

PD-ABN-522  
92230

ANNUAL PROGRAM PERFORMANCE REPORT

FAMINE MITIGATION ACTIVITY  
Annual Report - Fiscal Year 1996  
1 October 1995 - 30 September 1996

Prepared for: USAID/Office of U.S. Foreign Disaster Assistance  
PASA No. AFR-1526-P-AG-1129

Issued by:  
U.S. Department of Agriculture  
Foreign Agricultural Service  
International Cooperation and Development  
Development Resources Division  
Natural Resources and Environment Branch  
Washington, D.C. 20250

31 October, 1996

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## ACRONYMS USED IN THIS REPORT

AA/DRC	Asst. Administrator/Disaster Response Coordination
AFR	Africa Bureau
AFR/DRC	USAID Africa Bureau's Disaster Response Coordination Office
AFR/WCA	USAID Africa Bureau, West-Central Africa
BHR	Bureau for Humanitarian Response
CGIAR	Consultative Group on International Agricultural Research
CIDA	Canadian International Development Agency
CRS	Catholic Relief Services
DESFIL	Development Strategies for Fragile Lands
DHA	U.N. Department of Humanitarian Affairs
DMA	Defense Mapping Agency
DMC	Disaster Management Center
DOS	Department of State
ECHO	European Community Humanitarian Office
EDRC	Emergency Disaster Response Coordinator
EMA	Emergency Management Agency
ENSO	El Niño/Southern Oscillation
EU	European Union
FAM	Food Aid Management
FAO	U.N. Food and Agriculture Organization
FEMA	Federal Emergency Management Agency
FEWS	Famine Early Warning System project
FFP	Food for Peace
FMA	Famine Mitigation Activity
FOG	Field Operations Guide
FSIS	Food Security Information System
FSRC	Food Security Resource Center
G/ENV	Global Bureau/Environment
G/AFS	Global Bureau/Agriculture and Food Security
GHA	Greater Horn of Africa
GHAI	Greater Horn of Africa Initiative
GIS	Geographic Information System
IARC	International Agriculture Research Centers
ICARDA	International Center for Agricultural Research in the Dry Areas
iFSIS	interim Food Security Information System
IGAD	Inter-governmental Authority on Development
IITA	International Institute of Tropical Agriculture
ILRI	International Livestock Research Institute
IRIN	Integrated Regional Information Network
ISU	Information Support Unit

NAR	National Agriculture Research Centers
NCAR	National Center for Atmospheric Research
NGO	Non-governmental Organizations (host-country)
NOAA	National Oceanic and Atmospheric Administration
NOAA/OGP	NOAA Office of Global Programs
OAU/IBAR	Organization of African Unity/Inter-African Bureau for Animal Resources
OFDA	Office of U.S. Foreign Disaster Assistance
OFDA/DRD	OFDA Disaster Response Division
PASA	Participating Agency Service Agreement
PMP	Prevention, Mitigation, and Preparedness
PMPP	Prevention, Mitigation, Preparedness and Planning Division
PRM	Population and Refugee Movements
PVO	Private Voluntary Organizations (International)
REDSO/ECA	USAID Regional Development Support Office/Eastern Coast Africa
SARRNET	Southern Africa Root Crops Research Network
SCF/UK	Save the Children Fund/United Kingdom
SDMR	Seeds for Disaster Mitigation and Recovery
SOH	Seeds of Hope
UNDP	U.N. Development Program
UNSO	U.N. Sudano-Sahelian Office
USAID/LPA	Legislative and Public Affairs
USAID/OP	Office of Procurement
USDA	U.S. Department of Agriculture
VAM	Vulnerability Assessment and Mapping
WANA	West Asia and Northern Africa
WFP	World Food Program
WVRD	World Vision Relief and Development

