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**UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT**

**AFRICA BUREAU**

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**FINAL REPORT**

**INTERIM EVALUATION  
OF THE  
FAMINE EARLY WARNING SYSTEM  
(FEWS II)**

**IQC No. PDC-085-I-00-9060-00  
Delivery Order No. 39**

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***December 1991***

## **EXECUTIVE SUMMARY**

**The Famine Early Warning System Project (FEWS) II has provided important and timely contributions to decision-making, thus enhancing agency response capability. There is strong general agreement that FEWS should continue. Early warning should not be delegated outside of the Africa Bureau at this time.**

**The principal findings, conclusions and recommendation of the evaluation team are set out below. Specific points are summarized in tables that follow, concerning achievements (Table 1), conclusions on implementation and recommendations for the remainder of FEWS II (Tables 2 and 3), and options, recommendations and design issues for FEWS III (Tables 4, 5 and 6).**

### **A. PRINCIPAL FINDINGS AND CONCLUSIONS**

- 1. FEWS has provided important and timely contributions to decision-making, thus enhancing agency response capability, effectiveness and impact.**
- 2. According to key Agency decision-makers, FEWS has paid for itself many times over in terms of the value of decisions made.**
- 3. AID staff are in general agreement of the importance of famine early warning and of the need for requisite information and analysis; previous doubts are gone.**
- 4. There is strong Agency-wide agreement that early warning efforts should continue.**
- 5. Progress on other FEWS objectives, especially the development of host country early warning capabilities and international coordination on early warning methods, have been uneven, due to lack of funding and a clearcut strategy.**
- 6. There has been insufficient interaction and coordination issues among AFR/TR and the two key implementing agencies, largely on R&D questions. Project management has made strong efforts to remedy this, with notable results. Despite subsequent progress, this has had mostly an impact upon the efficiency and timeliness of FEWS research and development activities. See points on R&D in Tables 2 and 3.**

7. **Notwithstanding the important project accomplishments noted above, there are improvements needed in the following key areas: (a) strengthened coordination of project implementation agencies, (b) greater focus of FEWS R&D, such as upon EW accuracy and related objectives, (c) increased efficiency and cost-effectiveness in reporting, analysis and research, and (d) greater understanding of EW methods among AID Washington and field staff. See tables for additional comments.**

**B. KEY RECOMMENDATIONS FOR FEWS II**

1. **USAID should immediately appoint a project officer. The position has been vacant for about two months. Crucial decisions have to be made now.**
2. **Steps should be taken to carry out the improvements identified above.**

**C. PRINCIPAL RECOMMENDATIONS FOR THE NEXT PHASE**

1. **There should be a follow-on project to FEWS II. Early warning is an AID task that should continue. Table 4 presents three future EW options for AID consideration: I - Continuation and Improvement, II - Greater Efficiency and Reduced Funding, and III - Expansion of Project Objectives.**
2. **There is an immediate need to plan and schedule the design, review and implementation of FEWS III.**
3. **EW should not be delegated at this time. During design, however, options for enhanced host country EW capabilities and donor coordination should be explored, possibly leading to shared responsibilities during the next phase.**
4. **If FEWS R&D objectives are expanded under option III, careful consideration should be given to their conceptualization. These and other design issues are covered in Table 5.**

**TABLE 1**  
**PROJECT ACHIEVEMENTS**

<b>AREA</b>	<b>DESCRIPTION</b>	<b>RECOMMENDATION</b>
<b>RESPONSE TO FAMINES</b>	FEWS has provided vital, timely input to decisions, thus enhancing agency response capability.	FEWS should continue.
<b>COST-EFFECTIVENESS</b>	According to key users, it has paid for itself many times over in the value of decisions made.	There is room for increased cost-effectiveness.
<b>EARLY WARNING SENSITIVITY</b>	AID staff are in general agreement of the importance of famine EW; previous doubts have gone.	Need for even greater understanding of EW methods.
<b>HOST COUNTRY GOV'T CAPABILITY</b>	Lower priority. Achievement limited to improved data collection and coordination capacity, varying per country conditions and mission priorities.	Consider expansion of EWU support in selected countries.
<b>INTERNATIONAL COOPERATION</b>	Lower priority and achievement. PP objectives remained despite reduced funding. Productive efforts to build day-to-day relationships lacked broader strategy.	Develop strategy during design in coordination with other donors.
<b>EW METHODS DEVELOPMENT</b>	Some pioneering achievements in remote sensing applications and vulnerability assessment. Software development could have been more efficient and cost-effective.	Plan R&D for greater EW accuracy. Select work for greatest return on R&D investment.

PP - project paper, EW - early warning, EWU - early warning unit.

**TABLE 2**

**MANAGEMENT AND COORDINATION**

<b>ISSUES</b>	<b>CONCLUSIONS</b>	<b>RECOMMENDATIONS FOR FEWS II</b>
<b>Planning, Reporting and Monitoring</b>	Work plans list activities but lack resource allocation and scheduling; reports do not facilitate monitoring.	Improve and consolidate overall resource planning, reporting and monitoring.
<b>Project Officer Position</b>	Rotating project officers, post currently vacant.	Fill project officer position immediately.
<b>R&amp;D Management and Coordination</b>	R&D direction and objectives not refined enough; inadequate coordination of actors, despite management efforts.	Create R&D management committee for overall direction, task approvals, and resource allocation, reporting to ARTS head. Possibly valid for other ARTS projects.
	Allocation of R&D resources emphasizes physical sciences. This may have been initially appropriate to achieve short-term impact.	Shift focus to economics, social science, nutrition to achieve balance and a likely greater R&D investment return.
<b>Communication with Missions</b>	Certain missions complain of lack of contact with AID/W regarding FEWS.	Review communications with and OE travel to FEWS missions.
<b>Training</b>	Training needs insufficiently assessed in project paper.	Determine training needs across all activities and plan evaluation.
	Successful workshops with relatively narrow focus and limited FFR input.	Broaden focus and enhance external and FFR participation in semi-annual workshops.

<sup>1</sup> R&D research and development, FFR - FEWS field representative.

**TABLE 3**  
**IMPLEMENTING AGENCIES**

<b>ISSUES</b>	<b>CONCLUSIONS</b>	<b>RECOMMENDATIONS FOR FEWS II</b>
<b>TULANE/ PRAGMA GROUP</b>		
Monitoring	Too much time is spent in preparing bulletins and reports, limiting time available for research.	Reduce production efforts through more efficiency, reduced frequency; also improve bulletin content.
Research and Tool Development	R&D objectives insufficiently refined; lack of technical guidance from New Orleans.	Consider EW accuracy as key R&D goal; plan and fund more New Orleans support.
Data Archiving	FEWS database is important and should be well kept.	Transfer database to USGS for long-term archiving before EOP.
<b>U.S GEOLOGICAL SERVICE</b>		
Software Development (data managers)	Inadequate coordination and high cost. Not clearly defined: 1) Users and their needs; 2) Public domain program maintenance.	Evaluate progress and decide on whether further investment is recommended.
Technical Assistance and Training	Lack of: 1) documentation of FEWS-type training; 2) evaluation process for TA and training.	Prepare FEWS training manuals with Tulane. Set up evaluation process for TA and training.

**TABLE 4**

**OPTIONS FOR FEWS III**

OPTION	DESCRIPTION	ASSUMPTIONS	PROS	CONS
<p><b>I.</b> Maintain and Improve FEWS</p>	<ul style="list-style-type: none"> <li>* Maintain current role, objectives and funding.</li> <li>• Use savings in monitoring for R&amp;D to achieve greater accuracy.</li> <li>* Greater efforts toward host country support and donor coordination.</li> </ul>	<ul style="list-style-type: none"> <li>* Famines can be predicted more accurately.</li> <li>• HCGs can and will absorb more funding.</li> <li>* Donors can work more jointly.</li> </ul>	<ul style="list-style-type: none"> <li>* Existing objectives provide clear project focus.</li> <li>* Savings with greater donor and HCG participation.</li> </ul>	<ul style="list-style-type: none"> <li>• Limits broader R&amp;D work.</li> <li>• Project remains emergency and food aid oriented.</li> </ul>
<p><b>II.</b> Reduce Funding with Greater Efficiency</p>	<ul style="list-style-type: none"> <li>* Reduce frequency of products and staffing.</li> <li>* Limit funding for R&amp;D, host country and donor coordination.</li> </ul>	<ul style="list-style-type: none"> <li>* Can't effectively improve EW accuracy.</li> <li>* HCGs wont absorb more.</li> <li>* Donors not willing.</li> </ul>	<ul style="list-style-type: none"> <li>* Reduces emphasis on relief.</li> <li>• Accepts limitations if verified in design.</li> </ul>	<ul style="list-style-type: none"> <li>• Cuts back on good project.</li> <li>• Leaves EW R&amp;D to other donors.</li> </ul>
<p><b>III.</b> Expand Role, Objectives and Funding</p>	<p>Design FEWS in two separate components or as two separate projects:</p> <ol style="list-style-type: none"> <li>1. Same as option I</li> <li>2. Vulnerability assessment, nutritional surveillance, famine modeling, GIS and remote sensing applied to prevent or mitigate famine.</li> </ol>	<ul style="list-style-type: none"> <li>* ARTS needs cross-cutting famine prevention strategies.</li> <li>• Better prevent in many famine-prone areas.</li> <li>• Mission/HCG demand exists.</li> </ul>	<ul style="list-style-type: none"> <li>• Advanced research techniques available.</li> <li>* Congressional mandate to mitigate disasters.</li> </ul>	<ul style="list-style-type: none"> <li>• Initial mission interest and resources limited.</li> <li>• R&amp;D input may be excessive for pinpointed areas.</li> </ul>

HCG - host country government.

**TABLE 5****OTHER FEWS III DESIGN ISSUES**

<b>ISSUE</b>	<b>DESCRIPTION</b>	<b>RECOMMENDATIONS</b>
<b>Design Schedule</b>	Limited time remaining before FEWS PACD of December 1992. No further Tulane extension possible.	Evaluate FEWS III schedule and make decision by Jan 92 to allow for design, contract and staffing decisions.
<b>Analysis &amp; Research Objectives</b>	Should R&D be concentrated on improving EW accuracy? Or should it also use techniques to develop famine prevention strategies? How would the latter interface with natural resources, agriculture, economics, nutrition, health and education?	Review during design. Concentrate on accuracy objective unless broader mission interest becomes evident.
<b>Expansion</b>	Should other countries/regions be added to FEWS? Should component be included to work directly with regional agencies? How would this be coordinated with existing projects and AFR relations with regional groups?	Consider small regional agency component to monitor EW in non-FEWS countries and facilitate technology transfer.
<b>Training</b>	What should be the objectives of training at each level?	Define training component based upon needs assessment.
<b>Mission, HCG and NGO Component</b>	Should there be mission support and briefings on FEWS methods? Should EWU support be centrally funded or with mission buy-ins? Should there be NGO-support activities to improve their EW reporting to missions?	Regionally fund all components. Estimate needs with missions during design. Consult missions on analysis and research.
<b>Internat'l Cooperat'n</b>	What EW approaches work and how can objectives, investments and actions be mutually devised?	Explore parallel financing during design.

**TABLE 6**  
**POSSIBLE EARLY WARNING OBJECTIVES**  
**FOR THE FUTURE**

<b>AREA</b>	<b>NOW</b>	.....	<b>THE FUTURE</b>
<b>RESPONSIBILITY:</b>	<b>USAID</b>	.....	<b>USAID eventually shared with HCG and other donors</b>
<b>INFORMATION SUPPORT FOR:</b>	<b>Famine relief</b>	.....	<b>Famine relief, mitigation and economic development</b>
<b>EMPHASIS:</b>	<b>EW Monitoring</b>	.....	<b>EW monitoring and research</b>

## **ACKNOWLEDGEMENTS**

**Louis Berger International, Inc and the evaluation team wish to thank Desmond Mackenzie, John Wiles, Jonathan Olsson, the many other AID staff, both in Washington and the field, the Tulane/Pragina Group in Rosslyn, the FFRs, the U.S. Geological Survey, Tulane University and the numerous other agencies and individuals that contributed so generously of their time and attention to the completion of this assignment.**

## ACRONYMS

<b>AELGA</b>	<b>Africa Emergency Locust and Grasshopper Assistance</b>
<b>AFR/SWA</b>	<b>Sahel West Africa Office of the Africa Bureau</b>
<b>AFR/EA</b>	<b>East Africa Office of the Africa Bureau</b>
<b>AGRHYMET</b>	<b>Agricultural-Hydrological-Meteorological Center</b>
<b>AMTT</b>	<b>Agricultural Marketing and Technology Transfer Project</b>
<b>AVHRR</b>	<b>Advanced Very High Resolution Radiometer</b>
<b>BSA</b>	<b>Bureau des Statistiques Agricoles</b>
<b>CAC</b>	<b>Climate Analysis Center</b>
<b>CILSS</b>	<b>Comite Inter-etats pour la Lutte Secheresse du Sahel</b>
<b>CNLES</b>	<b>National Committee Against the Drought</b>
<b>DREM</b>	<b>Direction des Ressources en Eau et de al Meteorologie</b>
<b>EDC</b>	<b>EROS Data Center</b>
<b>EW</b>	<b>Early Warning</b>
<b>EWU</b>	<b>Early Warning Unit</b>
<b>FAO</b>	<b>Food and Agriculture Organization of the United Nations</b>
<b>FEWS</b>	<b>Famine Early Warning System</b>
<b>FEWS/W</b>	<b>Famine Early Warning System-Washington</b>
<b>FFR</b>	<b>FEWS Field Representative</b>
<b>FSOC</b>	<b>Food Security Operations Cable</b>
<b>FSOG</b>	<b>Food Security Operations Group</b>
<b>GAC</b>	<b>Global Area Coverage</b>
<b>HC</b>	<b>Host Country</b>
<b>HCG</b>	<b>Host Country Governments</b>
<b>IGADD</b>	<b>Intergovernmental Group against Drought and Desertification</b>
<b>ITCZ</b>	<b>Inter-Tropical Convergence Zone</b>
<b>JAWF</b>	<b>Joint Agriculture and Weather Facility</b>
<b>LAC</b>	<b>Local Area Coverage</b>
<b>LUFP</b>	<b>Niger Forestry and Land Use Project</b>
<b>NAC</b>	<b>National AGRHYMET Center</b>
<b>NASA</b>	<b>National Air and Space Administration</b>
<b>NDVI</b>	<b>Normalized Difference Vegetation Index</b>
<b>NOAA</b>	<b>National Oceanic and Atmospheric Administration</b>
<b>PACD</b>	<b>Program Activity Completion Date</b>
<b>RCSSMRS</b>	<b>Regional Center for Services of Surveying Mapping and Remote Sensing</b>
<b>SADCC</b>	<b>South Africa Development Coordination Conference</b>
<b>SIE</b>	<b>Systems, Information and Evaluation</b>
<b>SIM</b>	<b>Market Information System</b>
<b>TAMSAT</b>	<b>Tropical Agricultural Meteorology using Satellites</b>
<b>USGS</b>	<b>US Geological Survey</b>

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## **I. INTRODUCTION**

### **A. FEWS II**

**AID's famine early warning system (FEWS) activities began on an emergency basis during the African famine of 1985 as an aftermath to the difficulties in handling the drought and famine of 1984. It was an effort to provide credible and timely information on famine-affected populations for key USG decision makers. The US response during the recent Sahelian and Horn crises had been hampered by inadequate levels and conflicting information on the root causes of the famine, as well as the extent of regional food production and stocks.**

**FEWS II was begun as a separate project in FY 1989 (698-0466). Its purpose is to provide timely information so that decision makers could authorize famine prevention measures well in advance of crises.**

**In order to carry this out, it was necessary to first, internalize an early warning sensitivity within AID; second, to help improve early warning capabilities in host country governments; and while carrying out these two, collaborate with the international community on the evolution of a mutually acceptable early warning methodology. The project would be carried out at all appropriate levels, and include establishing a focal point in AID/W, bringing a contract team to Washington, and placing contract technicians as representatives in African field missions.**

### **B. EVALUATION SCOPE OF WORK**

**A four-person team was assigned to evaluate and prepare a report on the effectiveness and efficiency of the Famine Early Warning System Project. The purpose was to assess progress towards meeting the projects "goals" and outputs to date and assist AID's Africa Bureau AFR in the planning of an appropriate future course.**

**The primary issues to be addressed by the evaluation team were to:**

- a) assess the extent to which the project purpose, especially the end of project status and outputs, have been achieved; and,**
- b) assess the need for continuing AID support for FEWS and FEWS-related activities beyond the current PACD;**
- c) identify the lessons learned, changes in assumptions and/or conditions, if any, that should be considered in modification of this project to its current PACD of Dec 1992 and/or the design of similar activities; and,**
- d) recommend specific design parameters for follow-on project activities.**

The full Scope of Work can be found in Attachment A.

