

## **E. FAMINE EARLY WARNING SYSTEM NETWORK (FEWS NET) MALAWI**

### **1. Funding Levels and Project Goal and Objectives**

The Famine Early Warning Systems Network (FEWS NET) Project No. OUT-AOT-C-800-00-00142 was funded by USAID at \$872,659. It is a centrally managed program being implemented by Chemonics International with a project implementation period from July 8, 2000 to September 30, 2003.

**Project Goal:** To create more useful and sustainable information systems that facilitate finding solutions to food insecurity problems in Malawi.

#### **Project Objectives:**

- ▶ Collection and analysis of national crop production data including design and implementation of consolidated crop production survey methodology;
- ▶ Collection of national market price and quantity data for the different agricultural products;
- ▶ Develop a sustainable vulnerability assessment monitoring (VAM) system and poverty monitoring system;
- ▶ Train Ministry of Agriculture and Irrigation staff in the use of geographic information system (GIS) and other computer applications;
- ▶ Provide statistical data summaries and maps to the GOM, USAID/Malawi and other donors in support of the Mission's strategic objectives; and,
- ▶ Provide early warning information to government, USAID/Malawi, and other donors pertaining to causes and magnitudes of food insecurity, and targeting approaches that may be used in safety net programs.

### **2. Findings**

FEWS NET is a Mission buy-in funded by the USAID Regional Center for Southern Africa (RCSA). Malawi is one of 17 African countries participating in the FEWS network. Other participating countries include Burkina Faso, Chad, Eritrea, Ethiopia, Kenya, Mali, Mauritania, Mozambique, Niger, Rwanda, Somalia, Southern Sudan, Tanzania, Uganda, Zambia, and Zimbabwe. The initial Malawi FEWS project started in 1993 and has continued to the current extension period, with the purpose of providing a management information system for assembling agriculturally related bio-physical and socio-economic information suitable for monitoring and assessing the food security status and the impact of policy reforms, and in supporting USAID program decision-making.

Pragma Corporation managed the original FEWS Project from its inception until 1995. From 1995 through July 2000 Associates in Rural Development (ARD) managed the Project. Chemonics has managed the Project since July 2000. Each participating country has a small team of specialists charged with conducting special surveys and compiling a wide range of data and information within their assigned country and preparing monthly descriptive and analytical reports. The Malawi reports that were reviewed address a range of topics, including agricultural commodity prices and quantities sold, marketing conditions, exchange and inflation rates, rainfall and rainfall patterns, crop and livestock production figures, drought and flooding

conditions, food imports and domestic availability, and an annual food balance sheet. The monthly reports are sent to the Washington Project headquarters, where they are reviewed and further compiled into a network summary bulletin. Since August 2000 the local monthly Malawi FEWS NET report has been distributed to almost 100 donor, NGOs and international agencies, thus providing for the first time, a systematic distribution of food security and related socio-economic and bio-physical data in a readable descriptive and analytical format. Previously the Malawi country report was distributed only to the Washington office and to the USAID Mission.

The Malawi FEWS NET team consists of a Country Field Representative, an Assistant Field Representative, and an Administrative Assistant. In collecting and analyzing data, the team works closely with the National Economic Council (NEC), the various GOM food security units, the National Early Warning Unit of the MOAI Planning Division, the National Statistics Office (NSO), NGOs and other donor agencies associated with food security and food distribution issues, and private and with public sector production and marketing agencies and companies. The Country Field Representative has been with the project since its inception in 1993.

