	Specific districts in certain countries	International organizations (e.g. IOM)
	Natural Disasters	Disaster risk assessment; Disaster risk reduction; Response and recovery on major disasters (drought, floods, fire, lightning, extreme cold, thunderstorms)	Assessments	Water supplies, water usage, soil moisture, rainfall patterns (intensity, duration); Temperature (frost) Cloud cover	National, Provincial, District Municipalities/ Councils	Disaster management agencies, civil society, private sector, UN OCHA

TYPE	THEME	OBJECTIVES	METHODOLOGY	INDICATORS	COVERAGE	ACTORS
	Food Crises	Provide alerts of impending food crises	Secondary data from partners Country assessments	Agricultural production Rainfall Disasters/ epidemics Markets and prices	Regional Country level	International/ Regional (FEWS NET) FAO/WFP
	Agriculture Production	Provides information on crop estimates and cereal balance sheets	Forecasts on production of field crops Field surveys Secondary information	Crop production (grain levels) Livestock production	National Provincial District	Departments of Agriculture CFSAM FAO FEWS NET
	Grain Production and Stocks	Provides information on grain production, inputs, marketing, macro environment	Commercial farmers Grain silo owners Millers & processors Exporters & importers Crop estimates	Area planted, yield Grain prices, Import & export parity prices Import & exports of grain Strategic reserves Changes in stock	National	Grain marketing boards, Private farmers
HEALTH AND NUTRITION	Health and Nutrition	To provide efficient and effective nutrition information system for planning, policy formulation and management	National surveys Demographic health surveys Nutrition surveillance Clinical records	Anthropometry Micro-nutrient status Caring practices Morbidity Growth monitoring Diseases Care practices Child mortality	National Provincial District	Departments of Health, UN (UN-AIDS, UNICEF)
	Research	To provide research results that contribute to the improvement of health and nutrition	Research Household surveys	Micro-nutrient status	National selected areas	Academic research institutions Private institutions
	Statistics	To generate information on household socio-economic conditions and health.	Household surveys National HIV/AIDS surveys	Water access and use Sanitation facilities Refuse disposal services	National	Statistical offices

TYPE	THEME	OBJECTIVES	METHODOLOGY	INDICATORS	COVERAGE	ACTORS
MARKETING	Markets	To regularly collect market information for monitoring and decision-making	Market surveys and analysis	Commodity prices, Product prices, Agriculture input costs, Food price monitoring, Costs of minimum basket, Terms of trade	National	Statistical offices Agriculture departments, Agriculture marketing agencies Private institutions
GENERAL SOCIO-ECONOMIC	Social	To provide information on poverty, living conditions, demographics, coping strategies	Population census Household surveys Household demographics	Living conditions (education, health, social development, household access to services & facilities, food security, agriculture) Assets (productive/non-productive) Age, sex, etc Coping Strategy Index	Community Household National Selected districts	Statistical offices Civil society
	Economic	To provide information on macroeconomic indicators, labour, income and expenditure	Household surveys Forecasts	Income, acquisition and expenditure patterns, employment, unemployment, underemployment; Macroeconomic indicators	Household National	Reserve Banks Ministries of Finance Statistical offices
FOOD SECURITY	Vulnerability (FIVIMS)	Helps countries characterize the food insecure and vulnerable population groups through a cross-sectoral analysis of the underlying causes	A range of methods livelihood surveys, modelling; mapping; Secondary information	Food consumption, food production, food availability, anthropometric status of children	Household National	Public and private agencies, research, academic, civil society, UN (FAO, WFP)
	Vulnerability (VACs)	To provide information on vulnerability to food insecurity and a broader range of vulnerabilities	Household Economy Approach (HEA) Integrated Phase Classification (IPC) Livelihood-Based Vulnerability Assessments (LBVA)	Agricultural production Climate and weather Socio-economic Anthropometry Market prices Food security dimensions	National District Household	Multi-agency at regional and country levels

4.   Analysis of the effectiveness of FSIS in SADC

While SADC countries have diverse information systems that contribute to the understanding of food security, their effectiveness in informing decision-making is not adequately understood. An understanding of the impact of these systems in addressing past food crises and policymaking decisions would be useful for gauging their purpose and effectiveness. The following pages provide a synopsis of the performance of FSIS in assessing and monitoring food security.

4.1   Relevance in Terms of Thematic Focus and Data Disaggregation

Most existing information systems are responsive to natural events affecting food security but not so much on the effects of economic crises, household coping strategies and long-term trends such as climate change. Take for example, the National Early Warning Units (NEWUs) continue to exist, at least in name, within the hierarchy of national governments while their relevance and performance are extremely weak. NEWUs are over-centralized, production-centred and drought-focused with inadequate monitoring of chronic and localized food insecurity (Devereux and Maxwell, 2003). As observed in Lesotho's EWU, the system has many information gaps. It does not provide information required for food security policies and strategies e.g. vulnerability, nutrition status and health. The unit provides mainly climatic and crop production indicators. The thematic focus of most EWS has remained stagnant despite the changing nature of vulnerability and food crises.