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## **I. EXECUTIVE SUMMARY**

The FMA PASA with USDA continued to provide staff and technical assistance in support of OFDA activities to address issues related to agricultural and food availability, famine/drought mitigation, and decreasing vulnerability of at-risk people. FMA conducted a broad range of activities in 1996. FMA led an evaluation of the OFDA-funded WFP Disaster Mitigation Program in Rome, Malawi, Zambia and Ethiopia. DESFIL and FMA compiled a study of SDMR. As a result of the work with DESFIL, consultative meetings are occurring to promote similar seeds studies in other countries. FMA manages, for OFDA, an expansion of the SARRNET drought-resistant crop project from Malawi into Lesotho, Swaziland and Zimbabwe. FMA also worked closely with OFDA to develop the terms of reference for an agricultural assessment of OFDA grant activities in Sierra Leone, the first assessment of its kind for OFDA. FMA developed a variety of maps and spatial information products for OFDA in 1996. For example, in collaboration with DHA ReliefWeb, FMA developed a prototype interactive, internet map interface to a text database for Angola. These are just highlights of some of FMA's activities.

## **II. PROGRAM ELEMENTS AND ACCOMPLISHMENTS**

### **1. FMA PASA**

FMA was established in August 1991 with the objective of mitigating famine in regions or populations vulnerable to food insecurity. Sub-Saharan Africa has been a primary geographic focus. FMA works to reduce the need for emergency famine response by strengthening traditional coping strategies of identified vulnerable populations. Interventions are developed to reduce the impact of famines prior to their onset and reduce the recovery period.

FMA is a project within a program. The OFDA/PMPP Division provides funding and direction for the FMA project through a PASA with the USDA. Additional FMA program activities are funded directly by OFDA/PMPP, although these may be managed by USDA through the PASA. Three FMA staff, a Coordinator, Science Advisor/Geographer, and Resource Specialist, work closely with PMPP in the development and management of the overall program elements. The Coordinator and the Resource Specialist are based at USDA while the Science Advisor/Geographer is assigned directly to PMPP. All operations are based in Washington, D.C.

The PASA supported the OFDA EDRC in Zaire beginning in July 1994. OFDA closed-out its operations in Zaire as of 31 March 96 and FMA assisted in the close-out including transferring the EDRC to her new assignment.

PASA Amendment no. 7, completed in September 1996, provided \$1,000,000 funding from OFDA/PMPP. At the close of FY96, total funding for the FMA PASA was \$5,512,463 with a project completion date of 31 December 1997. Annex A presents detailed information of FMA grants and agreements with collaborating institutions to implement field activities and/or provide long- and short-term technical assistance. Annex B provides a complete list of reports generated by FMA during FY96. Annex C is a current database of technical consultants available to OFDA/FMA with proven experience in famine/disaster mitigation.

## 2. Institutional strengthening of WFP through a grant for the Disaster Mitigation Program

In 1993 OFDA awarded a grant to WFP for a Disaster Mitigation Program. The grant was given to strengthen WFP's emergency management capabilities and improve WFP's emergency response performance through improved targeting of vulnerable groups with programs designed to have long-lasting impacts in addition to meeting immediate food needs. The program includes three OFDA-funded components: VAM, emergency training, and project identification and formulation. The grant is currently in its third and final year, expiring 31 December 1996.

FMA led an OFDA evaluation of all three grant components in June 1996, based on a logical framework jointly developed by OFDA and WFP. The evaluation team visited Rome and WFP country offices in Malawi, Zambia and Ethiopia. The grant was found to have contributed to visible improvements in WFP. VAM and training have had positive results and are leading to improved programming decisions and staff capabilities.

Activities undertaken in the VAM component were found appropriate for the original purpose of "better targeted response in emergency situations". They achieved limited but identifiable targeting improvements. Additional improvements are likely to occur in WFP country programs as VAM techniques are adopted and refined. Two additional foci of the VAM component -- logistics preparedness support and maps for public relations and general communication -- were positively assessed as value-added.