### **C. METHODOLOGY**

The approach of the evaluation team was to view FEWS as an information system which feeds into the decision making of AID/W, AID Missions, host country governments and other donors. The methodology involved the review of documents and interviews with individuals and representatives of organizations involvement with the FEWS project. These interviews were conducted both in the US (Washington, New Orleans, and Sioux Falls), as well as the following USAID missions in FEW countries: Burkina Faso, Chad, Ethiopia, Niger and Sudan. The other project countries, Mali and Mauritania, were not visited and, after incorporating ARTS comments, this report was submitted December 6, 1991.

The assignment began on The team was comprised of 4 specialists three contracted under delivery order No. 39 with Louis Berger International, Inc. through its Evaluation IQC. No. PDC-085-100-9060-00.

Team Leader/Economist	Joseph Weiss
GIS Information Specialist	Peter Schlesinger
Institution/Management Consultant	Howard Sharlach

and Economist William Renison, Labor Department PASA, assigned to the evaluation team

It was also planned that Barry Henrikson from FAO/Nairobi would join the team in Niamey and contribute by analyzing to the interaction of FEWS with the FAO - GIEWS system. He would have also contributed significantly to the sections on overall international donor co-ordination and prospects for greater collaboration. Unfortunately, he was not released for this evaluation. It was then decided that a member of AFR/ARTS would de-brief Henrikson at a conference in Nairobi. At the last minute this trip was cancelled. To the extent possible, the team has tried to fill the resulting gap. More work, however, is needed and should be considered as an additional task for AFR before or during the design for FEWS III.

### **D. STRUCTURE OF THE REPORT**

Chapters II and III provide an overview of FEWS and its institutional setting. Chapter II analyses FEWS from the point of view of an information system, while Chapter III reviews its environment, management and coordination.

Chapter IV synthesizes project impacts to date Chapter V presents the evaluation team's conclusions and recommendations for the period to the end of the FEWS II project. Design options and issues for a FEWS III are discussed in Chapter VI.

## **II. THE FEWS SYSTEM**

### **A. PROJECT OBJECTIVES**

The goal of the FEWS project is to reduce the incidence of famine in Africa, thereby helping insure food security in famine prone countries.

Its purpose is to help establish a famine early warning system that provides timely information so that decision makers can authorize famine prevention initiatives. In carrying out the purpose, three objectives were defined for FEWS:

- Enhance A.I.D.'s famine early warning capability;
- Create or reinforce national early warning systems; and
- Collaborate on the evolution of internationally acceptable early warning methodology.

With the reorganization of the Africa Bureau, TR has now become the Analysis Research and Technical Support Office - ARTS with a greater role in analysis and research. Within ARTS, Systems, Information and Evaluation SIE specifically has an overall role in developing data systems, including for the assessment of program impact, as well as in GIS and remote sensing work carried out within AFR.

FEWS is the only project located in SIE. As such, in addition to the projects defined objectives, it has carried out cross sectoral analyses with broader objectives. It has thus assisted in the development of country and sectoral strategy frameworks to guide investment and policy decisions. This was allowed to take place given the very general definition for the research task in the PP.

While these studies relate to the higher goal of food security, this broadening of scope beyond the project's three objective - diverted funds and efforts. Still, it has made it possible to began to fulfill the new ARTS/SIE role.

### **B. PROJECT COMPONENTS**

This project is organized in three components by user, AID/W, missions and host countries.

#### **1. AID/W**

The AID/W component consists of two sub-components, the monitoring system and international cooperation.

a. **Monitoring System**

**The FEWS Monitoring System**

The FEWS Monitoring System is based on analysis of the combination of locally-based secondary data with other information derived from remotely-sensed means to produce an overall assessment of vulnerability to famine. The monitoring system is made up of sets of activities, the Field and U.S. (including all implementing agencies).

**US**

The mainstay of the US component of FEWS is the FEWS/W office, staffed by the Tulane/Pragma Group, which manages the day to day organizational tasks, receives information from both the field and the various participating agencies and contractors, conducts supplementary analyses, produces and publishes all publications, and interacts with AID/W to report early warnings and promote general EW awareness.

The Tulane/Pragma Group coordinate FEWS field representative FFR activities through annual work plans, direct communications and bi-annual workshops, generally held in non- FEWS African countries.

**Field**

In six of the seven FEWS countries (Mauritania, Mali, Burkina, Niger, Chad, Sudan,) an FFR employed by the Tulane/Pragma Group, is actively working under the umbrella of the local USAID mission to facilitate the collection of national data.<sup>1</sup> Work plans are drawn up by the FFR and FEWS/W and submitted to AID/W and the USAID missions for approval. Each of the FFRs receive data on a regular basis from the supporting contractors and a variety of local agencies, other early warning units (both national and donor-supported), PVOs, UN agencies, and regional institutions. In addition to the information yielded from this flow, most agencies also receive support from FEWS FFRs in terms of training, technical assistance, and EW enlightenment.

The FFR analyzes this information, to help the local mission, produce its monthly reports on early warning, including food aid needs assessment. In theory, FFRs were to be collecting data from and collaborating with the donors, but in practice, with few exceptions, the individual USAID mission undertakes all official contact.

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<sup>1</sup>

In Mauritania, the FFR works out of the US Embassy; the Ethiopia FFR is based in Rossiyn, VA. In some countries the FEWS Project Office is located in the USAID mission or annex (in Niger); in Chad it is located at the FFR's home.

### Other Implementing Agencies

There are three PASAs and one additional contractor, supporting the FEWS monitoring system. These include:

The United States Geological Service/USGS, through its EROS Data Center (EDC), located at Sioux Falls, South Dakota, provides technical assistance to FEWS/W, the FFRs, and the missions through various special studies and the development of software tools, training for FFRs and other staff, and data archiving. An EDC-provided senior scientist is based at AID/W to facilitate and coordinate FEWS USG and AID-related international collaboration, provide overall technical direction to FEWS, and advise AID decision-makers of the potential utility of EW, remote sensing, and GIS methodologies.

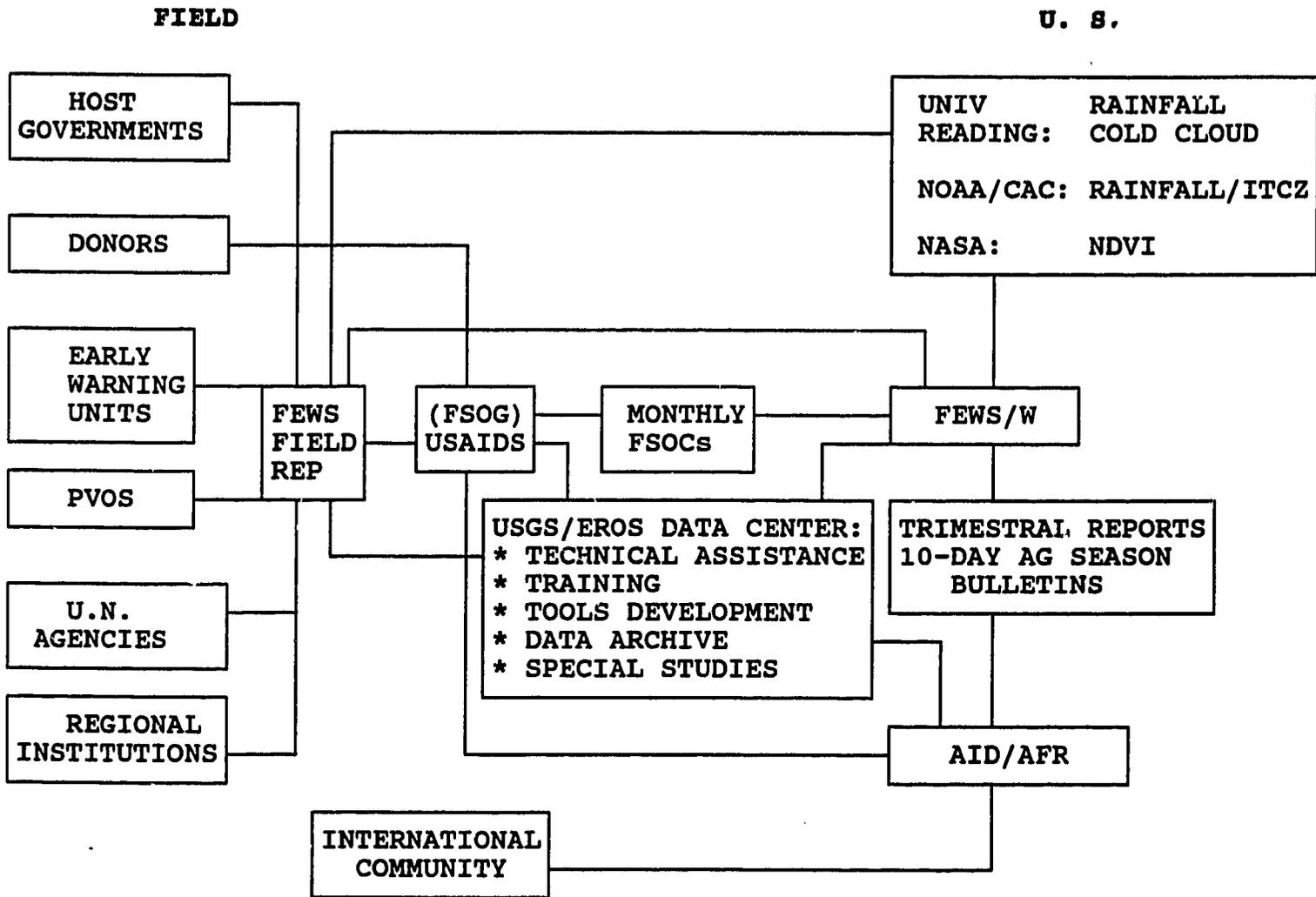
The National Aeronautical and Space Agency's (NASA) Global Inventory Modeling and Monitoring System creates and provides information on the relative productivity of FEWS country vegetation (NDVI - Normalized Difference Vegetation Index) from National Oceanic and Atmospheric Administration GAC (Global Area Coverage) satellite imagery (of approximately seven kilometers resolution). The NDVI has been composited every 10 days (dekad) since 1981. It is useful to FEWS from an operational perspective as it makes FEWS/W, the FFRs, and HC agencies not only acutely aware of real time vegetative activity, but permits temporal comparisons of any group of dekads;

The UNIVERSITY OF READING's Department of Meteorology creates and provides dekadal rain information through analysis of thermal data collected by sensors of the geostationary METEOSAT satellite. With computers provided by FEWS, information on the duration of cold clouds (which at certain temperatures are indicative of thunderstorm generated rainfall) is compared with ground data to produce a best estimation of dekadal rainfall for FEWS countries;

NOAA, through its Climatic Analysis Center/Joint Agriculture and Weather Facility creates and provides written descriptions of recent FEWS country weather activity, geographic location of the ITCZ (Intertropical Convergence Zone, a region of low surface pressure which is indicative of the seasonal path of rain activity), and a map of recent Sahelian rainfall. The ITCZ and rainfall data are faxed to the FFRs to provide additional information to backstop those data derived from METEOSAT.

An overview of the FEWS monitoring system is illustrated in Figure II.1.

**FIGURE II.1**  
**FEWS MONITORING SYSTEM**



The combination of the remote sensing information and the communications from the field lead to the production of 10-Day Flash Bulletins and Trimestral Reports (See next section for detail). EW information and requests for food aid, are transmitted in the monthly FSOC, and other cable traffic.

b. International Cooperation

The Objectives

A.I.D. set out for itself a significant role in international co-operation. The Project Paper explicitly stated that historically there had been too much overlap in efforts to conduct micro-level surveys. National early warning systems were needed, not a patch work quilt of local studies. To move to this level there would have to be in-country initiatives by donors in support of fledgling EWUs, reinforced by headquarter level efforts.

A.I.D. proposed to address this problem through the exchange of documents, data and ideas. According to the Project Paper, "What is needed is an ongoing process in which a core group of those active in international famine early warning meet at least once a year to discuss what approaches are beginning to jell--conceptually and operationally-- and what steps should be taken, by whom and when to move toward clearly articulated objectives."

"Upon approval of the FEWS project, AID will communicate its willingness to participate in a more structured, international consultation process. Once agreement has been obtained on the desirability and arrangements for the collaboration, AID will become actively engaged in pursuing the strategy outlined in this section."

However, only limited travel funding was targeted for international cooperation. Funding was reduced without reducing objectives. In particular, the PP envisioned FEWS putting on a series of workshops seeking a commonality of methods, across the EW community, The resources were unavailable to the project, and thus none of the envisioned workshops took place. This helps explain why the evaluation team found uneven project accomplishments in international cooperation. This conclusion is subject to correction with more detailed information on international EW coordination than could be obtained during the present evaluation.

The Actors

The key organization is FAO with its Global Information and Early Warning System (GIEWS). There are significant inter-relationships, with the World Food Program

and other elements of the United Nations and World Bank communities. FEWS constantly interacts at all levels with the FAO to share information and data. Nevertheless, there is no overall agreement or strategy. Cooperation is an informal, ad hoc set of events based mostly on personal relationships rather than institutional linkages.

Of the bilateral donors, those most interested appear to be Holland, Germany, Great Britain, and France. The French interest is concentrated in the Sahel. The Germans have a variety of different programs, the intensity varying from country to country. The Dutch seem to be, besides the U.S. most interested in combining local and satellite technology to assess food security.

At the regional level there are two specialized institutions in areas of remote sensing, CILSS-AGRHYMET in the Sahel and IGADD in East Africa. Their primary concern is the collection and dissemination of satellite obtained data. Results of their efforts appear to be quite mixed. It will be some time before they are sufficiently strong partners for FEWS to either rely on extensively or be incorporated into their work without losing significant effectiveness.

### The Results

AFR/TR and FEWS staff have participated in regional remote sensing conferences and have dealt with various donors including the FAO on an ad hoc basis. No consistent effort is seen leading to a systematic exchange of documents, data and ideas. Also, FEWS has had numerous contacts with other organizations and is trying to build significant relationships with FAO, IBRD and WFP. Unfortunately, these efforts lack a schematic umbrella, supervised by AID.

FEWS has done some information sharing. Project management encouraged informal networking at the technical level. FEWS staff have developed productive professional relationships with their counterparts, especially with FAO/GIEWS. In addition, the Club du Sahel solicits FEWS input during its annual meeting on this subject.

Early in FEWS II the project also set out to build a consensus on the principle of "replication" among the donors and regional institutions. The idea of "replication" is that EWS components should be designed and constructed such that they are easily replicable in other regions. The French, Dutch, and British, the remote sensing division of FAO, CILSS, and IGADD all agreed to avoid reinventing the wheel. This was and will continue to be very important (particularly in terms of hardware/software costs) as the remote sensing system in Africa develops. One outcome of this is that FAO (and even the AGRHYMET project) have recently become joint-developers of IDA updates (Image, Display and Analysis Software developed during FEWS I).

In addition, there was an attempt to promote direct interaction on remote sensing and EW among CILSS, IGADD, and SADCC. With limited funds, the best that could be accomplished was to encourage each to invite the others to their workshops and conferences, and to each use their own money to cover travel expenses.

The final way FEWS sought to foster better coordination was through the development of custom computer software - tools. The impacts of this strategy is difficult to gauge, as no tools have as yet been released for general distribution.

With some variations from country to country the FFRs have been effective in integrating themselves into the network of actors (e.g., other donor organizations, regional institutions, host government agencies, and PVOs/NGOs) that comprise each countries' early warning system. FFRs have been invited to participate in FAO country assessments. The net effect has been a better picture of the food security situations for decision-makers, and a reduced tendency to see food gap estimates in advocacy terms.