It is essential that responses to food insecurity in the region go beyond short-term food aid needs to longer-term livelihood programmes, addressing chronic issues, such as poverty, poor macroeconomic conditions and HIV/AIDS. Hence, information systems should be better linked with longer-term development issues, such as poverty reduction strategies, agricultural and food security policies, and health and nutrition programmes and policies. Although NVACs are moving towards a better understanding of livelihoods, there are still limitations on capturing and analysing data on chronic vulnerability and poverty and for guiding long-term responses to challenges such as climate change. Another sticking issue is that of the continued neglect of the livestock sector in the analysis of food security conditions at all levels. For example, despite continued concerns, livestock contributions are often unaccounted for in national food security statistics. Perhaps this may be caused by the lack of clarity on what to monitor.

In terms of geographic coverage, the current focus of FSIS is on rural areas and yet the rapid population growth in the SADC region has brought urban development challenges. Urban food insecurity

is now a development concern and little is known about the extent of food insecurity in cities and towns of southern Africa (Frayne et al., 2009). This is already the case for South Africa where 60% of its population is urbanized. A recent study by the African Food Security Urban Network (AFSUN) in South Africa found that 70% of poor urban households reported conditions of significant and severe food insecurity. Similarly, although most countries generate a lot of information, there is still inadequate disaggregation. For example, lower level data availability is widely lacking in most countries.

4.2   Integration and Coordination of Information Systems

Existing information at both regional and national levels is not integrated and hence there is lack of a holistic picture of food security conditions. For example, at national levels, there is no integration within the government departments as various sections function in cubicles. The underlying problem is the lack of coordination within and across departments. This has meant duplication of information and in some cases resulting in institutional conflicts, over-abundance of information and lack of standardization; leading to confusion for decision makers (Shoham, 2005). The formation of multi-agency groups (e.g. VACs) has assisted in improving coordination.

4.3   Data Accuracy and Credibility

Data inaccuracy presents serious challenges for food security analysis and member States. However, of greatest concern is the credibility given to official over unofficial sources. This demonstrates that a hierarchy exists in food security information systems, with formal (government-run and donor-funded) systems ranked at the top while informal reports are considered least credible. An analysis of the sequence of events following food crises that took place in three countries: Ethiopia, Malawi and Niger by Devereux (2009) illustrates this reality. In Malawi, predictive information was available although problems centred on inaccuracy, credibility and inconsistencies (See Box 1).

Information constraints were due to:

    (i)   Erroneous food production data for 2000/01 agriculture season. Malawi's famine EWS predicted aggregate food surplus due to over-estimates of roots and tubers (cassava production had been exaggerated). Methodological limitation in estimations of roots and tubers was also a major constraint.

    (ii)   Concealed information, particularly of strategic grain reserves due to lack of transparency.

    (iii) Ignored information: NGOs and civil society sounded the alarm but the government and donors did not listen. Refusal to listen to NGO information resulted in delayed humanitarian response.

    (iv) Mismanaged information and inappropriate price signals.

Likewise, there is often inadequate and inaccurate data in specialized subjects such as health and nutrition. Health and Nutrition Information Systems are commonly of three types: repeated large-scale surveys such as Demographic Health Surveys (DHS); reporting systems capturing data collected in clinics or at screenings for humanitarian assistance programmes or from growth monitoring within nutrition programmes; and sentinel systems involving data collection in selected clinics, or from sample households and children in selected sites. Overall, national surveys provide much valuable data for tracking long-term trends, usually down to province or equivalent levels. However, data on health and nutrition in most countries has serious information gaps. Data collected from health centres/hospital records does not capture all indicators and the results are often unreliable. Very low human capacity and under-trained staff is a limitation for undertaking large-scale monitoring systems. Countries also have inadequate financial resources to improve the systems in order to provide more timely and credible information.

4.4   The Levels of Networking and Partnerships

The levels of networking and partnerships among stakeholders in many countries is improving, although much needs to be done, particularly in terms of sharing of data. In some instances, there exists a disconnect between information generated and what users need. At national levels, there is limited interaction within departments and, worse still, across departments.

Civil society plays a role in raising awareness among individuals, communities and organizations involved in early warning, particularly at the community level, but are not always so keen to be part of a regular routine food security monitoring system. They are, however, useful with implementing early warning systems and in preparing communities for natural disasters. In addition, they can play

an important advocacy role to help ensure that early warning stays on the agenda of government policymakers and yet they are not adequately interacting with government departments.

The science and academic community has a critical role in providing specialized scientific and technical input to assist governments and communities in developing early warning systems. Their expertise is central to analysing natural hazard risks facing communities, supporting the design of scientific and systematic monitoring and early warning services, supporting data exchange, translating scientific or technical information into comprehensible messages, and to the dissemination of understandable warnings to those at risk. Similarly, there is no formalized platform and deliberate way of tapping into this hub of information.