**Objective a: Collection and analysis of national crop production data, including the design and implementation of consolidated crop production survey methodology.**

The Ministry of Agriculture and Irrigation conducts an annual National Crop Estimate Survey (NCES). Two intermediate estimates and one final estimate of area planted, yield, and total production are provided. The first estimate, distributed in early January, reports planting intentions based on interviews with a national farmer sample taken in November and December. The second estimate, distributed in early March, provides an update on area planted, based on field measurement, and provides preliminary crop yield information based on farmer and enumerator best estimates. The final report, released in early July, provides the final area planted and production estimates based on crop yield measurements. The MOAI distributes its summary data reports to some 10 government and international agencies, including the Reserve Bank of Malawi, ADMARC, World Bank, UNDP, World Food Programme, European Union, British Aid (DFID), USAID, SARRNET and FEWS NET. The FEWS NET staff carries out further analysis of these data and incorporates it and their interpretations into the FEWS NET regular monthly report.

Users of MOAI crop production data are universally concerned about their accuracy and of the potential for results to be misstated by the MOAI program implementation staff. This concern stems from two sources. First, extension service field assistants collect field level data from farm households. They often lack knowledge of the survey methodology and are consequently weak in field level implementation. Moreover, many field assistants lack scales to carry out effective crop yield measurements, and do not have calculators to simplify calculation and to improve the accuracy of the data aggregation process. They also lack any form of transportation to visit farmer plots. Similarly, regional, district and national level staff carrying out data aggregation activities, lack computers needed to minimize aggregation and data transcription errors.

Second, District level Extension and Crops Division Officers supervise field level extension service field assistants. These personnel are also responsible for implementing and supervising the Ministry's development programs. Consequently, the potential for influencing results to

support normative expectations is clearly present. Independent evaluations of the survey implementation methodology conducted in 1999 identified the existence of such influence, most particularly as it affected an over estimate of the area planted to cassava and sweet potatoes<sup>12</sup>. A GOM funded rapid assessment survey conducted in October 2002, with planning and implementation support provided by the FEWS NET Staff, verified the overestimation of area planted and provided new figures that reduced the estimated area planted and total production of each crop by almost 50 percent<sup>13</sup>. This assessment report also recommended that weaknesses in the crop estimation methodology needed to be corrected, farmers' capacity and skills for estimating crop yields needed to be improved, separate field enumerators rather than extension field assistants should conduct field surveys, and the supervision of field enumerators needed to be improved. Discussion with NGOs and other donor representatives indicated universal support for an independent statistics agency such as NSO, taking responsibility for the annual crop production survey. A recent IMF Mission to Malawi also made the same recommendation.

FEWS NET provided \$20,000 in 2001 to purchase scales and calculators for a portion of the field assistant survey staff, but to-date has not provided significant support to improve field assistant implementation skills, nor has it addressed survey methodology issues that are included as part of this objective. However, it does not appear that the current FEWS NET funding levels anticipated the need for providing systematic training in these two areas. At the same time, it should be noted that in 1999, USAID funded one of the studies that identified methodology and other survey implementation problems regarding the collection and interpretation of cassava and sweet potato statistics. However, the GOM did not take corrective action on the problems identified until October 2002.

**Objective b: Collection of national market price and quantity data for different agricultural products.**

MOAI enumerators collect weekly data on market prices in 28 urban and rural markets in Malawi. These data are then distributed periodically to other government and donor agencies, including FEWS NET. FEWS NET staff also obtains marketing data from the Agricultural Development and Marketing Corporation (ADMARC), government import records, and some private sector sources, to build up a database of agricultural product market sales and prices. The data provide the basis for descriptive and analytical articles in the monthly FEWS NET report.

MOAI market price data are available since 1993. They are gathered weekly, and are summarized into unweighted monthly and annual time series of market prices for each market. National unweighted monthly and annual average prices are also collected. In collecting data, enumerators are required to weigh samples, in order to obtain accurate per kilo prices. Again, not all enumerators have scales. Moreover, product quality is not constant across all markets, so prices recorded may represent differing product grades. It appears that MOAI lacks a standard methodology for collecting market price data and that enumerators are not consistent in determining prices for a standardized product. However, even with these weaknesses, the data do capture general seasonal price trends and inter-country price differences that reflect the availability or non-availability of a particular product at any given point in time. FEWS NET has not provided significant support to the MOAI in improving its data collection methodology,

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<sup>12</sup> ITAD Ltd. *Crops Assessment Study*, European Commission, May 31, 1999 and M.O. Akoroda, *Study of the Contribution of Cassava and Sweet Potato to Total Food Availability in Malawi*, USAID, May 1999.