## **2. AID Missions**

The role of the missions in the FEWS project is somewhat complex. First, they are responsible for forming a Food Security Operations Group (FSOG) to report monthly on the food security situation. The FFRs help the Missions prepare the first drafts of the monthly cables and participate in mission discussions of food security issues.

Next, the FFRs collect data provide training and institutional support, disseminate FEWS bulletins and reports. Missions thus use FEWS as any other technical assistance contractor to implement a project.

Finally, some Missions, more active in FEWS, decided to buy-in to the FEWS concept and play a far more active role, providing institutional strengthening, equipment and training for the host country.

Most missions see FEWS as a key tool in: 1) collecting better data needed for transmission to Washington decision-makers and to help the country team more accurately assess their annual PL-480 requirements 2) timely dissemination for greater consensus among donors and host country officials on food security. The degree of dissemination varies by mission, however; 3) teaching local institutions how to improve their use of computers and associated software, leading to better data collection. They do not generally see the FFR in an advisory or institution building role.

### **3. Host Countries**

**The organization of early warning units - EWUs in the host countries varies considerably. Over the next few years one or two models will likely emerge as most effective and other countries will modify them to meet local circumstances.**

**Niger was billed as the most advanced EWU. However, in our discussions in the field, we found repeated references to the high quality and experimental nature of the national system in Mali. Unfortunately, the evaluation team was unable to visit Mali.**

**In Niger the EWU, located in the Prime Minister's office, pulls together the various national working groups in a decision making committee. The system receives coordinated donor support principally from the USAID buy-in, FAO/UNDP and CILSS/DIAPER.**

**Niger appears to produce far better vulnerability data than previously. It may be the best in the region. While not precise, data seems to be excellent in showing trends and geographical pockets of vulnerability.**

**In Burkina Faso, the National Commission Against the Drought (CNLES) is not nearly as well structured. It is a tiny office of 2 to 3 professionals. According to the FEWS Manual for Burkina Faso "CNLES, as a response organization, has not put much emphasis on data collection and analysis activities. Consequently the role that FEWS can play in institutionalizing its methodologies is limited.**

**FEWS continues to work closely with CNLES for geographical targeting of food." While on paper there are detailed arrangements for co-ordination among government agencies, in fact the Minister of Health & Social Action consults with the Director of CNLES and then make decisions on need, requests to the donor community and allocation of food resources among the zones at risk.**

**As our evaluation was underway, an IBRD team was also in Ougadougou preparing an Agricultural Structural Adjustment program, which is due to go to the Board of Directors early in 1992. The IBRD indicated they are building in a technical assistance component which will include assistance to CNLES.**

**See Appendix E for notes on the situation in the other countries visited.**

## **C. PROJECT STAFF**

### **1. AFR/ARTS**

The Evaluation Team noted with concern that over the life of the project there have been 8 FEWS project officers for FEWS (I and II) in AFR/TR and the position is currently vacant. While there are no doubt quite good reasons for the individual changes, the result has been some lack of continuity at the managerial level.

The position is graded at a level, insufficient to retain good Foreign Service Officers. If this is indeed the heart of the problem, then consideration should be given to making this a Civil Service position in order to obtain the vitally needed managerial project continuity.

This is partly compensated for by continuity provided by AFR/PRO leadership and the technical officer, a USGS PASA, who has been on board the entire time. He has indeed provided the necessary historical continuity in the project. However, he has often been asked to fulfill responsibilities that quite rightfully belong to a Project Manager.

In addition to a slot for a project manager and a full-time PASA, FEWS support is provided by the division chief who spends perhaps 20% of his time on the project, and a Dept of Labor RSSA who now devotes about 10% of his time to the project.

If the program is expanded, current levels of AID staffing would be appropriate for the new or expanded program elements. Otherwise the project may find itself using excessive AID/W personnel.

### **2. Tulane/Pragma Group**

This contract was initially seriously understaffed. The project paper initially provided for only a half-time project director and three full-time Washington professional staff, which is now increased to a full-time director and six full-time professionals.

In addition, even though Tulane's School of Public Health, in New Orleans, and its international program were considered assets to the project, no funding was planned allowed for their short-term technical and managerial support to the project, nor for travel by FEWS staff to New Orleans for the same purpose.

While everyone interviewed in Washington and the field praised the high quality performance of the FFRs, the evaluation team was somewhat surprised to discover their relatively low status in the Missions. They are treated as very junior officers, just above the Peace Corps level and seem at the bottom of the hierarchy.

We were also taken aback by the lack of benefits they receive. With two-year contracts they were only allowed 100 Kilos of personal effects. Furniture allowances were to be whatever could be found that can legally be given.

As long as the FFR's were primarily data collectors, this low professional and personal status, while unusual, did not impinge on the success of the project.

However, to the extent that Missions wished to strengthen local institutions and coordinate with other donors, the role of the FFRs was set too low. A stronger, more senior voice in the Mission, would be needed to fulfill this advisory rules for which most of the current FFRs are fully qualified.

In order to fulfill these several roles, FFR offices should not be on A.I.D premises. Some interviewees found getting into the American Embassy so difficult or degrading that it seriously hampered their ability to work with FEWS.

### **3. PASA Agreements**

The evaluation team did not review the allocation of USGS staff to the FEWS project in sufficient detail to be able to comment on its adequacy or efficiency, nor did the team collect staffing information from NOAA, NASA nor the University of Reading.

## **D. PROJECT OUTPUTS**

### **1. Early Warning Capability**

#### **a. Products**

#### **The Food Security Operations Cable - FSOC**

The FSOC is produced on a monthly basis by the various FEWS field representatives, often in conjunction with Mission personnel. This cable, made up of updates to previous cables and other food and famine-related information garnished by the FRR or produced via analysis with the mission, is the only official EW communication between the mission and AID/W. While the actual authorization process differs within each mission, the FSOC passes by each member of the FSOG (Food Security Operations Group (meeting formally or informally) each month. It is desired that the FSOC arrive in Washington by the 15th day of any month, however not all missions keep to this schedule regularly.

While the FSOC is an official cable and passes by AID/W, it is analyzed by the Tulane/Pragma Group in Rosslyn, VA. Here mission analyses are checked for discrepancies in outcome; FEWS/W often cables various missions asking for

explanations of the logic behind particular analyses or definitions of jargon. The FSOCs of the various FEWS countries are then combined with the unofficial 10-day

FAX to produce the 10-day Flash Bulletins. The FSOCs are used as the major resource in the production of the Trimestral Reports.

### Ten-Day Fax

The 10-day Fax is an unofficial communication between the FFRs and FEWS/W (In Niger, this Fax is monitored closely by the mission). This communication is solely the responsibility of the FFR; as this is an unofficial communique, it is the individual FFRs responsibility to note only those items not needing clearance by the mission. The 10-day Fax, due at FEWS/W on the 5th, 15th, and 25th of each month, usually include locally derived rainfall statistics. Other data and information, already recorded on computer diskette, are DHL'd on a monthly basis.

### Ten-Day Flash Bulletin

The 10-day Flash Bulletin, a one-page, two-sided communication, is made of the most important information from NASA, NOAA, the University of Reading, the FSOC, and regional highlights from the unofficial 10-day Fax. Color graphics are used to portray the highlights of the regional or particular local situation. The second page of this bulletin is usually devoted to rainy season weather and crop season reports. These bulletins are used for developing EW awareness in AID/W, and briefing the readership on the continuing agricultural situation. In some countries, the Flash Bulletin is translated and distributed in French.

Each report takes 2-3 man-days to produce. The ten-day bulletins suffer from the problem of audience. FEWS/W often expects the readers to know more than they do; FEWS/W is aware of problems with bulletin graphics and recently a graphic artist has been giving the project some media advice. The first graph is changed frequently to keep reader interest.

### Trimestral Reports

Trimestral Reports are issued in January, June and October, titled Harvest Assessment of Cereal Production, Vulnerability Assessment, and Pre-Harvest Assessment of Cereal Production, respectively. They are the culmination of information yielded from each trimester, mostly from the FSOC, either assessing recent production or predicting the outcome of the harvest to come from analysis of the best data and information available.

The Trimestral Reports take long to produce. Preparation of each report is usually delayed due to late arrivals of FSOCs and production processing delays. A FEWS/W-developed chart of time spent on document preparation indicates that 3 person-months are spent in preparation of each report (42-days on text and 21-days on graphics). Surveys of the readership of these reports indicates that according to those responding, they are of significant use to only the PVO and university communities, mostly for long-range monitoring and research. Given the origin of their information, they are of limited use in the field; some missions have indicated that the Trimestral Reports are useful to develop local knowledge of the immediate regional situation. While it may be useful to HCG officials to see that their data is put to good use, a lot of resources are expended in the translation of these reports to French. Distribution of these reports within the FEWS countries is left up to both the FFR and the individual missions; there are no stated policies regarding distribution. The evaluation team noted in some countries that local distribution of these reports was not occurring.

### Operational Products

The Tulane/Pragma Group produces several other generalized products listed in Table II-2.

#### b. Capacity Building

Although training was mentioned in the original PP design, capacity building, i.e. education and training of Africans and institutional strengthening in sub-Saharan Africa was not a major focus of the project. It appears that a significant amount of training has occurred under the project but this has largely gone undocumented in any systematic way and its impact is difficult to discern. One of the issues most impressed upon the FEWS Evaluation Team has been the need for a strategy concerning education, training and support for regional and national EW capacity. While individual and institutional demands for training should receive more attention, the relationship to African EW capacity building in and food security needs to be re-examined.

#### 2. Sensitivity To Early Warning

There is indeed a receptive audience for the FEWS products in many key places in the world. The most significant accomplishment of the project is that its information--especially the bulletins-- are eagerly read by decision makers concerned with food security in Africa.

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**TABLE II 2**

**MONITORING SYSTEM OPERATIONAL PRODUCTS**

<b><u>NAME</u></b>	<b><u>USER</u></b>	<b><u>USE</u></b>
Rainfall Estimate	FEWS/W, FFR	Monitoring
ITCZ Locations	FEWS/W, FFR	Monitoring
Cold Cloud Duration	U Reading	Rainfall Estimate
10-Day NDVI Composite	FEWS/W, JAWF, FFR, HC Agencies	Monitoring
FEWS/W Workplans	FEWS/W	Management/Organization
FFR Workplans	FEWS/W, FFRs	Management/Organization

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In AID itself, FEWS information has been used by the Assistant Administrator for Africa and, in times of crisis, by Deputy Administrators or even the Administrator. Office Directors and staff use and refer to it constantly. Those interviewed told us repeatedly that it provided them with a USA Today snapshot of the areas of vulnerability across the Sahel to the Sudan. The message is crisp, colorful and comprehensive. FEWS is to be commended for a product that is excellent both in presentation and quality.

In addition, FEWS gets many informal requests from the AA/Africa on down for briefing materials and special presentations. FEWS representatives are encouraged and do sit in on the food security meetings for the Horn and the Sahel. AID/W knows the FEWS resource exists and the decision makers and operators make full use of it.

In the field, the missions also regard the FEWS system as a key source of data. The missions rely on the FFRs to prepare the first draft of the monthly food security cable.

## **E. EARLY WARNING METHODS DEVELOPMENT**

### **1. FEWS Research and Development**

FEWS is an experimental project which has pioneered in the fields of application of remote sensing and vulnerability assessment to famine early warning. However, due to the project's pioneering nature, methodological and research objectives, including tool and software development were not precisely defined in the project paper nor thereafter, despite project management efforts. Thus, less has been achieved in this area than expected (see Appendix B).

While the lead contractor, Tulane/Pragma Group, sought to build this capability in its technical proposal, offering access to experts from numerous fields, their financial proposal did not provide adequate resources for this purpose. In addition, part of the funds which could have been used were later consumed to expand operational responsibilities and products.

Project management may not have been sufficiently aware, during project start-up, that research and development objectives were yet to be defined. Subsequently, as USAID identified a need for greater coordination between the lead contractor and other implementing agencies, a technical committee was established to deal with research and development issues.

The original PP contained a very good description in the "Technical Analysis" Section V. on "Famine Modelling." The PP stated, "an explicit conceptual framework of the famine process is needed by FEWS in selecting indicator

parameters and for identifying critically anomalous behavior..!" The PP went on to state that absent such a framework FEWS would monitor various data sets and draw conclusions using a "convergence of indicators approach."

The project has assumed that each famine is intrinsically different and can not be easily predicated from deterministic models; that the potential for famine should be estimated by the principle of "convergence of indicators," applying inductive and often intuitive logic.

As a result of this hypothesis, methods development has centered upon the design of data managers, software packages which would help users look for unspecified patterns in data and help make early warning judgments.

Progress was made toward the development of vulnerability assessment methods and the conceptual classification of levels of vulnerability. However, they have yet to be systematically put into practice in all FEWS countries.

That FEWS has not yet developed a methodology nor model on famine did not necessarily adversely affect project performance to date. Famine modelling and mitigation are two research issues central to several of the development Fund for offices - DFA strategic objectives and the new ARTS role. The state of knowledge has moved forward on famine indicators and household behavior applicable to modelling since the original PP design. Thus an underlying issue in this evaluation is whether a future FEWS or spin-off project should or should not undertake research on famine modelling and mitigation.

See Appendix B for further discussion.

## 2. Other Database Applications

Studies have been undertaken as part of FEWS within AFR/ARTS/SIE's mandate to apply GIS and remote sensing techniques to broader development issues. The FEWS data bases have thus been used in several innovative ways.

USAID/Dakar was able to benefit substantially in its pre-CPSP analysis using data (including remote sensing and other biophysical digitized data) data processing, hardware and software and human resources of the FEWS Project modelling the Human Land Carrying Capacity of Senegal. An information system was developed using a GIS approach that built upon significant amounts of past A.I.D-funded research in Senegal including soil maps digitized by EROS Data Center and farm crop systems research (FSR) and crop budget studies by agro-ecological zones (MSU-Martin).