For sustainability purposes, partnerships are a pre-requisite at all levels (global, regional and country levels). A clear inhibiting factor to the development of partnerships has been differences in institutional objectives and mandates. In this regard, national governments have not always been able to provide leadership. The formation of the Regional Vulnerability Assessment Committee in SADC provides credibility to regional leadership and builds consensus among participating countries. The stronger the multi-stakeholder partnership underpinning a national FSIS, the more impact it will have on decision-making. Positive examples are also found in the Kenya Food Security Steering Group (KFSSG) and the Mozambique Technical Secretariat for Food Security and Nutrition (SETSAN) hosted by the Ministry of Agriculture. The Institute for Food Security and Nutrition Coordination is an inter-ministerial coordinating structure for ensuring the coordination of technical activities on Food Security and Nutrition in Mozambique. SETSAN comprises various stakeholders and partners including government departments, UN agencies, NGOs and donors. The SETSAN has the Information and Policy Department, which plays a vital role in VAA, the group is coordinated by the Ministry of Agriculture and Ministry of Health.

4.5   Institutional Arrangements for FSIS

The institutional architecture of FSIS involves a complex web of relationships within and between public, private and civil society actors. There is a lot of duplication in roles and activities among government departments dealing with food security issues. In most countries, it is unclear which institutions have a mandate to deal with food security activities. In general, food security and more specifically food production is coordinated by the Ministries of Agriculture. This has had negative consequences on how food security is conceptualized and understood. Generally, institutional arrangements in departments of agriculture have been unable to deal with the complexity of food security issues. Their focus on agricultural production limits the conceptualization of food security to availability issues. Yet food access and malnutrition are the most pressing issues in the region. Simi-

larly, with the AIMS programme being proposed to be hosted by the Ministries of Agriculture, there are risks that the intended objectives of an integrated national AIMS may not be fully achieved.

Another challenge is that of insufficient structures that bring all public and private actors to identify vulnerability and food security concerns at national levels. A major impediment is that there is no agreed framework that links agricultural production with other food security determinants such as health, education and early warning, which could be used to derive the indicators for monitoring. In countries with VACs, the secretariats are housed in different locations depending on the country's preferences. In some cases, the government departments housing the VACs are weak in implementing the activities due to limited decision-making authority and capacity constraints (human and financial). For example, departments dealing with disaster response (e.g. in Namibia) have limited capacity to coordinate vulnerability issues.

4.6   Usefulness of Methodologies

Despite the diverse information systems, methodological limitations exist. There are methodological differences in the national data sets and indicators that measure different dimensions of food insecurity within and between countries. The countries use different sampling approaches and there is lack of consensus on methodologies used across the region. In the case of VACs, the lack of consensus on methodologies used across the region makes it difficult to compare results between countries, and sometimes within different regions of the same country. In addition, there are no standardized definitions for indicators and no agreement on sampling methods (Frankenberger et al., 2005).

Theoretically, the methodology adopted should be based on a thorough gap analysis of existing information and analytical frameworks, capacity to implement and sustain the approach and the general socio-economic context (Shoham, 2005). One of the most widely used methodologies in the region has been the Household Economy Approach (HEA) promoted by Save the Children UK. While there has been keen interest and adoption of the HEA methodology, it has also drawn criticisms from a number of stakeholders. Some of the criticism is associated with institutional competitiveness as it is a methodology largely driven by an individual institution (ibid). Others are based on the weaknesses and limitations of the methodology. The common criticism is that it is highly technical and time-consuming, demanding specific skills and expertise. In general, much of the literature analysing methodologies (e.g. Shoham, 2005) has shown that the institutional location of the FSIS, the mix of institutions involved nationally and regionally and donors have had a significant influence on the methodologies used.

A number of other tools have also been introduced in the region, such as the Integrated Phase Classification (IPC) and the recent Human Vulnerability Index by FANRPAN. While this is a positive con-

tribution to the range of methodologies and tools in the market, it has also presented challenges and confusion. In sum, there has been no convergence on a single approach that assists in an integrated analysis of food security at the regional levels, a situation that calls for greater SADC leadership. On the whole, as the SADC region must pay increasing attention to the likely effects of climate change and economic uncertainties (e.g. global price hikes), the current regional and national assessments and analytical approaches seem to be lacking in addressing this challenge.

4.7 Funding and Sustainability

FSIS at both regional and sub-regional levels are largely dependent on external funding. Neverthe-less, a general decline in investment in these systems, lack of resources for specialized inputs such as satellite imagery and lack of resources to carry out in-depth assessments has been observed. Support to early warning has steadily declined over the last decade due to FAO's discontinuation of a number of regional and country support programmes (Poulsen, 2009). The project-based approach to FSIS, which is the basis of almost all FAO and WFP support to national governments to a certain extent is inconsistent with long-term sustainability (ibid). Evidence shows that the problems with operating Market Information Systems (MIS) are largely due to lack of resources for maintaining efficient systems upon withdrawal of donor support. Most effective MIS were supported by external funding, as in the case with the Zambia and Mozambique Market Information Systems supported by FAO. Such support often does not have follow-ups and has no exit strategies. There is no documented national FSIS best practice following the end of external funding. Moreover, there is limited ability to secure sustainable funding.

4.8 Dissemination and Communication

In disseminating and communicating food security information, it is important to note that different stakeholder groups have specific information needs and delivery preferences. Highly differentiated information needs assessment is essential in order to effectively support decision-making at different levels. Information can potentially have a catalytic role but much depends on its reliability and relevance to the needs of particular user groups.