<sup>13</sup> *Rapid Assessment on Root and Tuber Crops From 9<sup>th</sup> to 16<sup>th</sup> June, 2002*, MOAI October 2002

nor in providing training to MOAI enumerators. This is largely because there is a lack of dedicated supervisory personnel in the MOAI Planning Division to organize and coordinate this training.

**Objective c: Develop a sustainable vulnerability assessment monitoring (VAM) system and a poverty monitoring system**

FEWS NET is part of the GOM and donor coordinated vulnerability assessment monitoring program (VAM). VAM activities are organized through the Planning Division of the MOAI. These efforts are coordinated with the major donors and NGOs in assessing the food vulnerability of the Malawian population. FEWS NET staff work closely with the MOAI Planning Division staff and with other donors in analyzing available data, such as the crop production estimates, the level of commercial and government reserve stocks and donor food relief activities. FEWS NET has provided some limited training to MOAI Planning Division staff in implementing VAM technical activities. Again, the lack of MOAI staff fully dedicated to this work is a further contributing factor.

Through mid 2001, the national food balance sheet, which draws heavily from the MOAI managed National Crop Estimate Survey (NCES), was the primary decision making document used by the Government and donors to assess the country's national food security situation. A preliminary balance sheet is issued in May that uses the first crop production estimates from the national crops survey. A final report issued in July uses updated figures from the final national crops survey results. In reviewing the most recent food balance sheet, it was noted that several food crops including wheat, sweet potatoes and Irish potatoes, which were included in earlier food balance sheet calculations, were not included in the calculations made for the 2002/03 projections. However, millet was introduced into the 2002/03 projections, but had not been included in earlier calculations.

To support the Vulnerability Assessment Monitoring (VAM), the World Food Program (WFP) has developed a diversified food indicator mapping system that links Geographic Information System (GIS) spatial coordinates with relevant food availability, using special GIS computer software. This mapping system is designed to identify specific food deficit areas throughout the country.

In addition to VAM activities coordinated by the MOAI, a Vulnerability Assessment Committee (VAC) is organized within the National Economic Council. This group is linked to a regional Southern Africa Development Community (SADC) vulnerability assessment monitoring program. Largely due to a lack of regional funding, the Vulnerability Assessment Committee (VAC) has deferred largely to the MOAI. This situation began to change in mid 2001, when Save the Children Fund (UK) conducted a special household economy assessment (HEA) in Mchinji District. The HEA methodology develops household food availability profiles and displays results by three objectively defined wealth groupings. The results of this assessment indicated very severe food shortages among the resource poor segment of the population during the 2000/01 period. This group makes up about 65 percent of the total rural population. The assessment further indicated that a minority segment of the middle level resource ownership group (that makes up 27 percent of the population) had also been unable to meet their full caloric intake requirements.

Following the initial findings that a potentially critical shortfall in food availability may be developing, Save the Children (SCF) (UK) conducted a second HEA assessment in March 2002 covering 21 geographical areas across Malawi. This assessment concluded that approximately 18 percent of the population was unable to meet basic food needs.

Results of the two SCF (UK) studies were in some conflict with the food balance sheet data, which showed that the decline in available maize supplies were largely offset by an increase in consumption of cassava and sweet potato. At the same time, the new assessments confirmed other studies and anecdotal evidence indicating the development of a food deficit situation in several neighboring countries. In response to this growing concern, provided regional funding to accelerate VAC activities throughout the SADC region, including Malawi. As of the time of this evaluation, the FEWS NET Country Director and the Deputy Director were involved in managing the field work for two data collection teams who were conducting a VAC coordinated food security assessment using the HEA household oriented methodology. In addition to the FEWSNET staff, two survey teams are being coordinated by the SCF (UK) staff, and one each by National Economic Council (NEC) and MOAI staff. The FEWS NET Country Director and the Deputy Director were closely involved with the planning of the new assessment, and analysts from the WFP and the SCF (UK) will coordinate the data analysis. The report is due by mid December.