**Market Accessibility Study. Arun P. Elhansé. September 1991. Although reportedly not funded by FEWS, the objective was to test whether the FEWS data being collected could be used for geographic analysis.**

**A Burkina Carrying capacity study is being designed. Its preliminary objective was to create a multi-sectoral geographic database on Burkina Faso, and develop a model to estimate current and potential carrying capacity from rainfed agriculture. Objectives are now unclear. The latest possibility is that the physical database be combined with socioeconomic data to investigate expanded household income.**

**Operational soil moisture research is being carried out under a sub-contract with University of Georgia. Its purpose is to derive and make operational use of soil moisture information.**

**Further Comments can be found in Appendix B.**

**As the PP did not define the project's research agenda, and the studies completed were all somewhat related to food security, it was deemed legitimate to extend FEWS objectives to serve this broader need., even though funds and efforts were diverted from the original FEWS objectives.**

**These special studies were undertaken as part of what was informally called "greater" FEWS, that is, going beyond the PP-defines EW objectives and the Tulane/Pragma contract constraint ("lesser" FEWS), to that of other useful GIS and remote sensing applications. Although it has been useful mechanism to fund studies in areas for which a clear need was identified within the agency, there is a need to pull them together into a coherent whole looking towards a clearly defined overall objective.**

### **3. Data Analysis With Software Tools**

**The need for software development was not clear until the project was under way. The project paper only vaguely mentions "tools." The development of data managers is discussed briefly here. Further comments and other accomplishments made in the area of software tools development are described in Appendix B.**

**The FEWS database is rich but currently not accessible to the public. The project decided to develop data managers to analyze rainfall, population and agricultural statistics, as it was felt they would make EW analysis faster and more efficient, so that less time would need to be devoted to analysis. Once the FEWS database and these tools become accessible to a wide public, they could become useful to government agencies and other donors.**

**There have been inefficiencies, coordination problems and differences of opinion regarding software planning and development techniques in the preparation of these data managers. Key issues have been institutional interaction in tool conceptualization, programming and debugging, final production and documentation; the means for integrating diverse data sets into one relational data base; the need for public domain or proprietary programs; and the financial and staff resources needed to obtain the final product.**

**A demonstration program, DataBrowse, was designed by EROS Data Center in 1990 to sensitize AID/W staff as to the type of data being collected and archived in the FEWS Project. While this program, which lists probably 50-60% of the current FEWS data holdings, could have served as a running data inventory, regular update was not one of its original objectives.**

### **III. PROJECT ENVIRONMENT, MANAGEMENT AND INSTITUTIONAL COORDINATION**

#### **A. PROJECT ENVIRONMENT**

##### **1. Conditioning Factors**

**FEWS came about due to the frustrating inability of U.S. and international officials in 1984 to anticipate famine in a region where rainfall is unpredictable and income is derived largely from traditional agriculture. It also functions in a world where public and government sensitivity to hunger has its ups and downs. National development efforts have often been hindered by political and military conflict, inappropriate policies and management, high population growth, migration, urbanization and the deterioration of natural resources.**

##### **2. The A.I.D. Environment**

**There are elements of A.I.D. environment that have created a difficult operational atmosphere for FEWS to meet project and support Bureau objectives. Probably the most significant is the re-structuring of the Africa Bureau. This has reopened a debate from the early years of implementation about the proper institutional base and project focus for FEWS. FEWS, although initially focussed on nutritional aspects of famine, has become much more concerned with agricultural production and access to food over the years. What therefore should be the proper role for FEWS in the new Africa Bureau ARTS Office and its mandate concerning research and analysis as contrasted for data collection and monitoring?**

**The potential for FEWS to act as a mechanism to manipulate data for analyses elsewhere and an archive facility for the use of other governmental institutions has been only marginally utilized. This has been kept in mind in light of the new ARTS Office mandate on research analysis, assessment of program impact (API) and support for Mission pre-CPSP analysis. Decisions surrounding data collection, data base management, analyses and Congressional reporting issues need to be aired on a multi-disciplinary arena within the new ARTS Office.**

**In spite of the best intentions, the A.I.D. environment has been somewhat difficult, for FEWS to operate in. The revolving door of A.I.D. project managers has made continuity difficult in terms of project focus, direction and outputs. This is partly compensated by continuity provided by AFR/PRO leadership and the technical officer, a USGS PASA.**

### **3. Other Projects**

The FEWS environment is surrounded by numerous projects within AID which complement and/or compete with it in terms of the services provided or which could be provided in the future. This includes the Food Needs Assessment Project which assisted the Food For Peace Program, the Natural Resource Management activities, the locust control program; the Food and Nutrition Project, at S&T, which is carrying out nutrition assessments in several countries, conceivably eventually in FEWS countries as well; the Famine Mitigation Project proposed by the OFDA; the PARTS project proposed to support agriculture and natural resources analysis and research within ARTS; the Disaster Mitigation Project proposed by the Niger Mission, and many others. The team did not have time to compare scopes of work and activities in order to look for complementarities and avoid duplications. This should be looked into in more detail during design.

## **B. PROJECT MANAGEMENT**

### **1. AID/W**

The Project Paper envisioned that at the top of the management pyramid would be a committee chaired by the AA/AFR, the Africa Bureau Food Sector Committee . At the next level of management would be the Project Manager and finally the individual activities of the contractors, public and private.

What has happened is something quite different and the project outputs would probably have been even greater had the original management design been executed. The Africa Bureau Food Sector Committee met once or twice and then disappeared. It apparently wasn't consistent with USAID practice, given other demands on staff time.

In its place there now exist regional Food Security operating committees, under the leadership of the regional office directors, each with different perspectives. This year the group covering the Horn of Africa has been quite active as war, civil disturbances and some drought have created vulnerability problems. On the other hand, it has been a relatively quiet year for food security problems in the Sahel and the West Africa working group has been far less active than in previous years.

These two lower level committees certainly meet the operational needs of the Africa Bureau. They follow the agricultural season and are significant users of the FEWS products. They see that the key decisions on the allocation of AID's food resources are made in an efficient and effective manner.

What has been lost is the management function that this senior level committee was supposed to provide. The choices between research and operations, the coordination among contractors and management decisions on donor coordination have been made to only a limited degree and in no systematic way. While operationally the FEWS project has been strong and gets stronger each year, the other elements of the project have suffered.

If the PP were followed to the letter, the Project Officer would have been translating senior-level policy decisions emanating from the Food Sector Committee into implementation actions. One would have expected he/she would have been working with the contractors and PASA's (individually and from time to time collectively) to give direction, measure progress, make decisions and obtain support from senior officials those policy issues which needed to be resolved. Finally, he would have been the TR person most closely in touch with the field missions, visiting and discussing with them their successes and implementation problems.

Obviously, this did not occur. There was no Food Sector Committee. The project officers have worked with the contractors individually but collective meetings apparently only first occurred in December 1990. With the re-organization of the Africa bureau pending for much of 1991, clear cut policy guidance was also in transition. Funds were not available for project officers to travel. According to some field reports, there was relatively limited communications with the mission.

## **2. Missions**

In the field, each Mission has a formal or informal Food Security Operations Group - FSOG. Its operation and characteristics depend on the size of the Mission and the operating style of the Mission Director. In all Missions, however, the FSOG does fulfill the requirement of being the Mission's EW unit. It has the responsibility of defining the mission position and preparing the monthly food security cable and making initial assessments of food deficits. This represents an improvement over previously often diverse communications from the missions.

In Niger we found that the FSOG was quite active. The senior members of the Mission are using the committee to try to come to an agreement on the balance between humanitarian assistance and economic development. Not only are they finding this process difficult to resolve but it seems to lead to persistent trouble in meeting deadlines for the submission of cables.

In Burkina Faso, the Mission is so small that the FSOG encompasses most of the US direct-hire staff. Discussions are straight forward and center primarily on data collection and interpretation. Cables are reviewed without much dispute and are transmitted in a timely way.

In Sudan, due to demands on staff time and confidence in the FFR, he prepares the cable for comments and approval of other staff.

### **C. INSTITUTIONAL COORDINATION**

In a project of this magnitude with so many players in and out of the USG and both in the U.S. and across the whole Sahel and Sudan areas of Africa, institutional coordination will, of course, be complex and at many levels in many places. In the best of all worlds, to pull it off requires a full-time key individual vested with responsibility to coordinate and articulate different ideas and opinions, make decisions and give direction.

Data collection and dissemination not institutional coordination have been the real strengths of this project. AFR/TR has generally dealt with each implementing agency separately rather than collectively. The Tulane/Pragma Group has generally dealt with each implementing agency separately rather than collectively. FEWS/Roslyn has also dealt extensively with the PASAS as a user of their products but not in any leadership role as this was not clearly intended.

#### **1. International Coordination**

Tulane/Pragma and USGS have prepared summaries of all their international contacts. They do indeed show that they have been alert to whatever opportunities exist for cooperation with other organizations. FEWS established early on that it was willing to cooperate closely with FAO and other EW programs, allaying prior concerns.

Nevertheless, this appears to have been a target of opportunity approach by individual implementing agencies rather than the overall exchange of documents, data and ideas which the Project Paper assumed would be a responsibility of AFR/TR.

It may well be that prior to 1990 the data base was too weak to have serious interactions with other donors and institutions. However, true that may or may not be, it certainly is not the case now.

If the Africa bureau determines that international cooperation is still a key objective for Phase III of the project, then planning and coordination sessions should be undertaken soon. These would be at the international level with the FAO, WFP and possibly UNDP and IBRD; at the regional level with the Club du Sahel, CILSS/AGRHYMET, IGADD, SADCC and at the national level with the other bi-lateral donors, especially the Dutch, British, Germans and French.

## **2. Institutional Coordination in the Field**

**In regard to institutional coordination, naturally it varies from Mission to Mission and in Mauritania, for example, there is a FFR but no USAID. To the extent that one can generalize, the principal difficulty in the missions we visited is that the FFR is placed too low in the hierarchy if he or she is to play any role in institutional coordination.**

**The basic problem that we found in our field visits was that the FFR finds it hard to be effective when they are 2 or 3 layers away from the Mission Director. The intervening layers may not be interested in FEWS, may have other priorities which consume their time. A few may even be opposed to the concept and its emphasis on emergency relief.**

**The unifying institutional arrangement is the Washington mandated Food Security Operations Group. Food Security is too important for this to be down-played in any Mission in the Sahel or the Sudan. The groups meet and all voices in the mission have an opportunity to be heard. Sometimes there are problems in reconciling different points of view and in such cases it is not unusual for that Mission to be consistently behind schedule in reporting.**

**While obviously the Missions play the key role in their individual countries, the evaluation team believes that better coordination with host country governments and regional organizations has to begin with AID/W.**

**The first step will be for Washington to decide what it wants out of the next phase of this project as it analyses this evaluation report and prepares guidance for the next project design team. During this process, AID/W should determine what role it would like the other donors, regional organizations and host country governments to play. Then, there should be a rather laborious, several year process of negotiating and coordinating with our colleagues while we determine our respective mutuality of interests and areas where, if we proceed, we must proceed alone.**

## **IV. FEWS IMPACTS**

### **A. IMPROVED RESPONSE CAPABILITY TO NUTRITIONAL EMERGENCIES**

**FEWS has succeeded in largely achieving the project's first objective: An enhanced A.I.D. capability to respond to nutritional emergencies in the FEWS countries of the Sahel and the "Horn," based upon timely and dependable data. It has provided important input to both AID/W and mission-level decision making on food aid. According to several decision makers, the valuable information it provides has paid for the project cost many times over.**

**There is no doubt that FEWS has made AID more capable of responding to nutritional emergencies. The greater breadth and detail of the data collected, the relationships established with the government and non-governmental organizations, the improved remote sensing early warning methods, the improved reporting from the missions, the more rapid communications to all areas of AID/W, the availability of information for detailed briefings, all have contributed to AID's capability to respond to nutritional emergencies.**

**As a result there is definite evidence of greater consensus in the estimates of food availability and needs by national governments, United Nations agencies and other donors. In fact, in some FEWS countries, USAID and the FFR is now seen by other donors and even certain government agencies as the key central source for early warning information.**

**The FFRs have also participated in assessing the food needs of countries and administrative subdivisions, although the actual estimates are made by AID, through the FSOG, by the governments, FAO/WFP and bilateral donors.**

**An important FEWS role has been the independent verification of data from other sources. In many cases, FEWS has increased information on the risk of famine and helped reduce disparities between these sources. Those cases in which major differences persist are mostly related to government posturing, politicized estimates and unavailable data.**

**However, while the information to make these decisions has improved, this has not always resulted in speedier decisions, in the implementation and delivery of the needed assistance. While it is outside the scope of work of the project and this study, we should mention that missions repeatedly told of their frustration. They feel they are much more on top of the food security situation, but their ability to translate improved knowledge into more efficient responses is, from their point of view, limited by Washington's slow decision-making process. The FFRs have also assisted in collecting and reporting information regarding the logistics and delivery of food aid. However, there has not been a felt need to establish broader**

management improved information systems beyond the standard reporting. These and other FEWS impacts are summarized in Table IV.1.

## **B. SCOPE LIMITED TO EMERGENCIES**

USAID has been providing food aid, on an as needed basis, to the FEWS countries for many years. Assistance has been provided repeatedly to some regions. In these instances, the issue is raised whether longer-term solutions should also be considered. For it is widely recognized that food distribution is not the most effective answer to chronic and acute malnutrition and Congress has mandated emergency mitigation and prevention.

Improvements in resource rehabilitation, conservation and availability, employment, family income, health status and food use are also important factors essential to achieve long-term results and prevent famine. The need for emergency responses attributable to drought could thus be reduced over time in many areas. Of course, the circumstances which affect government and USAID capacity to provide for these improvements varies considerably.

## **C. OTHER OBJECTIVES**

A lower priority was assigned in FEWS II to host country and international cooperation components. The project paper stated that the supply of early warning information for A.I.D./W decision making was first priority, and that technical assistance to host countries, and international cooperation with other EWS were important but of lesser priority at that time.

### **1. Host Country Early Warning Units**

While encouraged in all countries, of those visited by the team, the Niger mission has given greater priority to the development of an early warning unit (EWU). Mission support was provided through the project's buy-in provision, the mechanism provided for in the project for EWU support. In close coordination with other donors (UNDP, FAO, and CILSS), the Niger SAP (Système d'Alerte Précoce) is beginning to take on more data collection and coordination responsibilities. The FFR's efforts contributed to the coordination of donor funding, moving towards improve data flow from the *arrondissement* level. The FAO bought this idea, shifting their project from a top-down approach to support USAID's decentralization emphasis.

Conditions have not been as appropriate for building this capability in Ethiopia, Sudan and Chad, while the CNLES in Burkina Faso is still in an embryonic stage. Other countries were not visited, although the Mali EWU is reported to be doing well.

**TABLE IV.1**  
**PROJECT ACHIEVEMENTS**

<b>AREA</b>	<b>DESCRIPTION</b>	<b>RECOMMENDATION</b>
<b>RESPONSE TO FAMINES</b>	FEWS has provided vital, timely input to decisions, thus enhancing agency response capability.	FEWS should continue.
<b>COST-EFFECTIVENESS</b>	According to key users, it has paid for itself many times over in the value of decisions made.	There is room for increased cost-effectiveness.
<b>EARLY WARNING SENSITIVITY</b>	AID staff are in general agreement of the importance of famine EW; previous doubts have gone.	Need for even greater understanding of EW methods.
<b>HOST COUNTRY GOV'T CAPABILITY</b>	Lower priority. Achievement limited to improved data collection and coordination capacity, varying per country conditions and mission priorities.	Consider expansion of EWU support in selected countries.
<b>INTERNATIONAL COOPERATION</b>	Lower priority and achievement. PP objectives remained despite reduced funding. Productive efforts to build day-to-day relationships lacked broader strategy.	Develop strategy during design in coordination with other donors.
<b>EW METHODS DEVELOPMENT</b>	Some pioneering achievements in remote sensing applications and vulnerability assessment. Software development could have been more efficient and cost-effective.	Plan R&D for greater EW accuracy. Select work for greatest return on R&D investment.

PP - project paper, EW - early warning, EWU - early warning unit.

## **2. International Cooperation**

International technical exchanges have occurred through A.I.D. as well as the implementing contractor and agencies, both at institutional and professional levels. The general objective stated in the project paper is to collaborate with others on the development of early warning methodologies "at two levels:

- \* in-country initiatives by local donor representatives in support of fledgling EWS, and
- \* headquarter level efforts which reinforce in-country strategies."

It contains a very limited budget item for international cooperation, largely for travel. However, clear guidelines for this component have never been established.

Cooperation has been largely cordial but too informal and unplanned. There is no strategy for what is to be obtained through donor co-operation. There has been greater emphasis on interchange with African regional agencies, including AGRHYMET, IGADD, and SADCC. However, no clear relationship has been established between FEWS and AGRHYMET on either the regional or national levels, even though both projects can complement each other and greater integration is a distinct possibility.

There has also been periodic exchange of information with FAO's global early warning system-GIEWS in Rome, especially when there are shared concerns in deciding on the gravity of conditions in specific countries.

Contacts with other donor-funded EW activities in the field have depended on the situation in each country, as well as USAID and FFR priorities. There is generally a free exchange of information, although some missions do not share the substance of their monthly cables to Washington. However, integration with other donor programs has only been partial, frequency and point of contact varies and mutual understanding is often incomplete.

## **3. Other Projects**

The FEWS Project has had few profound impacts on other A.I.D. Projects that are prominent from a Washington perspective. FEWS data and analysis are not readily available to other users.

FEWS has supported the ARGHYMET and FAO Projects with greenness maps when they were having problems with reception. Moreover, FEWS has supported the use of remote sensing in other projects such the ELGA (locusts) Project and the

**use of geographic information systems as inputs in design and analysis within the Bureau and Agency as a whole.**

**On a larger scale, the FEWS data bases using remote sensing have been used in several innovative ways for analysis by missions and A.I.D./W. USAID/Dakar was able to benefit substantially in its pre-CPSP analysis using data (including remote sensing and other biophysical digitized data) data processing, hardware and software and human resources of the FEWS Project modelling the Human Land Carrying Capacity of Senegal. FEWS also provided assistance in developing an information system using a GIS approach that built upon significant amounts of past A.I.D-funded research in Senegal including soil maps digitized by EROS Data Center and farm crop systems research (FSR) and crop budget studies by agro-ecological zones (MSU-Martin).**

#### **D. EARLY WARNING METHODS DEVELOPMENT**

**FEWS is an experimental project which has pioneered in the fields of application of remote sensing and vulnerability assessment to famine early warning, making major steps in methods development. However, due to the project's pioneering nature, methodological and research objectives, including tool and software development were not precisely defined in the project paper nor thereafter, despite project management efforts. Thus, less has been achieved in this area than might have been expected. (see Appendix B).**

## **V. CONCLUSIONS AND RECOMMENDATIONS**

After summarizing the evaluation team's conclusions, this chapter presents recommendations for the remaining year of FEWS II. Key FEWS III design options and issues are discussed in Chapter VI, especially the project's role, objectives and levels of funding.