The training workshops in emergency management and emergency operations organized periodically by WFP under the grant have been favorably assessed by the participants. The grant has contributed to improving WFP's staff capability by establishing a pool of trained emergency personnel.

The project identification and formulation component has not yet achieved all the intended results, owing to the fact that organizational changes resulting from the VAM and training components were only just being realized at the time of the evaluation. The evaluation found instances, nevertheless, where VAM maps were being used constructively in project identification. Acceptance of VAM techniques for operational purposes by host governments varied widely between countries.

In summary, the grant substantially contributed to improvements in WFP's emergency management and disaster mitigation capabilities, principally stemming from investments in VAM and training. WFP's approach to food aid has changed over the last three years and the grant was evaluated as having played an important role in this process.

3. **Regional mitigation activities integrating relief and development initiatives such as the GHAI**

a. Improved coordination of emergency seed distribution for the GHA

DESFIL and FMA completed a review of emergency seed issues for the GHA, including:

- 1) distribution networks
- 2) international efforts to multiply and distribute seeds, and
- 3) countries' staple and income-earning crops, availability of seed varieties, security concerns, and capacity.

The study was initiated because USAID grants millions of dollars to PVO relief and development organizations for procurement and distribution of seeds to farmers. Farmers who have lost harvests because of complex disasters need seeds to return to self-reliance. Seeds provided by international organizations, however, are not always the optimum crop varieties for the farmers' needs, nor the best quality, nor are they always provided at the proper time during the agricultural season. OFDA/PMPP realized that improvements in the efficiency and effectiveness of seed-provision could result in faster recovery and, consequently, reduced necessity for continued food aid. The study "Seeds for Disaster Mitigation and Recovery in the Greater Horn of Africa", published in June 1996, revealed significant room for improvement in the use of seeds with subsequent benefits for disaster victims as well as reductions in total disaster assistance costs. Follow-up activities are being planned to carry-out the report's recommendations for donors, agricultural research organizations, and PVOs. The complete report was widely distributed and is on file.

FMA also supported ICARDA to undertake a complementary study to document the current status of seed availability and suppliers, policies and regulations, and PVO/NGOs working in seed and agriculture activities by country for Afghanistan, Sudan, Pakistan, Yemen, Ethiopia and Eritrea. Discussions were opened with ICARDA and DESFIL to consider possibilities for initiating a similar activity in southern Africa. Attachment A is ICARDA's progress report.

The DESFIL team, which included a USDA agriculture economist provided through FMA, and ICARDA together provided input into the SOH II project. SOH II seeks to reestablish food security through rapid replenishment of adapted varieties of major food crops in the GHA. DESFIL and ICARDA assisted at consultative meetings to develop the SOH II objectives and workplan.

b. Livestock management and mitigation strategies

OAU/IBAR, with technical support from Tufts University School of Veterinary Medicine supported by FMA, continued its efforts to eradicate rinderpest in the GHA. The rinderpest campaign has moved from vaccine production and delivery to a community-based animal health care program. This is a significant step towards eradication of this devastating disease because the remaining pockets where rinderpest is still a threat are isolated and difficult to reach through professional veterinary services. Community-based livestock health delivery under the OAU/IBAR and Tufts project combines the elements of food security, conflict mitigation and private sector community development

for pastoral areas in the GHA. Because the project meets many of the criteria of the GHAI -- participatory in nature, African-driven, private sector development and a coordinated approach -- FMA assisted Tufts and OAU/IBAR in submitting a proposal to GHAI. The proposal was reviewed by the GHAI but rejected for funding at the present time. Attachment B is Tuft's progress report.