A general trend in most FSIS in the region is that information produced does not meet the needs of the users, is not produced timely for decision-making and is poorly disseminated. The lack of communication strategies exacerbates the situation. Enhancing the quality and quantity of information also relies on attention to the flow of information, such as the means of communication, format and content. Current communication of information systems is one-way with those issuing warnings not aware of the needs and priorities of vulnerable communities (Gwimbi, 2007; personal interview,

2010). Information transfer is largely vertical from, for example, meteorologists downwards to farmers rather than finding ways of also sharing information with other institutions horizontally (Vogel et al., 2010).

While the FSIS are using various channels for dissemination at the higher levels, community-level communication systems are still a challenge due to capacity constraints. For example, to be able to provide disadvantaged small famers with reliable and timely early warning information and, more importantly, practical and timely advice could have a significant impact on household and national level food security. However, delivering this type of information faces a number of challenges. The most critical of these is the ability of such a system to provide sufficiently reliable, timely and disaggregated information, analysis and advice to make a meaningful and measurable improvement to small farmers' decision-making and, ultimately, to their food security and livelihoods.

4.9   Capacity-building

National institutions have limited capacity at the central and decentralized levels in collecting, analysing, reporting and communicating food security information (see Table 2). Capacity-building is particularly needed at the provincial and district levels, the current focus of decentralization efforts for food security information. Countries lack simple methods for assessing and monitoring food insecurity that could easily be transferred to national staff at the decentralized level.

Table 2: A summary of the main capacity constraints at sub-regional levels

Category	Type	Capacity Constraints
Technical	Methodological	Research methods and mapping Data management Data Analysis Tools Integrated analysis of information from various food information systems
	Report writing	Presentation skills
	Dissemination	Communication skills for transforming information into clear concise reports Advocacy skills
Technological	Software	Lack of appropriate models, software necessary to process data
Human	Capacity	High staff turnover
Financial		For maintaining FSIS For conducting large-scale surveys, particularly nutrition surveys Short-term funding in relation to long-term capacity-building

Sources: Various documents

A number of training and capacity-building efforts are provided through the SADC RVAC in areas of baseline surveys, livelihood zoning, HEA methodology and others. This is done through technical advisory for countries, country training sessions, technical visits and inter-country exchange and training visits. In addition, members of the RVAC (e.g. WFP, FEWS NET, OCHA, FAO) worked with or support countries in various assessments. For example, WFP supports and works with the VACs in conducting Comprehensive Food Security Vulnerability Assessments. FEWS NET supports member States on scenario-building and market analysis as well as conducting pre-assessment and pre-harvest surveys. The high turnover of staff means capacity-building will always be an issue. The idea of building capacity within institutions of higher learning such as universities is an attractive and sustainable solution.

Having provided a brief analysis of the limitations of FSIS at both regional and national levels, the following chapter provides policy recommendations for enhancing their effectiveness.

5. Policy recommendations for enhancing effectiveness of FSIS in the SADC sub-region

5.1 The Need for Strengthening FSIS at both Regional and Member States Levels

Strengthening Early Warning Systems

The weaknesses of most EWS are predominantly unveiled during and after a disaster or shock has occurred. When considering that such crises can emerge suddenly with huge impacts on vulnerable populations dependent on the market for food, there is an urgent need to strengthen EWS at both regional and sub-regional levels.

> » As an initial step, a detailed review of EWS is needed for identifying the gaps as well as assessing their effectiveness in both crises and non-crises years.
> » At a basic level, this could involve integrating EWS with market information systems and livelihood monitoring systems that assess non-drought issues such as chronic food insecurity, and seasonal under-nutrition (Devereux, 2003). A number of averted food crises in Afghanistan, Burundi and Sudan also show the value of combining nutritional status data with contextual information on livelihoods, assets, coping strategies and market prices (Devereux et al., 2004). A combined analysis presents a fuller picture of the severity of a situation as well as its causes and impacts than if the two types of information are collected and analysed separately (ibid).
> » The thematic focuses of EWS need to be reinforced towards filling the current gaps in knowledge and coverage. Urban vulnerability and food insecurity issues need to be captured and this can be achieved by building partnerships with research institutions such as the African Food Security Urban Network (AFSUN).
> » Integration of food security indicators in existing general household surveys as recently initiated in South Africa should be encouraged (Box 2). This proves to be a much cheaper method and has advantages of producing a composite picture of food security.
> » Developing an Economic Early Warning System as proposed by Bhattacharyay et al. (2009). The objective is to detect economic and financial sector vulnerability, design appropriate remedial policy responses and undertake preventive actions to address vulnerabilities (ibid). Monitoring could be done by different groups – markets, firms, consumers, policymakers, regional and international financial institutions, and countries with strong trade or economic links using composite economic indicators. This can also

be monitored as part of a market information and intelligence system, which currently is missing.

Box 2: The General Household Survey (GHS)

It is conducted annually by Statistics South Africa since 2002. The survey collects information on a variety of subjects including education, health, the labour market, dwellings, access to services and facilities, transport and quality of life. In 2009, the GHS generated data on food security and agriculture for the first time.