### **A. CONCLUSIONS**

#### **1. Project Management And Coordination**

Project management saw to it that the early warning system became fully operational, thus satisfying A.I.D.'s information needs. However, the evaluation team has identified four management areas which merit additional comments, (see Table V.1):

- \* project planning, reporting and monitoring
- staffing
- communication with the missions
- \* management and coordination of FEWS methods development

##### **a. Project Planning, Reporting and Monitoring**

The evaluation team reviewed work plans, annual reports and the latest PIR. The work plans are basically wish lists, without sufficient analysis and scheduling of available staff over time. Benchmarks have not been established to facilitate monitoring by the project officer.

The project paper, technical assistance contract and PASAs stipulate only annual reports. These have been submitted irregularly with largely procedural, administrative content. The latest PIR, dated April 4, 1991, does not identify many of the project issues noted in this report nor indicate how these were being dealt with, such as solutions to coordination difficulties sought in the A.I.D.-organized retreats and technical committee meetings.

There is room for improvement in using the project planning, reporting and monitoring process to clearly establish objectives and priorities for the next period and allocate the resources to achieve them.

##### **b. Staffing**

The rotation of project officers has been a constraint. The position is currently vacant when urgent decisions are needed.

**c. Management and Coordination of FEWS Methods Development**

The project has made some steps towards improving early warning methods, especially in the area of vulnerability assessment (see Appendix B). However, there has been inadequate coordination among implementing agencies, an issue which was identified several years ago. There has also been a lack of precisely defined objectives for methods development.

Insufficient resources have been devoted to the management and coordination of research, as well as support to the field in technical assistance and training. The project paper originally conceived of a bureau-level Food Security or Food Sector Committee. While this may have been feasible during extreme crises, the committee did not fit in AFR's general management practice and disappeared.

Nor, were similar efforts at the project committee level successful. A TR Food Security Committee also met with FEWS participants, but the FEWS project was not placed on its agenda.

There has been insufficient direction in the overall use of available resources. Although not planned as part of the project, no research evaluation or peer review mechanism was established. Lack of professional support from Tulane/New Orleans and the rotation of project officers were some of the contributing factors. (See chapter II)

In light of these concerns, project management organized two retreats during December, 1990 and January, 1991 to improve coordination and methods planning. As a result, a technical committee was established to plan and coordinate EW research and development. During these meetings, many decisions were arrived at but have generally not been implemented either because they were made after the fact, or there was a lack of staff time, or lack of project or implementing agency decisions to support them.

FEWS II has emphasized research and development efforts in the use of data from the physical sciences. There is a need for balance in data analysis and research efforts between physical and social sciences. Insufficient efforts have been made in defining and implementing social science research and development objectives.

**d. Communications with the Missions**

The missions generally would like to be better informed on FEWS project activities. They indicate they receive little correspondence regarding the project's direction and activities from project management, nor have mission staff generally participated at the semi-annual workshops.

**TABLE V.1**

**MANAGEMENT AND COORDINATION**

<b>ISSUES</b>	<b>CONCLUSIONS</b>	<b>RECOMMENDATIONS FOR FEWS II</b>
Planning, Reporting and Monitoring	Work plans list activities but lack resource allocation and scheduling; reports do not facilitate monitoring.	Improve and consolidate overall resource planning, reporting and monitoring.
Project Officer Position	Rotating project officers, post currently vacant.	Fill project officer position immediately.
R&D Management and Coordination	R&D direction and objectives not refined enough; inadequate coordination of actors, despite management efforts.	Create R&D management committee for overall direction, task approvals, and resource allocation, reporting to ARTS head. Possibly valid for other ARTS projects.
	Allocation of R&D resources emphasizes physical sciences. This may have been initially appropriate to achieve short-term impact.	Shift focus to economics, social science, nutrition to achieve balance and a likely greater R&D investment return.
Communication with Missions	Certain missions complain of lack of contact with AID/W regarding FEWS.	Review communications with and OE travel to FEWS missions.
Training	Training needs insufficiently assessed in project paper.	Determine training needs across all activities and plan evaluation.
	Successful workshops with relatively narrow focus and limited FFR input.	Broaden focus and enhance external and FFR participation in semi-annual workshops.

<sup>1</sup> R&D research and development, FFR - FEWS field representative.

## **2. Tulane/Pragma Group Early Warning Monitoring**

**Much of the project achievements to date are the result of the group's fulfilling its key assignments. Its reporting has provided timely input to decisions, thus enhancing agency capability to respond to famine. AID staff have also become more sensitive to the need for early warning; previous doubts have dissipated.**

**However, the evaluation team would like to make several helpful comments, discussed below and summarized in Table V.2.**

### **a. Washington**

**There has been a generally-recognized excess demand for early warning monitoring services. The PP spoke of only three reports per year, of undetermined length, with no mention of decadal bulletins, nor of the level of participation which would be required in meetings and briefings within and outside USAID. Maybe, AID staff and other users have too much of a good thing. been relatively slow.**

**Unlimited demand for free goods may hinder staff planning. As the PP only specified quarterly reports, only 3 full-time staff positions were budgeted. Also, the report production process has been relatively slow. Thus staff time, consultants and other resources have been heavily dedicated to day-to-day early warning work, tending to squeeze out the resources available to methods development. Additional staff were later authorized and have been/are being hired.**

**While it is recognized that the bulletins have a significant impact upon AID staff sensitivity to early warning, is the frequency and content appropriate, or is there room to reduce frequency and improve content? Can the production process be improved?**

**Regarding the quarterly reports, do all users want the detailed material received? Or are they too lengthy for decision makers. Are they as attention catching?**

**The Group has built a laudable network of early warning consumers. Over 400 copies of bulletins and reports are mailed to overseas and domestic recipients. However, despite project efforts, there is a lack of information on what information recipients want or use.**

**The excess demand upon staff time and low priority has also resulted in delays in the Group fulfilling its responsibilities to submit data to USGS for archiving. It is essential that FEWS data be properly archived for future use. There is a need to further define USGS' role and in archiving, to what purpose should the data be put? Who should clean and prepare the data? Which data should be archived and when?**

**TABLE V.2**

**CONCLUSIONS AND RECOMMENDATIONS**

**TULANE/PRAGMA GROUP**

<b>ISSUES</b>	<b>CONCLUSIONS</b>	<b>RECOMMENDATIONS FOR FEWS II</b>
<b>Monitoring</b>	<b>Too much time is spent in preparing reports. Content and report preparation procedures need review. Unlimited demand for a good thing may hinder planning.</b>	<b>Reduce bulletin and publication efforts through greater process efficiency and reduced frequency. Review content.</b>
	<b>Lack of readership targeting. Quarterly reports too lengthy for decision makers.</b>	<b>Review distribution list, product content and design, as well as field distribution.</b>
<b>Structural Vulnerability Assessment and Poverty Mapping</b>	<b>FEWS still does not have the data nor GIS capacity to overlay socio-economic indicators with physical science data.</b>	<b>Collate existing data. Develop GIS applications of the poverty mapping concept for improved structural vulnerability assessment.</b>
<b>Research and Tool Development</b>	<b>R&amp;D objectives insufficiently refined. Lack of time for research and technical guidance from New Orleans.</b>	<b>Consider EW accuracy as key R&amp;D goal. Set-up FEWS research team with New Orleans guidance for better use of staff time.</b>
<b>Data Archiving</b>	<b>FEWS data base is important and should be well kept. What data should be sent to USGS and when?</b>	<b>Transfer database to USGS for long-term archiving before project completion.</b>

**b. Mission**

The FFR slots were designed as junior positions with low salaries and support funds, and relatively low status within the mission hierarchy. They were to communicate with donor, government and NGO representatives at relatively high levels and would require specialized data base and analytical skills. Yet, there was no budget for vehicles.

The original concept of the FFR's role was to concentrate on the collection and analysis of secondary data. There was no contingency for the impact of civil conflict and unstable government upon the availability of this data, despite the fact that these were known as factors contributing to famine conditions. As a result, either the project didn't contain or the contractor didn't provide sufficient funds for data collection and travel in famine-prone areas.

The contractor also did not budget for sufficient FFR support in other areas. For example, they received household effects allowances of 100 kg for a two-year assignment.

**c. Host Country Governments**

FFRs have generally provided support to the EWUs, with their success dependent upon mission support and country conditions. They have consistently offered training, largely in computer applications to EW, although it has been largely on an informal basis with limited documentation and practically no evaluation. In those countries where there were clear opportunities for strengthening the capacity of EWUs, they have worked in achieving this goal with mission support.

**3. Tulane/Pragma Group Research And Development**

Although FEWS is an experimental project, the Tulane/Pragma Group has pioneered in the fields of application of remote sensing and vulnerability assessment to famine early warning, making some steps in methods development. However, due to the project's pioneering nature, methodological and research objectives, including tool and software development were not precisely defined in the project paper nor thereafter, despite project management efforts. Thus, less has been achieved in this area than might have been expected.

Given the lack of refined research objectives, the pressure to carry out early warning monitoring, inadequate coordination and insufficiently clear definition of the interface with USGS, progress in research, tool and software development has not been as great as one might have expected.

Research has been undertaken without sufficiently asking the question: which areas most lead to greater EW accuracy? Is it remote sensing, data managers, vulnerability assessment or what? The contractor has not brought together the data and has not set up the GIS capacity to overlay socio-economic indicators with physical science data to analyze more effectively structural vulnerability through poverty mapping.

#### **4. USGS**

The USGS has provided a full-time technical officer in AID/W, other technical assistance, training, software development, and archiving.

Nevertheless, there has been a lack of documentation of the training provided. There has also been a lack of an evaluation process to support technical assistance and training.

The software development has been inefficient and the coordination with Tulane has been inadequate. Priorities were set to prepare four data managers, drawing upon proprietary data base and mapping software.

These programs were envisioned to support Tulane Rosslyn staff and the FFRs, but also were seen as a means to offer support and build ties with host countries and other donors. Users and their needs were not clearly defined, nor with enough user participation.

As a result, the option the project has leaned towards, that of preparing data managers entirely in the public domain, independent of all proprietary programs, would make them more accessible to African users, but would not take sufficiently into account the additional design and programming cost, nor would it define how programs would later be maintained and updated.

#### **5. International Cooperation**

While members of AFR/TR and FEWS implementing agencies, including Tulane/Pragma and USGS, have participated in numerous meetings with the various donors to exchange documents, data and ideas on early warning, and have, in most cases, achieved good institutional rapport, AID did not generally become actively engaged in pursuing a strategy for a more structured, international early warning consultation process. However, limited funds were allocated for this purpose in the PP.

**TABLE IV.3****CONCLUSIONS AND RECOMMENDATIONS****U.S GEOLOGICAL SERVICE**

<b>ISSUES</b>	<b>CONCLUSIONS</b>	<b>RECOMMENDATIONS FEWS II</b>
<b>Software Development (data managers)</b>	<b>Inadequate coordination and high cost. Users and their needs not clearly defined. Needs not assessed enough user participation. Public domain program maintenance not considered.</b>	<b>After upcoming workshop, stop to evaluate progress and decide on what further investment is recommended. Issues: flexibility, proprietary vs. public domain, survey of alternatives.</b>
<b>Technical Assistance and Training</b>	<b>Lack of documentation of FEWS type training. Lack of evaluation process to support technical assistance and training.</b>	<b>Prepare, jointly with Tulane, FEWS training manuals and practice materials. Establish evaluation process for TA and training.</b>
<b>Remote Sensing Research and Development</b>	<b>GAC data used gives broad focus but often insufficient detail, while dekadal LAC is too data intensive.</b>	<b>Develop LAC-GAC calibration routines; develop LAC sampling; seek Pinatubo effect calibration.</b>
<b>Structural Vulnerability Assessment and Poverty Mapping</b>	<b>FEWS still does not have the data nor GIS capacity to overlay socio-economic indicators with physical science data.</b>	<b>Collate existing data. Develop GIS applications of the poverty mapping concept for improved structural vulnerability assessment.</b>

**GAC - global area coverage, LAC - local area coverage, GIS - geographic information systems.**

**B. RECOMMENDATIONS FOR CONTINUATION OF FEWS II**

1. Project Management and Coordination

a. Planning, Reporting and Monitoring

**RECOMMENDATION**

The evaluation team identified the need for more detailed planning, reporting and monitoring of project activities. End of project objectives should be reconsidered and redefined in detail and resources allocated appropriately. The annual reporting process specified in the Tulane/Pragma contract and USGS PASA should be expanded to include brief quarterly reports which clearly lay out accomplishments during the period, compare them with programmed activities, indicate the program for the following quarter and how resources will be used to accomplish them. Benchmarks should be clearly established to allow the A.I.D. project officer to fulfill his monitoring tasks.

b. Staffing

**RECOMMENDATION**

Appoint Project Officer immediately.

c. Communications with Missions

Review and enhance project communications with the missions, dialogue on FEWS and the mission role, through field visits, meetings, seminars and circular cables which inform them of decisions being taken within FEWS.

d. Management and Coordination of FEWS Methods Development

Given the need to seek improvements in advanced technology, and for coordination among the numerous FEWS participants and user components, the evaluation team proposes A.I.D. consider the following recommendations:

**RECOMMENDATION**

Establish and fund a research and development management committee to provide overall direction, coordinate implementing agencies, define strategy and tactics, discuss and agree on the implementation of the recommendations made here, reconsider research and development needs, approve new tasks and allocate resources to R&D activities.

**The team proposes that the committee be constituted as follows: The project officer, the principal investigator at Tulane University, the Tulane/Pragma Group Project Director and the USGS Project Director. Results should be reported periodically to the head of ARTS.**

**The committee should invite other project staff as observers. It should hold one-day meetings in Washington quarterly and conference calls with all participants should be made monthly. Agendas should be carefully planned and decision memos circulated in advance. Necessary funding should be authorized within each contract's existing budgets.**

**The decision memos for R&D activities should clearly specify the staff and financial resources proposed so that the committee can provide effective guidance in resource allocation.**

**The existing technical committee could meet before and/or after the R&D management committee meetings to make detailed implementation decisions.**

#### **RECOMMENDATION**

**Due to the highly technical nature of the project, the evaluation team recommends that the School of Public Health and Tropical Medicine at Tulane University provide guidance to its project office in Washington. One possibility would be visits of approximately a week at a time several times a year to assist in implementing the recommendations made here. The first task would be to help set up a research team, with a clearly defined staff allocation and budget, to complete work according to R&D management committee objectives.**

#### **RECOMMENDATION**

**In order to further improve coordination among the staffs of AFR/TR, Tulane/Pragma and USGS, consideration should be given to additional team building activities.**

#### **RECOMMENDATION**

**In reconsidering the project's research and development needs, a balance should be sought between the physical and social sciences. Social science work can include structural vulnerability assessment, especially through the application of poverty mapping, and famine modelling to improve the accuracy of FEWS estimates, thus reducing the role of judgement in the interpretation of the convergence of indicators.**

**This can be achieved in three ways:**

- 1) More Tulane/Pragma staff time devoted to R&D, especially in the extension of the vulnerability assessment concept to famine simulation, at least as an approach to identifying where the FEWS research dollar can achieve the greatest pay-off in improved EW accuracy (see Appendix B).**
- 2) Tulane/Pragma collect and provide data so that USGS can give assistance in poverty mapping. This would include collecting and organizing available data on key indicators of family assets, food production and consumption behavior, health and especially nutritional status.**
- 3) Possibly a contract with another organization to provide guidance and help implement EW-related research in the social sciences.**

## **RECOMMENDATION**

**The semi-annual workshops are activities which are important to FEWS success. The evaluation team makes the following suggestions for enhancing their very positive impact upon the project:**

- 1) Increase the number of FFR-led (as contrasted to FEWS/Washington led) discussions to provide a greater opportunity to exchange experiences and provide user input into the development of improved methods.**
- 2) In order to strengthen project ties with the A.I.D. missions and host governments, selected FEWS-country mission and government staff should be invited to portions of the semi-annual workshops.**
- 3) The participation of the A.I.D. project officer, with OE travel funds, should be mandatory and would strengthen her/his ability to provide needed management support.**
- 4) In order to enhance their impact, a small committee, during the last days of the workshop, should work on detailing the responsibilities and schedule for implementing decisions made at that time.**
- 5) An evaluation process should be built in as an integral part of the workshop cycle.**

**The evaluation team suggests considering the following topics in these workshops:**

- 1) Government EWU experiences.**
- 2) Streamline bulletin and report production process.**
- 3) Coordination among A.I.D./W, FEWS implementing agencies, missions, governments and donors.**
- 4) A review of FFR, mission and government TDY support needs.**
- 4) FFR experience in their interaction with government and other international agency EW activities and opportunities for enhancement, including improved coordination, standardization of data and analysis.**
- 5) The preparation of standard EW training materials and manuals.**
- 6) This agenda could result in a need to reduce the time devoted to tool-oriented training.**

**2. Tulane/Pragma Group Early Warning Monitoring**

**RECOMMENDATION**

**In accordance with the paper prepared by William Bertrand and Nancy Mock on the application of the information audit concept to FEWS, the published products should be redesigned to reduce the current, generally-recognized overemphasis on operations. Specifically, the evaluation team proposes that the contractor consider the following changes:**

- 1) Issue less bulletins: One alternative would be every 15 days during the agricultural season, and monthly during certain other months, reducing total annual number from 22 to approximately 13.**
- 2) Streamline bulletin and report production process.**
- 3) Reduce the content and/or frequency of the food security operations cable.**
- 4) Improve quarterly report presentation, including a shorter report, color maps on the cover and/or in the summary article, etc.**

In addition, after further analysis of the types of information required, alternatives for improving the content of the bulletins should be examined.