The above discussion indicates that the FEWS NET staff is closely associated with, and is a major contributor to VAM and VAC activities. At the same time, it must be recognized that the FEWS NET project is only one of the actors in the process, and does not play a major organizing or management role in the formal coordination of the VAM or the VAC activities.

**Objective d: Train the Ministry of Agriculture and Irrigation in the use of geographic information system (GIS) technology and other computer applications**

Discussions with the FEWS NET and MOAI staffs indicate that FEWS NET has provided initial training of MOAI staff in GIS and in computer applications. In November 2001, FEWS NET provided a GIS training course for MOAI Planning Division staff that was held at Bunda College. The course introduced the use of ATLAS/GIS software to merge available Excel and other tabular data into a spatial mapping format. As noted above, to date the WFP, and not the MOAI, has taken the lead in developing a GIS spatial framework for reporting and analyzing food security related data and information. The main reason for FEWS NET not providing additional training to MOAI staff in GIS and other computer applications, is related to the MOAI lack of staff and the lack of computers dedicated to the compilation and analysis of the food security database.

**Objective e: Provide statistical data summaries and maps to USAID/Malawi in support of the Mission's strategic objectives**

The FEWS NET monthly report provides a useful and systematic source of agricultural and food related information, trends, and analysis available for use by USAID to support the monitoring of Mission food security objectives. USAID also requests the FEWS NET staff to conduct other periodic surveys to supplement information contained in the report and to address issues of current interest. Most special requests relate to the tracking of maize market prices and marketing trends, including GIS spatial analysis of food availability.

**Objective f: Provide early warning information to the government, to USAID/Malawi, and to other donors pertaining to causes and magnitudes of food insecurity, and targeting approaches that may be used in safety net programs.**

The monthly FEWS NET report provides summary food early warning information to USAID, the Malawian government, and donor and NGO representatives, and is sent to almost 100 government, donor, and private sector individuals and organizations, including MOAI staff at the Agricultural Development Division (ADD) and Rural Development Precinct levels.

Persons receiving the reports indicated that they generally found them to be useful and current. In addition, both government and donor representatives indicated that they appreciated the insights gained from direct discussions with the FEWS NET Country Director. They described him as a dedicated and capable individual with a good understanding of the nuances associated with interpreting the available data.

To supplement and further target food early warning information, FEWS NET staff conduct periodic surveys and issue reports on critical food security issues as they develop. These surveys and reports supplement the monthly reports and provide additional spatial detail and targeting. Some of them are carried out in association with the World Food Program and the EU Food Security Unit, while others are conducted independently, or at the request of USAID.

Over the past several years, these food vulnerability field surveys were undertaken in the February - March period and again in the October – November period. In 2000, the initial survey addressed the food security situation caused by the heavy flooding in the southern region, with two follow up surveys in July and August on the maize marketing situations in all three regions. In February 2002, a rapid food availability survey was completed for the northern and southern regions with a maize market situation survey conducted in late October. The reports, using an informal interview technique, provided useful insights and facts regarding availability of specific food commodities such as maize, cassava, rice, Irish potatoes, sweet potatoes, etc.. The maize marketing reports provided specific detail on local prices and on the functioning of local maize markets, and also discussed household coping strategies in the face of impending or existing food shortages.

A careful reading of the special reports indicated that severe shortages of household produced food supplies would occur in both the 2000/01 and 2001/02 hunger periods in several localized areas. However, they did not give the impression that there would be or that there was widespread substitution of cassava and sweet potato for the reduced supply of maize in these areas. Instead, the conclusions generally indicated that the food security situation was better in areas where cassava had traditionally been part of the diet, than it was in other areas that were traditionally more heavily dependent on maize. In these latter areas, coping strategies included consumption of green maize, and maize bran, higher than normal sales of livestock, and some mixing of cassava chips with maize and maize bran to make a food similar to *nsima*. Similarly, the reports indicated that in many areas there was not an actual physical shortage of maize, but that people did not have the money to pay for maize at existing market prices.