In a related activity PMPP, in coordination with G/AFS, supported the Institute for Development Anthropology to conduct research and analysis of how livestock management strategies can promote disaster/famine mitigation in the GHAI. These studies looked at the decision-making processes of herders, grazing strategies, food purchases and livestock marketing. Options for migration, culling, supplemental feed, and marketing during crises were examined. The role that cross-border trade has in local marketing strategies was also addressed. Other aspects of the research include the role of government policies and programs in livestock management during crises, critical linkages of crisis-management strategies to sustainable development and the importance of recent changes due to civil conflict. The complete report is on file.

c. Markets, food movement, cross-border trade

Food aid, both emergency and development, is the largest single component of resource flows into GHA. In fact, overall emergency relief expenditures have exceeded developmental resource flows over the last five years. Even in complex emergency situations, however, there is a potential for producing agricultural surpluses locally and encouraging their distribution through trade and development of markets. PMPP is collaborating with AFR and REDSO/ECA as part of the GHAI to assess markets, food movements and cross-border trade. Data on informal cross-border trade, costs of food-aid transport and major areas of agricultural production will be analyzed to determine priorities regarding low-cost and high-volume transport routes, the potential of local surpluses to meet regional food aid needs and impacts of local procurement incentives. The analyses are being linked to IGAD and/or REDSO regional efforts in early warning and market information. The analysis will also address policy implications for regional food aid deliveries.

d. Crop diversity, drought tolerance

Support to IITA/SARRNET's Multiplication and Distribution of Cassava and Sweet Potato for Drought Recovery in Southern Africa project continued. A joint FMA/SARRNET impact assessment of the Malawi program, completed in December 1995, found that key outcomes of the project include:

- 1) Influenced the change in the Government of Malawi's agricultural policy to support crop diversification encouraging alternatives to high-input, drought-intolerant maize production
- 2) farmers earned 4 - 5 times greater net profit per hectare compared to maize plantings
- 3) reduced length of the hungry period when food is severely limited and expensive in rural areas, and
- 4) improved nutrition of farm families, to highlight a few.

FMA's support to the Malawi program ended in March 1996 as planned. Due to the success of the program, and on the basis of OFDA's assessment of the 1994/95 southern Africa drought which the

FMA co-led, FMA recommended additional OFDA support to expand SARRNET's activities into Lesotho, Swaziland and Zimbabwe. These three countries declared drought disasters in September 1995 requiring an OFDA response. FMA is managing the SARRNET expansion project for OFDA. Attachment C is SARRNET's progress report. These crop diversification efforts are part of a larger FMA southern Africa drought mitigation agenda described below.

e. Climate forecasting and southern Africa drought mitigation

Recent scientific developments that allow southern Africa droughts to be predicted up to one year in advance have led the FMA to initiate a series of activities, in addition to crop diversification efforts just described, designed to mitigate these events. These efforts include active participation in the development of climate forecasting applications in drought mitigation, funding for information-gathering about local coping strategies and collaboration with other international organizations towards a regional mitigation strategy. The FMA's vigorous efforts in this arena were instrumental in having OFDA's departing southern Africa trainer, whose contract expired in 1996, replaced with an OFDA southern Africa representative based in Harare, reporting to PMPP. It is expected that the regional representative will work at least one third time on regional PMP issues.

In September, 1995 FMA provided the Deputy Team Leader for an OFDA-led assessment in response to drought declarations by the US Ambassadors to Zimbabwe, Lesotho and Swaziland. The assessment led to OFDA providing US \$2.9 million in drought assistance in 1996 to those countries, \$517 thousand of which was managed directly by FMA (see "regional activities, crop diversity", section 3.d). USAID/Zambia programmed an additional US \$980 thousand on the basis of the OFDA assessment as well. FMA had the primary responsibility for writing the assessment report. The assessment also included a visit by FMA science advisor to the USAID regional Mission in Botswana to meet with OFDA's southern Africa disaster management trainer and present recent developments in climate forecasting to the Mission, Botswana counterparts and the US Ambassador. The assessment provided FMA with contacts in the region for current drought mitigation work.