## **RECOMMENDATION**

FEWS staff may also wish to review and consider improving the distribution of its products:

**1) FEWS/W Distribution List**

One approach to reviewing and pruning the distribution list would be to redefine the FEWS audience into two groups: those which only require a summary and those which need the full quarterly reports. Consider inserting in distributed reports a notice that only recipients indicating their interest will continue to receive them. Also consider expanding the list to other concerned parties.

**2) Revised Product Design**

When this split is achieved, consider issuing briefer quarterly reports, including color maps, etc., directed towards executives and decision makers.

**3) Distribution in the Field**

Review with FFRs opportunities for improving the distribution of the bulletins and reports in the field.

## **RECOMMENDATION**

Determine breadth, responsibilities, level and schedule of data preparation for submission to USGS for archiving. It is essential that archiving, in both digital and physical forms, take place before EOP. As a government agency, the USGS will have a long-term responsibility which Tulane University, by its nature, can not take on.

**3. Tulane/Pragma Group Research And Development**

## **RECOMMENDATION**

Review research and development objectives and needs measured against the criterion of improving early warning accuracy. Set up research team with the additional staff time made available by reduced monitoring efforts include work on

**vulnerability assessment. Structural vulnerability can be more effectively analyzed and determined through poverty mapping, famine simulation and modelling to improve quality of FEWS estimates and predictive capacity, thus reducing the role of judgement in the interpretation of the convergence of indicators.**

#### **4. U.S. Geological Service**

##### **RECOMMENDATION**

**Revise plans for the development of data managers as follows:**

**1) After upcoming workshop, stop to evaluate progress and decide whether further investment is recommended. Reevaluate the need for flexibility to respond to unanticipated user needs, the validity of the public domain objective, impact on early warning accuracy, and alternative solutions (including other programs) to meet FEWS needs. Meanwhile, the evaluation team suggests USGS suspend further software development and deliver products as is with minimal but sufficient documentation.**

##### **RECOMMENDATION**

**Consider the possibility of working with Tulane guidance on the GIS and digital aspects of structural vulnerability assessment, applying poverty mapping concepts and methods, by overlaying, climate, economic activities, form of employment, asset ownership and use, nutritional status, etc.**

##### **RECOMMENDATION**

**The global area coverage - GAC data currently being used by FEWS gives the broad overview needed for most early warning purposes. However, in those areas where agriculture is highly localized, and often intensive, it is often insufficiently detailed. Dekadal local area coverage - LAC is too data intensive to be used over the entire FEWS area.**

**Therefore, the team proposes that USGS evaluate the compatibility of AVHRR LAC (local area coverage) and GAC (global area coverage) composited NDVI satellite data. Develop calibration routines and transfer techniques. Develop a means for sampling LAC data to supply FFRs with higher resolution windows on specific country sub-regions (ex. the Sahelian Zone of Chad).**

## **RECOMMENDATION**

**Prepare FEWS training manuals and practicum materials, in coordination with Tulane, so as to assure materials for "FEWS-type" training are available to all interested parties.**

### **5. International Cooperation**

## **RECOMMENDATION**

**Further review the strategies and results of international cooperation of FEWS.**

**Develop a long-term strategy for international coordination. Coordinate and jointly review results with FAO and other donors in selected countries. Exchange evaluation results, as FAO is currently evaluating their GIEWS. Coordinate more frequently, both at the headquarters and country levels.**

## **VI. FUTURE PROJECT OPTIONS AND DESIGN ISSUES**

The evaluation team has given initial consideration to three options for future project design: I - maintain and improve FEWS, II - reduce funding through greater efficiency and limited objectives, and III - expand role, objectives and funding. Key concerns are then presented regarding several other design issues for future projects: design schedule, analysis and research, expanded coverage, country-level components and international cooperation.

### **A. OPTIONS FOR FEWS III**

Three options are conceived for a possible FEWS III:

#### ***Option I - Maintenance and Improvement***

Maintain the existing FEWS role, objectives and funding levels, while expanding research and development to improve EW methods and accuracy made possible by greater efficiency and the diversion of resources from EW monitoring. The team suggests that R&D efforts be selected on the basis of their contribution to improved accuracy and efficiency of early warning reports.

These are proposed as the key objectives for EW methods development against which the cost-effectiveness of all research, software and tool development should be measured.

#### ***Option II - Greater Efficiency and Reduced Funding***

Continue to fulfill basic early warning objectives with reduced funding through greater operational efficiency and minor investments in improved methods. Reporting frequency would be reduced, minimal support would be provided to host country governments and other donor financial support would be sought. FEWS/W staff might possibly be reduced. The alternative of substituting several FFRs by a regional FEWS representative could also be considered.

This option would be seriously considered if the design team comes to the conclusions that EW accuracy cannot be improved cost-effectively, that HCGs won't be able to absorb more funds, and donors are unwilling to extend coordination.

#### ***Option III - Expansion***

In the event A.I.D. decides to expand the FEWS role, objectives and funding levels, two separate projects or components could be designed derived from the FEWS II experience:

TABLE VI.1

OPTIONS FOR FEWS III

OPTION	DESCRIPTION	ASSUMPTIONS	PROS	CONS
<p>I. Maintain and Improve FEWS</p>	<ul style="list-style-type: none"> <li>• Maintain current role, objectives and funding.</li> <li>• Use savings in monitoring for R&amp;D to achieve greater accuracy.</li> <li>• Greater efforts toward host country support and donor coordination.</li> </ul>	<ul style="list-style-type: none"> <li>• Famines can be predicted more accurately.</li> <li>• HCGs can and will absorb more funding.</li> <li>• Donor can work more jointly.</li> </ul>	<ul style="list-style-type: none"> <li>• Existing objectives provide clear project focus.</li> <li>• Savings with greater donor and HCG participation.</li> </ul>	<ul style="list-style-type: none"> <li>• Limits broader R&amp;D work.</li> <li>• Project remains emergency and food aid oriented.</li> </ul>
<p>II. Reduce Funding with Greater Efficiency</p>	<ul style="list-style-type: none"> <li>• Reduce frequency of products and staffing.</li> <li>• Limit funding for R&amp;D, host country and donor coordination.</li> </ul>	<ul style="list-style-type: none"> <li>• Can't effectively improve EW accuracy.</li> <li>• HCGs won't absorb more.</li> <li>• Donors not willing.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces emphasis on relief.</li> <li>• Accepts limitations if verified in design.</li> </ul>	<ul style="list-style-type: none"> <li>• Cuts back on good project.</li> <li>• Leaves EW R&amp;D to other donors.</li> </ul>
<p>III. Expend Role, Objectives and Funding</p>	<p>Design FEWS in two separate components or as two separate projects:</p> <ol style="list-style-type: none"> <li>1. Same as option I</li> <li>2. Vulnerability assessment, nutritional surveillance, famine modeling, GIS and remote sensing applied to prevent or mitigate famine.</li> </ol>	<ul style="list-style-type: none"> <li>• ARTS needs cross-cutting famine prevention strategies.</li> <li>• Better prevent in many famine-prone areas.</li> <li>• Mission/HCG demand exists.</li> </ul>	<ul style="list-style-type: none"> <li>• Advanced research techniques available.</li> <li>• Congressional mandate to mitigate disasters.</li> </ul>	<ul style="list-style-type: none"> <li>• Initial mission interest and resources limited.</li> <li>• R&amp;D input may be excessive for pinpointed areas.</li> </ul>

HCG - host country government.

- 1) **Early warning monitoring and development of EW methods to achieve greater accuracy, as in Option I.**
- 2) **Other applications of vulnerability assessment, famine modeling, GIS and remote sensing with the objective of preventing and/or mitigating famine in FEWS countries.**

**This alternative would maintain the de facto expansion of FEWS objectives which has occurred during FEWS II, and would be somewhat consistent with SIE's defined support role for GIS and remote sensing methodology. It would have a greater focus than work broadly defined to do bureau and mission required analysis.**

## **B. OTHER IMPORTANT DESIGN ISSUES**

### **1. Design Schedule**

**How long will it take before the evaluation report is reviewed, management actions are taken on design, design is implemented and the remaining steps are taken to begin implementation of FEWS III? Will it be possible to begin FEWS III before the FEWS II end of project date?**

### **2. Alternatives for Expanded FEWS Objectives**

**The following issues should be considered in the design of Option III: Should it expand to work more on analysis and research? Should it have a role in estimating food needs? Should it monitor decisions and implementation of famine relief?**

**FEWS has largely contributed to emergency food relief decisions, while congress has mandated moving towards famine mitigation and prevention. What can the FEWS role be, as an information system, in the design of famine mitigation and prevention? Certainly, input to the design of famine prevention is sufficiently broad to include many areas of analysis and research. Applied research could be undertaken to push back the frontier of knowledge on famine prevention and mitigation. Analysis and research support could be provided to missions, PVOs and other implementing agencies in moving towards less emergency and more developmental and community-based responses to chronically famine-prone areas.**

**Over the long term, famine prevention can most effectively be achieved by recuperating and conserving natural resources, wherever feasible. This would include water conservation, including water harvesting techniques; soil conservation, including erosion control. Other significant famine prevention measures would be cash and non-traditional crops and livestock, non-farm employment generation, including other**

TABLE VI.2

OTHER FEWS III DESIGN ISSUES

ISSUE	DESCRIPTION	RECOMMENDATIONS
Design Schedule	Limited time remaining before FEWS PACD of December 1992. No further Tulane extension possible.	Evaluate FEWS III schedule and make decision by Jan 92 to allow for design, contract and staffing decisions.
Analysis & Research Objectives	Should R&D be concentrated on improving EW accuracy? Or should it also use techniques to develop famine prevention strategies? How would the latter interface with natural resources, agriculture, economics, nutrition, health and education?	Review during design. Concentrate on accuracy objective unless broader mission interest becomes evident.
Expansion	Should other countries/regions be added to FEWS? Should component be included to work directly with regional agencies? How would this be coordinated with existing projects and AFR relations with regional groups?	Consider small regional agency component to monitor EW in non-FEWS countries and facilitate technology transfer.
Training	What should be the objectives of training at each level?	Define training component based upon needs assessment.
Mission, HCG and NGO Component	Should there be mission support and briefings on FEWS methods? Should EWU support be centrally funded or with mission buy-ins? Should there be NGO-support activities to improve their EW reporting to missions?	Regionally fund all components. Estimate needs with missions during design. Consult missions on analysis and research.
Internat'l Cooperat'n	What EW approaches work and how can objectives, investments and actions be mutually devised?	Explore parallel financing during design.

construction, health, education and related services, crafts and other micro-enterprises, etc.

However, when considering these activities as part of food or cash for work programs, it is essential that they be well planned by specialists, and that work with communities be continued over an extended period. When these programs are carried out without planning, over a short term, they become "make-work" with no developmental impacts.

The question remains, nevertheless, whether there are significant areas where a medium-term holding operation is preferable to facilitating appropriate population shifts. Should these areas receive more assistance than others with greater potential? Do the missions require this analysis or would applying research to limited areas be overkill?

This would be especially relevant if famine prevention, rather than broader-based development objectives, were high in AFR's objective tree for FEWS countries. How can research contribute decisions needed in the design of productivity-enhancing and employment generation programs?

Some additional questions on analysis could be: 1) So far, FEWS has participated in building national and regional food budgets, leaving to the mission and AID/W specific decisions on food aid. Is this best, or should FEWS step over this line? 2) Does AID need a full food security management information system? 3) Also, is this focus sufficiently broad, or should there be a project for all GIS and remote sensing activities, concentrating ARTS expertise in one project?

### **3. Expanded FEWS Coverage**

FEWS III design could also consider expansion of FEWS coverage to include other African countries. This could be partly through work with other regional agencies such as SADDC and AGRHYMET; and would have to be reviewed in the light of other donor activities. One alternative could be coverage of non-FEWS countries through regional agencies.

### **4. Mission Participation in Defining Mission, Government and NGO Support Needs**

The evaluation team recommends that the design team work with missions to define FFR, mission, government and NGO roles and requirements, which will vary in each country. Depending upon likely country conditions, the hypothesis is that EW activities can be largely delegated, over time, to government agencies and NGOs. Mission, HCG and NGO needs should be developed over the LOP in

coordination with the missions, including training, equipment, data collection and analysis, etc.

In each case, the missions may be consulted whether they wish to participate in the design process. If they do, what design assistance will each mission require? Should these in-country needs be part of core project funding or as mission buy-ins?

FEWS II planned for the FFRs to concentrate upon secondary data collection, providing limited funds for travel in-country. However, in certain country situations, it has been found that FFRs need to participate more in primary data collection. This may occur when governments are not willing or not capable of collecting reliable data. If this is likely in a specific country, the FFR's role in primary data collection should be reconsidered along with a greater NGO role in EW.

#### **5. The Role of Early Warning Units**

The relationship between country EWUs and decision implementation mechanisms need to be considered. This issue is already being raised in Niger.

#### **6. Remote Sensing Methods**

Define how improved remote sensing methods can enhance EW capacity. Introduce this as an important component in FEWS III. Are LAC and GAC remote sensing data compatible? How can this be achieved, if not achieved during FEWS II.

#### **7. International Coordination**

Current international cooperation is loose and informal. The various members of the project respond to requests from other donors and ask other donors for their assistance on an ad hoc basis. However, the team was unable to review these activities in detail. This evaluation should be completed before or during design.

AFR needs to decide upon a strategy for international co-operation. Does AID/W wish to strive for standardization, greater understanding of FEWS systems, donor-coordinated commitment of human and financial resources or co-financing?