The picture emerging from the special surveys taken in 2001 was somewhat at odds with the conclusions reported in the May - June 2001 FEWS NET monthly report that contained the statement “Nonetheless, Malawi will experience a 437,775 mt food surplus this year due to high

root crop production, (cassava, sweet potatoes and Irish potatoes). Excluding these crops leaves the country with a food deficit of 323,391 mt”. At the same time, the report also noted: “As of mid June official maize stocks amounted to 35,174 mt, much less than the stock level at the same time last year.”

The special reports included general recommendations regarding the need for special targeting of assistance, but did not develop formal approaches for addressing identified food vulnerable households or communities.

### **3. Conclusions**

The Famine Early Warning System (FEWS) Project has operated in Malawi since 1993, and the current Country Representative has been with the Project since its inception. The Malawi FEWS component is part of a 17-country management information network (FEWS NET) managed by Chemonics International. Data and analytical reports compiled monthly by each of the 17 country teams is submitted to Washington for integration into a regional data and information base designed to provide reliable and systematic reports and analysis of existing and projected food security and related issues. Project objectives also indicate that country data be useful for monitoring USAID program and GOM policy objectives.

Summary conclusions include:

- ▶ Users of the FEWS NET monthly reports indicate that it provides a useful presentation and analysis of the Malawian food security situation within the limitations imposed by the accuracy of the supporting database.
- ▶ FEWS NET staff is closely associated with, and are major contributors to vulnerability assessment monitoring (VAM) and vulnerability assessment committee (VAC) activities.
- ▶ Since mid 2000, FEWS NET reports have been distributed monthly to almost 100 donor, NGO, GOM and private sector staff and officials. It can also be downloaded from the FEWS NET web site. Individuals receiving the report generally indicated that it was the only systematic source of information and analysis addressing the wide range of indicators influencing agricultural production, marketing, and food security issues. However, some respondents on the mailing list indicated that they did not receive reports on a regular basis.
- ▶ The major data source for preparing the national food balance sheet that is included annually in the FEWS NET report is the MOAI managed National Crops Estimates Survey. The data from this survey are viewed with varying degrees of skepticism by many users, as data collection, data aggregation, and survey supervision is done by MOAI district and local officials who are also responsible for implementing the MOAI normative development programs. Moreover, field assistants responsible for primary data collection often lack training in the survey methodology and lack equipment such as scales and calculators, which can assist in providing accurate crop yield estimates.
- ▶ Components of the annual food balance sheet are not consistent over the past three years, suggesting that an effective methodology for developing this indicator is not yet in place.
- ▶ The FEWS NET Project provided \$20,000 in 2001 to purchase calculators and scales for local level extension Field Assistants to improve the measurement of crop yields and aggregation of primary data and to enumerators to improve market price data collection and compilation.

- ▶ Concerns about the overstatement of the food security position, as reported in the national food balance sheet, led to a multi donor effort, starting in late 2001 to carry out separate field household economic assessments. These surveys confirmed that potentially serious food shortages existed among a large number of low-income rural households. The GOM, through the National Economic Council, is now coordinating the effort to identify food deficit areas with full involvement by the FEWS NET professional staff.

Overall, the Malawi FEWS NET team has successfully met the assigned data compilation, analysis, and reporting objectives. Moreover, the professional capabilities and insights of the FEWS NET local staff are well respected by the NGO, donor, and GOM officials with whom they work. However, the project has not provided survey methodology and staff training and related support activities to MOAI staff, as identified in their scope of work. At the same time, it should be noted that the GOM was not initially responsive to substantiated concerns raised in 1999 by donor organizations, including USAID -- that existing survey design and implementation deficiencies resulted in an overstatement of the actual food availability situation for the rural population. However, by late 2002 the weaknesses of the data collection and compilation system have become a major concern for both the government and the donor and NGO community.