Strengthening Market Information Systems (MIS)

Market information has tended to be viewed as a narrow set of data related primarily to market prices and, more recently, regional trade flows. While prices and trade movements provide extremely useful information, the potential scope of services provided by a market information system is considerably wider. It is recommended that the region should develop a Market Information and Intelligence System (MIIS) that:

- » Will provide up-to-date price and trade flow information and analysis.
- » Offer services such as information on import/export regulations and procedures (including phytosanitary).
- » Generate data on current road and rail haulage rates.
- » Provide world and border price analysis.
- » Provide inventories of traders, transporters, clearing agents etc.
- » Provide an informal market place where interested buyers and sellers can place enquiries and news updates on issues related to food marketing and trade.

The primary purpose of such a system should be to provide a range of actors, primarily producers, traders and transporters, with a range of information, advice and services to facilitate and reduce the cost of domestic marketing and regional trade in primary food commodities. In this regard, FSIS can also play an instrumental role in promoting intra- and extra-regional trade especially in moving food from regions of surplus to those in deficit and also strengthening the linkages between food markets and other sectors of the economy.

The need for harnessing indigenous knowledge to supplement conventional information systems

A historical reflection indicates that many African societies developed and perfected some forms of monitoring of food access, availability and utilization at different eras of African history. Admittedly, a number of factors influencing the use of indigenous practices and technologies in enhancing house-

hold food security are reported in Africa. One of the major limiting factors to the use of indigenous knowledge in enhancing food security is lack of documentation. Other limitations include lack of proven scientific procedural explanations as compared with western scientific knowledge and practices. While indigenous agricultural knowledge is of immense value in improving food production, its documentation and dissemination remain a big challenge confronting food security analysis experts, particularly in Africa where cultural practices are prevalent. It is recommended that member States investigate the role of indigenous knowledge in the mainstream FSIS.

5.2   Supporting the Integration of FSIS

Integrated food security information systems have been developed as a means of giving a universal and coordinated approach to the issue of food insecurity. The integrated food security analysis draws together different sectoral data sets from different government ministries and departments. There are some expected challenges in bringing together sectoral-based systems such as: tensions in managing different mandates of different stakeholders; challenges with joint reporting as schedules are usually never adhered to and capacity constraints. As a result, this affects the timely release of reports and acceptability by governments. In addition, collaborating agencies should be encouraged to continue producing their own reports on major food security issues and, in special circumstances, produce joint reports. The integration of FSIS can be enhanced through the following recommendations:

Building and learning from success stories
In supporting the integration of FSIS, there is need for building stakeholder committees to strengthen linkages among different components and dimensions of food security. The national Vulnerability Assessment Committees established through the SADC Regional Vulnerability Assessment Committee (RVAC) also provide a good example of an integrated analysis system in southern Africa. Even though still at the initial stages of success, Box 3 provides an example of the Mozambique VAC.

Box 3: The Mozambique VAC: SETSAN

The Technical Secretariat for Food Security and Nutrition (SETSAN) in **Mozambique** houses the country's VAC. The Institute for Food Security and Nutrition Co-ordination is an inter-ministerial coordinating structure for ensuring the coordination of technical activities on Food Security and Nutrition in Mozambique. SETSAN comprises of various stakeholders and partners including government departments, UN agencies, NGOs, and donors. The SETSAN has the Information and Policy Department, which plays a vital role in VA, the group is coordinated by two ministries; the Ministry of Agriculture and the Ministry of Health. The success of SETSAN is attributed to the partnership and collaboration of all stakeholders and role players. Work plans of UN agencies such as FEWSNET and WFP are informed and aligned to the work that is done by SETSAN. This assists in ensuring consensus around food security conditions in Mozambique.

Another example of an integrated food security analysis is the Kenya Food Security Steering Group (KFSSG) reflected in Box 4.

Box 4: An integrated food security analysis: learning from Kenya

In the late 1990s, Kenya had excess donor funding for early warning/food security projects but had little capacity for comprehensive early warning or coordination of food security activities. Within the central government, it was very unclear as to who/which structure had responsibility for early warning and food security coordination and analysis. There was a large amount of inconsistent and sometimes misleading information that was confusing to decision makers. As a result of the poor coordination, the effectiveness of interventions was limited and financial and other resources were not used efficiently.

In late 1998, the Government of Kenya, in agreement with donors and other partners, established a joint forum for providing early warning and comprehensive food security situation updates and analysis. Two forums were established: the Kenya Food Security Meeting (KFSM); and the Kenya Food Security Steering Group (KFSSG). The KFSM is a monthly open membership meeting attended by representatives from over 50 different organizations (GoK departments, UN agencies, donors and NGOs). The KFSSG is a small subset of the KFSM that collaborates in information analysis and reporting. Members include the government, the UN, NGOs and donor representatives. They share data and produce several joint reports on the food security situation for different audiences. The Joint Monthly Kenya Food Security Update is one core publication.

While the system faces a number of challenges, it provides a positive example of how existing resources can be used effectively. This collaborative analysis has been highly successful in providing decision makers with consensus advice (**Source:** FAO, 2007).