The mechanisms of improved co-ordination should be reviewed during the design of Phase III once an AID strategy has been decided upon. What steps can be taken to achieve greater technical exchange, methods standardization and participation in the definition of a research agenda? Should one or more international conferences be considered? Should EWU progress be jointly reviewed with other donors? Should EWU components be designed after consultation with

**EW donors in each country?**

**What coordination should there be with FAO/Rome and donors involved in EW during design? Should parallel financing be considered?**

**C. OBJECTIVES FOR THE FUTURE**

**In the long-term, the team sees the following FEWS scenario: USAID would over time gradually begin to share EW responsibilities with host country governments and other donors, provide information support to famine mitigation and economic development decisions, in addition to famine relief, and emphasize EW research as well as monitoring. See Table VI.3.**

**D. LIST OF POSSIBLE COMPONENTS**

**The design team could consider the following list of components:**

- 1. AID/W Monitoring**
- 2. EW Research and Development**
- 3. In-Country Support**
  - a. Mission Support**
  - b. Host Country Support**
  - c. NGO Support**
- 4. Regional Coverage**
- 5. International Cooperation**

**and, either as another project or an additional component:**

- 6. Famine Mitigation and Prevention Analysis and Research.**

**TABLE VI.3**  
**POSSIBLE EARLY WARNING OBJECTIVES**  
**FOR THE FUTURE**

<b>AREA</b>	<b>NOW</b>	.....	<b>THE FUTURE</b>
<b>RESPONSIBILITY:</b>	<b>USAID</b>	.....	<b>USAID eventually shared with HCG and other donors</b>
<b>INFORMATION SUPPORT FOR:</b>	<b>Famine relief</b>	.....	<b>Famine relief, mitigation and economic development</b>
<b>EMPHASIS:</b>	<b>EW Monitoring</b>	.....	<b>EW monitoring and research</b>

## **APPENDICES**

**APPENDIX A**  
**SCOPE OF WORK**

1. The primary issues to be addressed by the evaluation team are to:
  - Assess the extent to which the Project purpose, especially the end of project status and outputs, have been achieved;
  - Assess the need for continuing A.I.D. support for FEWS and FEWS-related activities beyond the current PACD;
  - Identify lessons learned, changes in assumptions and/or conditions, if any, that should be considered in the redesign of this project to its current PACD and/or the design of similar activities; and,
  - Recommend specific design parameters for follow-on project activities.
  
2. In order to reach conclusions on these major issues, the team will address a number of specific questions that relate to the effectiveness and efficiency of the FEWS Project. A core set of questions follows. The findings and recommendations that respond to the primary evaluation issues will be based on the answers to these questions and any lessons learned uncovered by the team in the process of the evaluation.
  
3. Questions and Issues:
  - a. Effectiveness
    - To what extent has A.I.D. been able to better respond to nutritional emergencies in the FEWS countries (Mauritania, Mali, Niger, Burkina, Chad, Sudan and Ethiopia)?
    - To what extent has the FEWS Project been able to improve early warning and/or regional and national early warning systems capabilities?
    - How well integrated is FEWS with other Africa Bureau projects and activities (e.g., NRMS, AGRHYMET, Food Security)?
    - How useful/accessible is the FEWS database for other purposes?
    - To what extent have research activities resulted in improved project

**effectiveness; what future research activities should be considered to project ability to reach its stated objectives?**

**How effective has the tools development been to the project/others?**

**To what extent are the FEWS information products informative, timely and credible?**

**To what extent have FEWS Field Representatives (FFRs) become integrated into USAIDS?**

**b. Efficiency**

**How efficient are FEWS methods/procedures, particularly in terms of analysis and dissemination?**

- 4. The work will accomplished by a combination of the following methods and procedures. The work is expected to begin on or about September 9, 1991 and cover a period of 40 calendar days.**

**Team planning meetings  
File searches/data collection  
Interviews and meetings  
Briefings  
Field visits  
Mid-term debriefing  
Presentation of findings**

- 5. The contractor shall provide a skilled facilitator to conduct the team planning meetings for the team.**

## **APPENDIX B**

### **FEWS RESEARCH AND DEVELOPMENT**

#### **A. RESEARCH**

##### **1. FEWS Research and Development**

**FEWS is an experimental project which has pioneered in the application of remote sensing and vulnerability assessment to famine early warning, making some progress in methods development. However, due to the project's pioneering nature, the project paper did not include clearly defined methodological and research objectives, including tool and software development.**

**While the lead contractor, Tulane/Pragma Group, sought to build this capability in its technical proposal, offering access to experts from numerous fields, their financial proposal did not provide adequate resources for this purpose. In addition, part of the funds which could have been used were later consumed to expand operational responsibilities and products.**

**Project management may not have been sufficiently aware, during project start-up, that research and development objectives were yet to be defined. Subsequently, as USAID identified a need for greater coordination between the lead contractor and other implementing agencies, a technical committee was established to deal with research and development issues.**

##### **2. Emphasis on Physical Data Analysis**

**The project has emphasized the use of remote sensing data complemented by actual rainfall data at numerous weather stations. More resources have been spent on obtaining and analyzing remote sensing and other data from the physical sciences. While much socioeconomic data have been collected, there has been relatively less effort in the development of the project's socioeconomic analytical capacity.**

**The lead contractor receives support by the following implementing agencies USGS, NOAA, NASA and the University of Reading largely dedicated to remote sensing data collection, analysis and related technical assistance. Although this may have been initially an effective strategy to achieve short-term impact, it has now resulted in relative neglect of social science research towards improved EW accuracy. The project has only applied the following resources to develop analytical methods for socioeconomic data:**

- Time which could be spared from FEWS operations by the project economist, other FEWS/W staff and selected FFRs;
- Individual consultancies in the areas of vulnerability assessment and, one meeting of a technical assistance group at Brown University to review the results of this work;
- some USGS programming work on population and agricultural statistics data managers;

This contrasts with the greater emphasis on nutritional status, an integrative indicator of structural vulnerability, during FEWS I, which, for several reasons, was down-graded in FEWS II.

Meanwhile, the project team has established informal ties with the International Food Policy Research Institute and has been working on defining a scope of work to discuss with them. This or a similar arrangement may be important to further build on vulnerability assessment and balance the social with the physical sciences. However, any work in this area should be done in close cooperation with the FFRs.

### 3. The FEWS II Conceptual Model

The project has assumed that each famine is intrinsically different and can not be easily predicted from deterministic models; that the potential for famine should be estimated by the principle of "convergence of indicators," applying inductive and often intuitive logic.

As a result of this hypothesis, methods development has centered upon the design of data managers, software packages which would help users look for unspecified patterns in data and help make early warning judgments.

Progress was made toward the development of vulnerability assessment methods and the conceptual classification of levels of vulnerability. However, they have yet to be systematically put into practice in all FEWS countries.

This conceptual development failed to take into account the considerable body of research on the relationships of food production, consumption, and health factors upon nutritional status, as well as studies of poverty mapping. Of course, asset use, coping mechanisms and fear of famine, which enter into the determination of famine conditions, also needs to be included.

The alternative assumption that the impact of famine might be better predicted could have led to a research agenda which established structural vulnerability assessment through famine modelling and poverty mapping as first priority. This would be important in defining relief and preventive responses to famine, and

especially in identifying the greatest potential to improve early warning accuracy. FEWS has identified the need for monitoring community coping mechanisms. It has not yet decided on how this should be done and which indicators to use.

#### **4. Research Areas**

While the FEWS Project has not been stressed as a research project, it has been active in three areas: vulnerability assessment, price analysis and the effects of volcanic aerosols on satellite imagery as a result of the Mt. Pinatubo eruption in the Philippines.

##### **a. Vulnerability Assessment**

FEWS has worked with Professor Thomas E. Downing and other leading researchers of the Institute for Development Studies at the University of Sussex, England, to refine its methodologies, increase its accuracy, and verify assessments. The current methods involve the convergence of a non-standardized normalized ranking of a number of temporally varied indices (such as agricultural and livestock production, commodity prices, health, socioeconomics, and pasture quality through NDVI). This assessment is verified via comparison with levels of coping strategies and the impact of rainfall and other climatological events. Indices are non-standardized because of the difficulty in obtaining the same types and qualities of information among all countries.

This work is reported in two special studies:

**Vulnerability and Food Security in the FEWS Project: Guidelines for Implementation.** Chuck May. FEWS Working Paper 2.2. April 1990.

**Assessing Socioeconomic Vulnerability to Famine: Frameworks, Concepts, and Applications.** Thomas Downing. January 1991.

While FEWS methods of vulnerability and harvest assessments are probably among the best currently possible, FEWS early warning methods are still experimental. Estimates of additional food needs are still subject to considerable errors which some practitioners feel are of the order of magnitude of up to 30-50%. This partly due to the greater potential error in estimating the difference between supply and demand, both of which are subject to smaller errors. There is also a lack of field confirmation as to the appropriateness and completeness of chosen indicators.

**b. Price Analysis Applications**

FEWS believes price analysis is important to FEWS because it can provide a mechanism to monitor the availability of cereals and livestock at the local and indirectly at the household level. Basic price analysis has been carried out for the Sahel and specific countries. Only limited further investment of staff time is planned in this area for the remaining year of the project.

Related work was reported in a special study entitled Market Information System (SIM) in Chad: Issues and Proposals  
Chuck May, FEWS Working Paper 2.4. May 1991.

**c. Atmospheric Disturbance**

Atmospheric disturbance in satellite-derived vegetation images attributed to volcanic ash from Mt. Pinatubo eruptions was first noticed by FEWS researchers early in summer 1991. Further assessment of the difficulty in comparison of 1991 Sahelian vegetation data with that of other years was carried out throughout the summer. Since then, FEWS researchers led by Graham Farmer have spearheaded and galvanized a significant effort to produce an NDVI calibration for the aerosol effect between researchers at FAO's Remote Sensing Center, NASA/Langley, and the Regional Center for Services in Surveying, Mapping, and Remote Sensing (RCSSMRS) in Nairobi. At this writing, the development of a calibration for the disturbance is imminent. As FEWS is one of the few real-time satellite-based monitoring projects in the tropics with scientific work in this area, this ability to spark immediate action in the global research community speaks highly of the quality and importance of FEWS work in the professional community.

**d. Other Special Studies**

**EW Methods Improvement**

A number of other special studies have been undertaken directly related to the objective of improving early warning methods. These include:

Report on the Early Development of the 1990 Meher (Main) Agricultural Season in Ethiopia. Jeffrey P. Marzilli. FEWS Working Paper 2.3. August 1990.

Report on the FEWS Readership Survey of the A.I.D. Washington Staff. Denise Daly. FEWS Working Paper 2.5. April 1991.

Other special studies are in progress:

Sudan: Case study evaluating the evolution of EW in Sudan in 1990. Adam Koons.

**Operational soil moisture research is being carried out under a sub-contract with University of Georgia. Its purpose is to derive and make operational use of soil moisture information.**

### **Project Planning**

**Other studies were undertaken to prepare for possible new project components, such as:**

**Establishing the Structure of an IGADD National and Sub-Regional Early Warning System, USGS. December 1989.**

### **Other GIS and Remote Sensing Applications**

**Also, as part of AFR/ARTS/SIE's mandate to apply GIS and remote sensing techniques to broader development issues, FEWS undertook additional special studies. The overall goals and objectives of the PP did not refer to this broader goal. Nevertheless, as the PP did not define the project's research agenda, and the studies completed were somewhat related to food security, it was deemed legitimate to extend FEWS objectives to serve this broader need.**

**These studies included:**

**Geographic Modelling of Human Carrying Capacity from Rainfed Agriculture: Senegal Case Study. USGS. March 1991. This study provided CPSP-support to USAID/Senegal.**

**Market Accessibility Study. Arun P. Elhanse. September 1991. Although reportedly not directly funded by FEWS, the objective was to test whether the FEWS data being collected could be used for geographic analysis.**

**In this category, a Burkina Faso Carrying Capacity study is being designed. Its preliminary objective was to create a multi-sectoral geographic database on Burkina Faso, and develop a model to estimate current and potential carrying capacity from rainfed agriculture. Objectives are unclear. The latest possibility is that the physical database be combined with socioeconomic data to investigate expanded household income.**

**These special studies were undertaken as part of what was informally called "greater" FEWS, that is, going beyond the PP-defined EW objectives and the Tulane/Pragma contract constraint ("lesser" FEWS) to that of other useful GIS and remote sensing applications. In effect, due to the breadth of this objective, the research agenda for the FEWS project was insufficiently refined and focused, probably reducing overall research impact. Of course, to different degrees, each**

study was useful in its specific field or country. However, initial analysis suggests that they do not appear to fit into a clearly cohesive plan or set of focused objectives.

Therefore, although FEWS was used as a funding mechanism for these studies, there is a need to pull them together into a coherent whole looking towards a clearly defined overall objective.

Although a research planning group could come up with others, the evaluation team proposes two alternative research objectives:

- Improve Early Warning accuracy (as discussed above and in Chapter V)

and/or

- define famine prevention and mitigation approaches for carefully identified famine-prone areas.

Both relate directly to vulnerability assessment, especially structural vulnerability. Specific recommendations are presented in Chapter V.

## **B. METHODS**

### **1. Software Development**

The need for software development was not clear until the project was under way. The project paper only vaguely mentions "tools." Some of the accomplishments made in the area of software tools development are described here.

#### **a. IDA**

IDA (Image, Display, and Analysis), a public-domain interactive satellite image display and analysis software, was originally developed by a FEWS technician under FEWS I. It is used by FEWS for vegetation index image viewing and analysis. An upgrade of this product has been cooperatively undertaken and funded by FEWS, EROS Data Center, and FAO. The final product, which offers multilingual command possibilities is now complete; however, since funding was not identified for an upgrade to the documentation for this product, no documentation was produced.

#### **b. EDC Data Managers**

The decision was made to develop data managers, as it was felt they would make

**EW analysis faster and more efficient, so that less time would need to be devoted to analysis. However, at the present time, most FFRs seem to spend more time in working with other agencies to collect, summarize and report data. Data analysis may not be perceived by the FFR to be as important a function as previously thought. Quite possibly their preferred analytical emphasis would be in evaluating and relating data to EW and food shortage predictions, and less to the analysis of specific data sets.**

**Software tools/data managers in progress at the EROS Data Center include RAINMAN, POPMAN and STATSMAN managing rainfall, population and agricultural statistics data respectively. They are conceived as eventually becoming an integrated, interactive set of tools, using an "Integrator" program. A number of software packages are being used including DBASE, Lotus 123, Harvard Graphics, and Atlas Graphics. Current EDC efforts to design POPMAN, a population data manager, involve the use of public domain C-toolbox, thus avoiding proprietary software.**

**FEWS has considered the alternative of completing the entire proposed suite of data managers, the EDC-produced software, to extend its access into the public domain. This would be necessary in order to make it possible for USGS or USAID to donate its finished product to developing country scientists. In this case, the sections of proprietary software with which it interacts would have to be rewritten. However, a preliminary review indicates this would lead to potential copyright issues, difficulties to produce desired outputs, excessive cost to write program routines for which proprietary software are available (to be compared with lower cost to African users) and the need to define who would fund and be subsequently responsible for their servicing and maintenance.**

**There have been inefficiencies, coordination problems and differences of opinion regarding software planning and development techniques in the preparation of these data managers. Key issues have been institutional interaction in tool conceptualization, programming and debugging, final production and documentation; the means for integrating diverse data sets into one relational data base; the need for public domain or proprietary programs; and the financial and staff resources needed to obtain the final product. The objectives, users, and design characteristics for most tools are still being refined.**

**Partly in recognition of these problems and issues, the project officer convened two retreats in December, 1990 and January, 1991, seeking to improve coordination among ARTS, Tulane/Pragma and the EROS Data Center, the key implementing agencies. As a result, tool development objectives were narrowed down and better defined. Tasks were then further specified at four technical committee meetings held during 1991. A detailed needs analysis for tools development was only produced in September 1991, with limited input from the FFRs in the field.**

**A survey of EW tool users was beyond the scope of the evaluation. However, both negative and some positive comments were received during this study.**

**c. Other Programs**

**MAPMAKER is an interactive software program which runs totally inside Arc Info, a GIS software which is used by Tulane/Pragma for the preparation of publication graphics. The objective behind MAPMAKER was to produce a simple method for making FEWS graphics using any variety of FEWS data. Initial production of the program had been begun by EDC, but due to the urgent need for its completion, Tulane/Pragma obtained authorization to hire a pair of private consultants who produced a working prototype in two months. While currently in use, the final product is not finished at this writing, but due very soon.**

**The Chad FFR, in concert with the Tulane/Pragma economist, also developed a program for the intake and analysis of commodity price data, PRIX, now in use in several countries. A number of additional software tools have been produced by the Chad FFR. These include: PLUIE (a data entry program for rainfall statistics), a front-end for IQ (a Center for Disease Control-supported program used by the Chad Ministry of Health). Each of these programs have helped host-country agencies in Chad and are beginning to be used by other FFRs. PLUIE was used as a training program in the Chad FFR's successful efforts to transfer database programming to the local Meteorological Service.**