#### **4. Recommendations**

The review of the FEWS NET program leads to the following recommendations:

##### **Recommendation 1**

The FEWS NET data compilation, special survey, and reporting activities should be continued into the future. The current FEWS NET team is well respected by the GOM and donor staff with whom it works, and the monthly report prepared by the team fills an otherwise unmet need for timely food security information and analysis.

##### **Recommendation 2**

The current scope of work for the Malawi FEWS NET component should be reviewed and objectives redefined as needed, to meet current USAID and MOAI expectations. The current SOW contains several references to providing support to the MOAI in developing survey methodology, and training of staff in GIS and computer skills. For various reasons, this support was not provided in the past.

##### **Recommendation 3**

FEWS NET should review their mailing list and verify that all persons on the list are regularly receiving the monthly reports. At the same time, the list should be updated to include additional organizations that can make use of this information.



#### **Recommendation 4**

The GOM, in association with the donor community, should carefully assess its policy regarding the collection and reporting of agricultural crop production statistics and jointly develop a long-term approach to rectify problems associated with the current program.

#### **Recommendation 5**

The GOM and the donor community should standardize the methodology used to calculate the food balance sheet and determine whether this presentation should be supplemented with an annual household economy assessment survey to provide supporting local area indications of food deficit and food surplus areas.

### **5. *Lessons Learned***

Lessons learned from the FEWS NET experience include:

- ▶ FEWS NET has filled an important niche in providing food security information and analysis to the GOM and the donor community. The reports are timely and generally contain data and analysis useful for assessing food security, agricultural production and marketing developments, and trends in leading agricultural indicators. Yet, it appears that the data and analysis have not been fully utilized by policy makers or by the donor community. During 2000 and 2001 when the food balance sheet was showing a maize deficit, a review of FEWS NET special reports suggested that households in certain regions were experiencing higher than normal food shortages. At the same time, FEWS NET monthly reports revealed unusually high seasonal maize price increases, as households began depleting their own supplies of maize. During the same period, groundnut prices were also reaching levels not previously attained. Identified food shortages and price increases of this magnitude occurring at a time when the known maize supply was low, could have provided clues that a food deficit situation was developing.
- ▶ The weakness of the National Crop Estimates Survey are well known and cannot be easily rectified, as long as individuals responsible for collecting and aggregating the data also have responsibility for implementing agricultural programs whose success or failure is at least partially determined by the data collected in the National Crop Estimate Survey (NCES). It is well recognized that national surveys of this type are best implemented by a dedicated national statistics organization. At the same time, the National Statistics Office (NSO) in Malawi is under-funded and cannot assume the responsibility for mounting an effective national crop estimates survey, without a substantial increase in its budget. The estimated first year cost for conducting an objective NCES using independent field enumerators, is more than double the current annual NSO budget. However, after first year startup costs have been met, estimated annual survey costs might be reduced to about 75 percent of the current annual NSO budget. While it may be reasonable for donors to fund the initial startup program, a long-term commitment by the GOM is needed to ensure the continuation of the program after donor support is withdrawn.

- ▶ The food balance sheet prepared jointly by the MOAI and FEWS NET provides a needed summary of the projected national food supply, but its decision-making value can be improved with the analysis of annual survey data representing local area conditions. The household economy assessment surveys undertaken this year under the VAC, appear to provide this type of supplementary data. However, these survey undertakings are quite expensive and beyond the recurrent budget capabilities of the GOM. Donor support is needed, if they are to be conducted at regular annual intervals. At the same time, changes in the food components of the 2002/03 food balance sheet with those of past years suggest that there is currently no standard methodology for calculating this important food security indicator. Developing a standard food balance sheet methodology is of critical importance, and could well be coordinated with improving the collection and aggregation of the national crop production area and yield data.