Integration of livestock information into the FSIS

Member States should include the livestock departments in stakeholder committees. This may also entail building capacity in the collection and analysis of livestock data. Admittedly, the quality of livestock data, particularly concerning trade, marketing and production, is limited in most countries.

Integrating HIV and AIDS, chronic vulnerability and climate change in vulnerability assessments

Numerous studies have extensively documented the impacts of HIV and AIDs on livelihoods in Africa. From these studies, we have been able to understand the interactions between agriculture and rural livelihood systems, the spread of HIV and impacts of AIDS at different levels, the responses as well as the impact of relevant policies and programmes. The impacts of HIV and AIDS on food security among the VACs are acknowledged, but there has not been a deliberate and consistent mechanism for tracking the indicators or analysing the data.

It is important that information systems provide not only sustainable early-warning capacity, but also a more detailed understanding of livelihoods, to inform longer-term sectoral policies and programmes on poverty, chronic vulnerability and climate change. Many countries already track chronic vulnerability as part of the monitoring requirements of their Poverty Reduction Strategy Programmes (PRSPs) but these have developed as a separate system with separate funding channels. There are, therefore, major issues about the compatibility of FSIS and longer-term PRSP monitoring systems in terms of survey procedures, sampling, institutional location and reporting.

It is recommended that:

> » The VACs develop simple indicators they can use for understanding the impacts of HIV and AIDS on food security such as the number of chronically ill per household, number of AIDS deaths per household and presence of orphans per household.
> » FSIS integrate VAA with long-term development issues (e.g. climate change, poverty) and other risk management information into a more holistic service to enhance longer-term policy and programme design.

5.3 SADC needs to facilitate and support the harmonization of information systems and methodologies at all levels

Harmonization of information systems is essential as it creates a platform for interaction and sharing of information. This can be done by:

» Creating synergies among stakeholders by developing joint projects on information systems. WFP and FAO have started work on a joint Information System for Food Security (ISFS) strategy on the basis of complementarity and their agreed comparative advantages. The joint strategy aims to strengthen existing and develop new areas of collaboration. Among other areas, the joint strategy includes strengthening collaboration on information systems for food security-related methods and tools of common interest. Such collaborative efforts will encompass coordinated support at the country level in national food security monitoring and early warning systems. Although not an end in itself, it is important that similar joint initiatives are encouraged among leading global and regional players as this creates a conducive platform for the harmonization of information systems and methodologies.

At the SADC level:

» The Secretariat should provide overall guidance on this matter based on the RVAA's vision and objective and the strategic frameworks on food security and poverty.

» Some form of convergence on critical indicators to monitor in the region is needed for the generation of a robust regional synthesis. While this subject of methods has been debated so many times, this has been done abruptly and not in an objective manner. The issue of methods can be tackled at both regional and national levels. At the regional level, the objective is that of standardization, while at the national level this may depend on country needs while maintaining consistency and comparability between regions.

5.4 The Need for Strengthening Partnerships at Regional and National Levels

Information systems are typically designed by technicians who often have different perspectives in terms of what information is needed and what the value of the information is. At the same time, without a clear understanding of the information itself, users along the market value chain may not be able to clearly articulate their needs. This win-win situation requires a consultative approach between providers and users, where by working together, the information system evolves as a realistic, affordable, utilized and useful service. In this regard, strong partnerships are essential. As already stated in this report, at regional levels, several partnerships exist that support SADC information systems particularly provided by the RVAC members although their effectiveness has not been deliberately assessed.

Sharing of data and technologies needs to be strengthened. For example, the Regional Centre for Mapping of Resources for Development (RCMRD) geo-information role in Southern Africa needs to be made visible, particularly in supporting capacity-building in EWS and disaster management. The Regional Centre for Mapping of Resources for Development (RCMRD) was established in Nairobi, Kenya, in 1975, under the auspices of the United Nations Economic Commission for Africa and the

then Organization of African Unity, which today is the African Union. It is an inter-governmental organization and currently has 18 contracting member States in the Eastern and Southern Africa regions, namely: Botswana, Burundi, Comoros, Ethiopia, Kenya, Lesotho, Malawi, Mauritius, Namibia, Rwanda, Seychelles, Somalia, South Africa, Sudan, Swaziland, Tanzania, Uganda and Zambia. UN-ECA can play a significant role in strengthening such partnerships because of its strategic position. SADC has a programme called AMESD, which uses satellite remote sensing imagery for food security. There is also need to cultivate deep collaboration between SADC and COMESA crop forecast reports, food balance sheets and other early warning initiatives

Other continued partnerships with global organizations such as FEWS NET, WFP and FAO are commendable although the clarification of roles and responsibilities is necessary. An investigation on the private sector's role is necessary at both regional and country levels. At national levels, partnerships are necessary and a must since all information systems depend on this level. Strengthening partnerships between private, public, civil society and research/academic institutions is critical. An important group that is often neglected is the community. Overlooking the community in FSIS has resulted in inappropriate information. Civil society organizations have a comparative advantage of working with communities and also generating data at this level, so their participation is essential.