**APPENDIX C**  
**PERSONS INTERVIEWED AND CONTACTED**

**United States**

**USAID**

**AFR/ARTS**

**Jerome M. Wolgin**  
**Donald R. Mackenzie**  
**Gary Cohen**  
**John J. Gaudet**  
**Thomas D. Hobgood**  
**Patricia O'Brien-Place**  
**Jonathan T. Olsson**  
**Anthony C. Pryor**  
**Patricia L. Rader**  
**William H. Renison**  
**Benjamin Stoner**  
**Hope Sukin-Klauber**  
**John W. Wiles**

**AFR/SWA**

**Judy Gilmore**  
**Ronnie G. Daniel**  
**Dana D. Fischer**  
**Nancy M. McKay**  
**Jerry Wolfe**  
**Tim Bank**

**AFR/EA**

**Mary-Rita T. Zeleke**

**QFDA**

**Franca Brilliant**

**Food for Peace**

**Jeanne Markunas**

**Tulane/Pragma Group**

**Richard C. Meyer**  
**Gary S. Eilerts**  
**Graham Farmer**

**Charles May**  
**Jeff Mazzilli**  
**Marian L. Mitchell**

**Tulane University**

**Dr. H. Thomas, President**  
**Dr. Harrison C. Spencer, Dean**  
**Dr. Shawn Baker**  
**Dr. William Bertrand**  
**Dave Lindby**  
**Dr. Nancy Monk**  
**Elizabeth Voelker**  
**Steve Warren**  
**Ms. Christy**  
**Dr. S.T. Hsieh**

**USGS**

**Don Moore, EROS Data Center**  
**Michael Whede, EROS Data Center**  
**Ron Leitzow, EROS Data Center**  
**Peter Mumford, EROS Data Center**

**Other PASAs and Contractors**

**Chris Justice, NASA/GIMMS**  
**Compton J. Tucker, NASA/GIMMS**  
**Doug LeComte, NOAA/JAMF**  
**George Milford, University of Reading**  
**Arun Elhanse, University of Illinois**

**Niger**

**USAID**

**George T. Eaton, Director**  
**Valerie Dikson-Huntor, Dep. Director**  
**Charles Kelly**  
**Helen Soos, GDO**  
**Charlotte G. Sharp-Lucas, FFR**  
**Anthony Vodraska**  
**George Taylor, ADO**  
**Gregg Baker, Ag Econ.**

**Sylva Etlan, CDC/USAID  
Udo Baumer, GFA**

**Government of Niger and Other Organizations**

**Ide Ademou, Head, SNAP  
Lieutenant Colonel Nouhou Bako, Préfet de Tillabéry**

**Mr. Kadra, FAO  
Marie Delvaux, FAO - Technical Advisor  
Harris Soares, AGRHYMET, Director - General  
Sadok Kounlali, WFP  
Andrew Stancioff, AGRHYMET Regional Center, Niamey, Niger  
Dr. Mark J. McGuire, AGRHYMET Regional center, Niamey, Niger**

**Chad**

**USAID**

**Felix Lee, FFR  
Trid Mukherjee, ADO  
Son Nguyen, PVO Projects Manager  
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**APPENDIX D**  
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## **APPENDIX E**

### **FIELD TRIP REPORT**

#### **A. SUMMARY**

The team - Joe Weiss, Howard Sharlach, Peter Schlesinger and Bill Renison - visited Niger together and from there branched out to Burkina Faso (Sharlach), Chad (Schlesinger) and Sudan (Weiss). Bill Renison had previously visited Ethiopia and Senegal (a country without FEWS monitoring, only research). From 3 to 5 working days was spent in each country. Joe Weiss also visited the mission while in transit in Ethiopia.

Table E.1 summarizes the team's field observations in the FEWS countries visited. In brief, the missions have a high opinion of the project, several indicate contact with AID/W is limited and that the monthly cable is too frequent.

The importance of NGOs to FEWS varies according to their importance in food aid and the quality of data collected by the government. The breadth of distribution in country of cable contents, bulletins and reports varies.

The FFRs are generally of outstanding caliber, are subordinate to different mission officers, their offices are in various locations, and the project provides only limited support, partly made up by the missions. The basic FFR activity is data collection and analysis, with emphases varying according to their skills and country conditions. The table indicates the type and intensity of FFR coordination with early warning units and other donors and the potential to expand these efforts.

#### **B. BURKINA FASO**

The USAID presence is relatively small in size and resources. However, it is a player in food aid. The country has suffered from drought but this year the crops appear to be good with only isolated pockets of vulnerability.

Mission personnel are supportive of the FEWS effort but see it principally as a tool for key decision makers in AID/W. Another FEWS function is to disseminate bulletins and reports to those with whom they collaborate on data gathering. Information is shared to a lesser extent with other organizations and donors, although the mission is planning to review its distribution procedures.

As the mission is small, the FSOG encompasses most of the US direct hire staff. Discussions are straight forward and center on data collection and interpretation. Cables are reviewed without much dispute and are transmitted in a timely way.

**Table E.1**

**Summary of Field Observations**

**in FEWS Countries**

**COUNTRY**

<b>COMMENT</b>	<b>BURKINA FASO</b>	<b>CHAD</b>	<b>ETHIOPIA</b>	<b>NIGER</b>	<b>SUDAN</b>
<b>MISSION</b>					
<b>Opinion of FEWS</b>	supportive	supportive	supportive	supportive	supportive
<b>Contact with AID/W</b>	in-sufficient	not reported	not reported	in-sufficient	in-sufficient
<b>Working of FSOG</b>	entire mission	sign off on FSOC draft	N.A.	discuss policy and compromise	sign off on FFR draft
<b>FSOC</b>	none	not reported	N.A.	too frequent/early	too frequent
<b>NGOs</b>					
<b>Importance to FEWS</b>	important	negligible	important	moderate	essential
<b>REPORTS</b>					
<b>Distribution</b>	partial	only now, mission previously disagreed with reports	N.A.	organized mailing list	not enough copies received

**Table E.1 (Continuation)**  
**Summary of Field Observations**  
**In FEWS Countries**

COUNTRY					
COMMENT	BURKINA FASO	CHAD	ETHIOPIA	NIGER	SUDAN
FFRs					
Responsible to	ADO	FFP Advisor	to be determined	GDO/DRU	in fact to Director
Office Location	Mission on Embassy compound	in FFR's home	moving from DC to Addis	in USAID annex	in USAID Mission building
Work Emphasis	data collection and analysis	software developm't and training	data analysis and briefing	EWU institu-tional developent	data collection and analysis
Support	limited, from mission	limited, from mission	N.A.	limited, from mission	limited, from mission
Work with Donors	data collection	data and coordination	data and coordination	coordinated AID to EWU	joint AID/FAO field missions
Potential	yes	yes	yes	yes	maybe
Work with EWU	limited	more with specific agencies	limited	intensive	limited, with limited impact
Potential	lot to do	with specific agencies	to be determined	excellent	nil

The FFR is located in the mission and is treated as a junior member of the staff, reporting to the ADO. He works with the HCG to collect data and provide computer training.

The National Commission Against the Drought (CNLES) is a tiny office of 2 to 3 professionals. The role FEWS can play in strengthening it is limited. FEWS works closely with CNLES on the geographical targetting of food. While on paper there are detailed arrangements for coordination among government agencies, in fact the Ministry of Health consults with the CNLES director, decides on vulnerability, and requests donor food for the zones at risk.

The government is very supportive of FEWS. Those who receive the reports like the summary of their own data and are quite interested to know about comparisons of their food security situation with those of neighboring countries as food and people flow easily across borders. They do not see the FFR as a technical advisor to strengthen their institutions. Coordination of food assistance with the government and other donors is handled by the AID Representative and the Food for Peace Officer.

The principal change the mission would like is to move the FFR out of the embassy compound, as it is too difficult to gain access.

## **C. CHAD**

FEWS is a full-fledged part of the Mission's data collection and processing system in Chad. The FFR is a major conduit of secondary country- and regional-level information for the USAID Mission.

### **1. The Mission**

The mission indicates FEWS has made it more aware of, and thus, potentially more capable of responding quickly to food emergencies. The presence of the FFR has improved the supply and quality of information and helped reduce disparities between sources.

The Mission is not concerned with extent of contacts with AID/W with respect to EW activities. It did express dissatisfaction with the lack of action on the part of AID/W in response to its 1990 EW.

The FSOC is drafted jointly by the FFR and the Food For Peace advisor. The FSOG members sign off. It facilitates the spread of the most up-to-date information throughout the mission. One officer questioned whether the regular FAO GIEWS publication and FSOC were redundant.

## **2. FFR Activities**

The Chad FFR collects and analyzes food security-related data in his regular FEWS activities. While the FFR is seen in this way to be a regular mission employee, he acts more as liaison between the HCG agencies and the mission. The FEWS office is not at AID so that it can be as HCG-oriented as possible.

The largest effort is directed toward the transfer of data entry, processing, and computer, vegetation and rainfall analysis skills to officials of the Meteorological Service, DREM, BSA, the EWU and various other agencies. FEWS maintains regular data and skill exchange with the EEC-funded EWU, whose director is very happy with this arrangement. Additionally, FFR-designed and prepared maps were used in a 1991 presentation to the GOC Council of Ministers and in the 1990 GOC Health Statistics Yearbook. Most donor contact is at the mission level.

## **3. Future Potential**

GOC officials look forward to a strengthening of support activities in a FEWS Phase III.

EW in Chad could be enhanced with a number of improvements, including: 1) an enlargement in geographic coverage by the EWU (to include the Sudanian Zone); 2) addition of global positioning system (GPS) technology to USAID/Chad vehicles (to readily supply additional land use information); and 3) more involvement in computer equipment supply and maintenance training (to provide machinery on which freshly trained technicians may practice and use their skills).

## **D. ETHIOPIA**

While USAID activities in Ethiopia were limited, a FEWS professional based in Washington has supported the mission in lieu of an FFR in the field. The evaluation team concurs with the steps being taken to establish a full-time FFR in Ethiopia. However, the role that he/she fills merits substantive discussion.

The special circumstances in Ethiopia surrounding famine have weighed heavily in the analysis. There now exists a "window of opportunity" to support the "Interim Government" and donor community in stabilizing the short-term food security and emergency needs while assisting in the transition to a development-oriented assistance program.

One proposal for the FFR to support a wider swath of analytical and operational

needs, including capacity building is being considered. It would be much more analytical and policy-oriented, going beyond that of data analyst and computer hardware and software technician. The FFR would be tasked with establishing a Mission-based MIS/GIS EW component. The short-term objective would be to increase data and analysis of food security issues, targeting of food aid for emergency and rehabilitation programs in-line with Mission and host government/donor needs. This MIS/GIS would rely primarily on existing secondary biophysical data sets and actively promote the development of new socio-economic data sets, including possible funding of field surveys.

This proposal would require a combination of T.A. (FFR and TDYs), equipment, software, data acquisition and manipulation. If implemented, it would possibly pilot an experimental approach for expansion on a follow-on project. Whether one person could accomplish all these tasks needs to be examined however.

#### **E. NIGER**

There are different views within the mission regarding food aid and, by extension, FEWS. Some officers would rather see more development effort and less humanitarian assistance. Therefore, each month the FSOG becomes involved with discussing mission policy and compromising on the drafting of the cable, resulting in delays.

The mission felt communication with AID/W on FEWS activities had been insufficient, that a monthly cable was too frequent and begun too early in the crop year.

The Niger mission has established a Disaster Relief Unit under the General Development Office, staffed by a Personal Services Contractor specialized in this field. With his participation, the mission is designing a Disaster Mitigation Project. The FEWS project is part of this unit.

The mission has been very supportive of FEWS, having bought-in more than other missions to support the early warning unit. Located in the Prime Minister's office, it pulls together the various national working groups, consistently attended by the same high-level cadres, into a decision-making committee. Jointly funded by USAID, FAO/UNDP and CILSS, and initially conceived by FAO as a top-down system, it has since, with FFR guidance, been converted to a decentralized system, reaching the arrondissement level, with all donors working in tandem.

As a result, Niger appears to produce far better vulnerability data than before.

In addition to cooperation with other donors on the EWU, the mission maintains occasional contact with other donors on food security issues. The FAO and WFP

work closely with FEWS on food needs assessments. These missions first interview the FFR and collect FEWS data.

## **F. SUDAN**

Sudan has a fundamentalist Muslim government and is a country fighting in a long drawn out civil war. Drought has been severe in several years and communications within the country are difficult. Early warning data produced by the government tends to be politicized. Within this context, accurate EW information is difficult to obtain. As a result, food deficiency estimates have not been as accurate as would be desired.

Sudan is ineligible for USAID development support. Thus, the mission is dedicated entirely to humanitarian assistance. The FFR, in these circumstances, has greater status. The information he produces is essential to mission decision-making. He also distributes his reports widely in Khartoum for comments by the other donors and certain government agencies. Crop estimates made by others tend to approximate his.

The NGOs thus become an important source of EW data, with their teams active in the field. The FFR participates in the review of NGO activities and has helped them improve their monitoring work, thus improving EW information.

USAID helps support and the FFR participates directly on the FAO/Government of Sudan food needs assessment missions. Other important donors involved with EW include the WFP, a special UN emergency office and several bilateral agencies, with whom the FFR interacts frequently.

The FFR has provided informal assistance in the form of software and training to the early warning unit in the government relief organization. The unit's capability and the impact of this help has been limited by the turnover in staff and its lack of importance within the government structure. An FAO project also provides limited assistance to the unit.

## **F. COMMENTS ON SENEGAL**

A brief visit was undertaken to USAID/Dakar for the purpose of reviewing their experience using the FEWS project to provide analytical support in the development of the CPSP. Senegal is not officially a FEWS country. The mission decided to undertake work on "Land Carrying Capacity in Senegal for Rain-Fed Agriculture," with the help of the FEWS data base, as a pilot exercise. This was the first time that the project was able to provide this type of support to research and analysis. The project's data archiving, data base development and

manipulation capacities, and the utilization of FEWS tools were also brought to bear. It represented AFR/TR (now ARTS) ad-hoc support to the Mission for the development of its CPSP and subsequent analytical role. USAID/Dakar is now using the data base developed with FEWS support as part of a Mission Management Information System designed to assist in its API reporting functions and mission-level analytic agenda.

USAID/Dakar stressed that although Senegal was a Sahelian country it did not see the relevance of EW work to mission issues and interests. The mission did stress the key role that FEWS played in undertaking a comprehensive analysis of the agricultural sector and its cross cutting relationships with soil, climate, population, employment, migration, and natural resources issues. An important aspect was the support that the project provided in developing, organizing, displaying and providing a data base that can be used around a GIS. Initially this was geared toward the mission's CPSP analyses and was critical to bring the mission together around a common strategy. This was later extended to the donor community and very senior Senegalese policy-makers including the President.

The mission said that the data base and technical assistance provided will be useful in reporting API needs for Washington, monitoring Food AID and Food Security reporting and that other A.I.D. -sponsored research was being added to the data base for further analyses. The ADO added that it was very easy to respond to requests for information and proposals for A.I.D.-funding with data and analyses generated by the data base. This would not have been the case for many previous requests. The mission is interested in participating as a limited member of the FEWS project and has proposed, in response to consultations with Washington AFR/TR that a FSN in the ADO's Office dedicate part-time to FEWS activities. His job description has been revised to allow for this opportunity. He would, however, require training and the Mission may require limited hardware and software support from the project. The Mission Director and staff are very interested in "buying in" to a new type of FEWS Project that could support a variety of Mission analytical needs centered around agriculture, natural resources, environment, food security and perhaps population, health and nutritional issues if required in the future.

The Bureau needs to think more broadly about the kinds of African issues, analyses and requisite data to begin developing a capacity to archive, standardize and organize such data so that it is accessible. The future design of FEWS around famine early warning and mitigation should take a long look at these issues in terms of the new ARTS mandate for research and analysis.

If there is a decision to re-structure FEWS more towards a analyses and research mechanism, a procedure for setting the agenda and undertaking the work between ARTS and the project implementing agencies need to be outlined and refined.