Since 1992, OFDA/PMPP and FMA have actively pursued a program in cooperation with NOAA/OGP, NCAR and the World Bank to research and develop climate forecasting applications leading to disaster vulnerability reduction and mitigation. This program has led to several publications linking ENSO to climate variations and disasters in some regions, particularly southern Africa. In August, 1995 FMA participated in a meeting organized by NOAA/OGP to plan a workshop on reducing climate-related vulnerability in southern Africa. FMA agreed to develop a demonstration project showing how drought forecasting could be applied to disaster preparedness and mitigation in the region. FMA also identified approximately 15 candidate participants for the workshop, selected because of their professional disaster management responsibilities in southern Africa. The workshop was held on October 1-4, 1996 and will be reported on in the FY97 FMA annual report. A trip report and the FMA demonstration project paper are on file.

On November 6, 1995 USAID Administrator J. Brian Atwood gave a speech at the NOAA International Forum on Forecasting El Niño in support of NOAA's initiative to launch an International

Research Institute for climate prediction. FMA provided the text for the bulk of the Administrator's remarks. FMA also briefed Mr. Atwood on OFDA's involvement in the NOAA initiative since its inception.

To obtain information on southern Africa local-level coping strategies, SCF/UK, with FMA support began conducting participatory rural appraisals in Malawi, Zambia and Zimbabwe. The PRAs will determine effects of and responses to the 1991/92 drought from the perspective of households and communities, information not yet collected. New information on household/community coping strategies specific to the southern Africa drought will be available for use by donors, host country governments and PVO/NGOs. Improved understanding of local people's strategies will assist in the elaboration of more effective national and regional level response initiatives. Longer-term drought relief and rehabilitation programs will better complement villagers' own responses to drought. Attachment D is SCF/UK's progress report.

To strengthen drought strategies at national levels and coping strategies at local levels FMA and UNSO have tentatively agreed to collaborate in order to enhance community level response to drought in Zimbabwe. This country was chosen in order to build on the SCF/UK PRA findings and to take advantage of the field presence of a UNDP drought advisor and OFDA's southern Africa representative stationed in Harare. After several discussions, by the close of the fiscal year, it was decided to begin with an assessment inventory to review and document existing information, key actors, country progress in drought mitigation, the constraints encountered, etc. Inventories will be conducted in selected countries in southern Africa.

Finally, near the end of FY96 the OFDA Director visited Namibia and gave a grant to that country to develop long-term drought management strategies. FMA assumed technical management of that grant and provided the names of consultants to USAID/Namibia.

f. Sahel drought

At the close the fiscal year, an assessment of the Sahel was also being considered due to poor rains during the most recent growing season. FMA assisted OFDA in monitoring the season to avoid a food crisis. As is the case in southern Africa, the Sahel assessment information will be key to developing potential PMPP interventions for the region over the longer-term which are being discussed with FFP, AFR/DRC and AFR/WCA. In FY97 FMA may become involved in the salvaging of the USAID/Niger Disaster Mitigation Program which faces extinction because of the USG decision in 1996 to cease aid to that country.

g. Southeast Asia climate forecasting and disaster mitigation

From October 23-27, 1995, representatives from USAID/OFDA including the FMA Science Advisor met with scientists and environmental managers at an NCAR-sponsored workshop in Ho Chi Minh City, Vietnam. The workshop dealt with ENSO forecasting of extreme climate events in Asia and the Pacific. FMA presented on the link between ENSO and drought disasters in south Asia and the Pacific. Preliminary results from the workshop suggest that ENSO may also be linked to floods and storms that affect millions of people in southeast Asia. USAID/OFDA's Senior Regional Advisor proposed a study to confirm the link between ENSO and these extreme events. Depending on the results USAID/OFDA plans to conduct a series of meetings with disaster and environmental managers in the region to design flood and storm mitigation and preparedness responses that can be implemented prior to seasons when heavy flooding is expected, as well as to respond more effectively to drought to reduce the number of drought disaster declarations during ENSO warm events.