5.5   Enhance Capacity-building Efforts at Regional and Member States Levels

Training and capacity-building to ensure adequate skills and technical capacity is critical for enhancing the effectiveness of FSIS. Adequate institutional capacity and commitment is required at the SADC and national levels, particularly for implementing and monitoring the AIMS programme. Indeed, SADC and partners have been involved in capacity-building efforts for several years now and it is critical to evaluate the impact of previous capacity-building initiatives to identify gaps and priorities. As much as there is recognition of the need for capacity-building in FSIS, little is known of the extent of this need. The SADC RVAC conducted a similar exercise but focusing more on the RVAA activities. However, a much comprehensive assessment of the impact of past capacity-building initiatives and current and future needs is required.

The capacities of national centres need to be strengthened and linkages with regional centres reinforced. For example, linkages with centres such as the African Centre for Meteorological Applications of Development (ACMAD) are necessary for supporting national systems. ACMAD was created in 1987 by the Conference of Ministers of the United Nations Economic Commission for Africa (UNECA) and the World Meteorological Organization (WMO). According to their website, ACMAD carries out its mission through capacity-building for National Meteorological Services of its member States, in weather prediction, climate monitoring, and transfer of technology (telecommunications, computing and rural communication) and in research. The SADC Climate Services Centre (CSC),

formally Drought Monitoring Centre, is contributing to the reduction of negative impacts of adverse weather and climatic conditions such as drought, floods and other extreme events on sustainable socio-economic development, and to the rational use, conservation and protection of national resources in the SADC region. The purpose of the CSC, therefore, is to ensure that a sub-regional mechanism for monitoring and predicting extremes in climatic conditions is operational. The CSC carries its mandate through development, generation and dissemination of meteorological, other environmental and hydro-meteorological products. The products have also made valuable contribution to increasing the region's disaster preparedness for and efficient management of weather and climate-induced calamities. Since its establishment in 1991, the SADC CSC has continued to provide services and outreach products in weather and climate monitoring and prediction for the benefit of the SADC member States and regional and international institutions. In particular, those in programmes of Early Warning for Food Security, Disaster Preparedness, Health and Water Management Sectors.

Most fundamentally, at the member States levels, there is need for building and enhancing capacity of core staff and established secretariats of stakeholder committees, particularly in data analysis. Training should also be targeted at unfamiliar theme areas such as urban food security analysis, chronic food security, climate change and high vitality of commodity prices. This will require development and testing of such methodologies and it is expected that SADC will play a leading role in this aspect.

5.6   Creating Financial and Institutional Sustainability for FSIS

In the long to medium term, SADC and member States need to develop an Integrated Financing Strategy (IFS) that will assist in securing sustainable financing for FSIS at all levels. At the regional level, the idea of basket funding is currently attractive although issues of sustainability still remain. An Integrated Financing Strategy will thus entail analysing the region or country's capacity to raise financial resources from domestic sources and proposes means for improving the mobilization of resources from within the country. In this regard, governments should have budgetary allocations for FSIS that include operational costs. Where possible, governments should also identify means for raising funds such as charging user fees to sustain systems, cost-sharing arrangements and engaging the private sector through advertising. Some member institutions are already charging user fees, for example, in the supply of meteorological data. The next step is an analysis of bilateral and multilateral development cooperation assistance, foundations and the private sector. This is supposed to culminate in a process of increasing the mobilization of resources from these external sources.

Other new major potential funding sources of IFS capacity and institution building assistance include the World Bank's Global Agriculture and Food Security Program (GFASP), the American Feed the Future Initiative (FTF), and the second phase of the EC's Food Security Thematic Programme (FSTP).

Concerning institutional sustainability at the SADC level, the issue of FSIS should be a standing agenda at Ministerial, Council and Summit levels for awareness-raising at the highest decision-making body. In due course, such an initiative can result in greater institutional support for FSIS at both regional and member States levels. SADC FANR should also play a leading role in coordinating and providing support for national systems as well as providing a clear direction for donors and partners. At member States levels, food security information should be coordinated by a high level ministry or statutory body. The stakeholder committees should be chaired by Permanent Secretaries or presidential appointees so that the institution is able to coordinate information from other ministries and departments.

5.7   Strengthening Communication and Dissemination Initiatives

Establishing user needs

A number of institutions in member countries have established dissemination channels and forums that range from conducting regular briefings, e-mail communication to distribution of hard copy reports. Some use powerful committees and platforms that are responsible for the coordination of food security and emergency issues, thus ensuring uptake of findings into policy and programming decisions. Since most institutions do not have an evaluated experience of the impact of their outputs, it is difficult to measure performance. An initial step towards addressing communication and dissemination deficiencies would be the establishment of user needs at both regional and national levels. To ensure that outputs inform programming and decision-making, dissemination of information should be informed by a communication and dissemination strategy.

Development of a communication strategy

The development of a communication strategy is essential for all types of information systems and improves uptake of information by various users. For example, policymakers need the right information, in the right form at the right time. Hence, the development of the communication strategy should be guided by the following basic steps:

1.   Identifying and analysing the audiences or users of the information.

2.   Defining the communication objectives.

3.   Deciding on the messages to convey to the users.

4.   Selecting the channels of communication to use.

5. Creating a communication work plan.

6. Evaluating communication activities.

Linking FSIS with small-scale farmers

Early Warning Systems should provide early forecasts of seasonal harvests that directly connect to farmers' decision-making by providing practical and timely advice. This can be done through extension services, on such matters as planting recommendations and strategies to minimize the impact of adverse changes in the weather. A new approach to early warning, which works in hand with extension services to provide disadvantaged small-scale famers with reliable and timely early warning information and, more importantly, practical and timely advice, could have a significant impact on household and national level food security. For example, predictions regarding increasing climate variability due to climate change further reinforce the need for reliable, specific and proactive early warning information and advice.

Delivering this type of information and advisory system faces a number of challenges. The most critical of these is the ability of such a system to be able to provide sufficiently reliable, timely and disaggregated information, analysis and advice to make a meaningful and measurable improvement to small-scale farmers' decision-making. This is an issue that needs more in-depth and expert analysis but an approach that merges early warning and vulnerability assessment and analysis systems might suggest a way forward.

Reinforcing the role of media in the communication of food security information

The media's role in communicating food security information in SADC should be defined and established. Using the media means many people can be reached and it is also an important tool for raising awareness and advocacy on critical food security issues. It is suggested that member States should make use of various types of media such as radio, television, drama, websites and social media depending on the content and sensitivity of the issue. It is imperative that reliable information is provided to the media, as early as possible, in a concise and readily understandable form, and linked, where possible, to newsworthy events. As such, ministries coordinating food security information should establish linkages with the media. Suggested regular publications can include press releases, which are 1-2 page statements written in the form of a news story that can be sent to the mass media. The press releases should report on recent activities or give information on upcoming events. Another more detailed and relevant publication can be in the form of feature stories that can cover a particular subject in some depth.

The downside of using the media is that: it is often very difficult to target the right audiences; sometimes information may be conveyed inaccurately; the cost of production and distribution may be high and in some instances, coverage may be negative.

References

Bhattacharyay, B., Dlugosch, D., Kolb, B., Lahiri, K., Mukhametov, I. and Nerb, G. (2009). Early Warning System for Economic and Financial Risks in Kazakhstan. CESIFO Working Paper No. 2832 Category 7: Monetary Policy and International Finance, October 2009.

Devereux, S., Baulch, B., Hussein, K., Shoham, J., Sida, H. and Wilcock, D. (2004). Improving the Analysis of Food Insecurity: Food Insecurity Measurement, Livelihoods Approaches and Policy: Applications in FIVIMS

Devereux, S. (2003) in Devereux S. and Maxwell S. (eds). Food Security in Sub-Saharan Africa. University of Natal Press, Pietermaritzburg, South Africa, ITDG Publishing.

Egedorf, M., Magadzire, T. and Tarakidzwa, I. (2008): Improving Food Security Monitoring and Vulnerability Assessment Capabilities, USAID.

European Commission for Africa, Southern Africa Office (2007): Impact of Food Aid and Developed Countries' Agricultural Subsidies on Long-term Sustainability of Food Security in Southern Africa

Gwimbi, P. (2007). The Effectiveness of Early Warning Systems for the Reduction of Flood Disasters: Some Experiences from Cyclone-induced Floods in Zimbabwe. Journal of Sustainable Development in Africa, Vol. 9, No.4, page 152-169.

Kadi, M. (2010). Partnership: A Key Driver in Enhancing Capacity to Teliver Weather & Climate Information in Support of the Development in Africa, The First Conference of Ministers Responsible For Meteorology in Africa, Nairobi, 12-16 April 2010.

Marsland, N. (2004). Development of Food Security and Vulnerability Information Systems in Southern Africa: The Experience of Save the Children UK

Maunder N. and Wiggins S. (2006). Food Security in Southern Africa: Changing the Trend? Review of Lessons Learnt on Recent Responses to Chronic and Transitory Hunger and Vulnerability, Final Report, 2006.

Poulsen L., Stacey R., Bell L. and Kumar, R. S. (2009). Joint Thematic Evaluation of FAO and WFP: Support to Information Systems for Food Security, Final Report.

SADC (2009). Measures to Address Food Insecurity in the SADC Region: A Background Paper, SADC Secretariat.

Shepherd, A. (1997): Market Information Services: Theory and Practice. FAO Agriculture Services Bulletin 125.

Vito, L. B. (2009). Global Monitoring for Food Security: Enhancing Food Security Monitoring in Sub-Saharan Africa.

Vogel, C., Koch, I. and Van Zyl, K. (2010). A Persistent Truth – Reflections on Drought Risk Management in Southern Africa. Weather, Climate, Society 2, 9-22.

WFP (2009). FSMS Stakeholder Consultation – Workshop: Summary of Discussions, 18-19 June 2009, Rome.

Wiggins, S., Maunder, N., Carnegie, J., Roberts, B., Mokoena, R. and Tregurtha, N. (2004). Scoping Study towards DFID South Africa's Regional Hunger and Vulnerability Programme, Abridged Version, August 2004, Prepared by SARPAN.