In support of this effort the FMA Science Advisor and Resource Specialist have conducted an analysis of OFDA's disaster history database showing a complex relationship between ENSO events and disasters in the region. The analysis arose out of a presentation given by FMA Science Advisor to OFDA at the request of the OFDA Director on ENSO's role in disasters. The results show that India, Indonesia and Vietnam all had frequent floods from 1970-1996 and had nearly twice as many in ENSO warm events as they did in cold events (Bangladesh flood disaster frequency was unaffected by ENSO). Most of the other countries had few flood disasters, with a tendency to have one or two more during warm events than during cold. So, flood disasters actually appear to be more frequent during warm events in some countries, particularly India, Indonesia and Vietnam. Region-wide there were three times as many drought disasters during warm events as there were during colds events, confirming that warm events appear related to drought disasters in the region. The question remains as to how ENSO warm events can be related to both droughts and floods in the same region. It may be the floods occur when sea surface temperatures are falling while the droughts happen when they are rising, or vice versa. The next phase of this study will look into the timing of the disasters to see if there is a temporal shift between floods and droughts during the course of the warm events. Maps of the warm-event drought and flood disasters may show a consistent spatial pattern as well. ENSO does not appear to have much effect in typhoon and storm disasters.

In a related effort to definitively establish the link between ENSO and hydro-meteorological extremes in southeast Asia, FMA amended OFDA's grant to NCAR for activities linking ENSO and disaster to include a study, currently on-going, on ENSO impacts in the Mekong River Basin. The results of this study plus those of the FMA's will contribute to OFDA's efforts at disaster reduction in the region and link to similar efforts by NOAA/OGP.

#### 4. Mitigation in countries in transition

##### a. Northern Uganda/Southern Sudan

Through FMA, an experienced relief and development expert began work in June, 1995 with the GHAI's Food Security working group to assess food production in Northern Uganda. The assessment addressed problems of relief and development for refugees, displaced persons, and local populations caught in the movement back and forth between Southern Sudan and Northern Uganda. In this socially fragile area, cross-border trade, excess local production, relief food, and political stability are paramount issues. The problem of outside relief food potentially destroying local capacity is particularly important. The assessment worked closely with stakeholders to ensure their participation, including senior officials of the Ugandan President's office and both REDSO and USAID/Uganda.

The assessment, completed in January 1996, formed the basis for a proposal submitted to the GHAI which succeeded in securing limited funding. The new project goes further than any to date to link relief and development, providing a clear strategy for moving away from reliance on relief assistance. It shows how OFDA, FFP, and PRM assistance could be more effectively linked with developmental assistance. Because of interest that the assessment and subsequent project generated, FMA is supporting further technical assistance to the GHAI during FY97 to develop and analyze new initiatives in the region related to such issues as food security safety nets, cross-border linkages, and case studies of household coping strategies (described in section 3.c).

##### b. Angola

OFDA's Angola program provides an example where FMA and famine mitigation efforts within OFDA/PMPP were integrated into an overall USAID attempt to move from emergency relief to a developmental focus in a country in transition from war to peace. FMA participates on OFDA's Regional Team for Southern and West Africa, for which Angola is a major emphasis. FMA attended proposal reviews and provided mapping support for the Regional Team throughout FY96. These inputs in turn were fed into a multi-agency Angola working group formed to manage the transition from relief to development. OFDA/PMPP provided an important input to this group in the form of an agricultural strategy linking revitalization of the rural agricultural economy to USAID's resettlement and economic revitalization strategic objectives. The strategy seeks to reestablish the agricultural economy to restore livelihoods and generate food to diminish the need for emergency food relief. AFR in the process of reviewing the strategy to determine how it fits into their evolving portfolio.

##### c. Sierra Leone

In April, the FMA Coordinator on behalf of OFDA/PMPP began working closely with OFDA/DRD's country teams for Liberia and Sierra Leone. The situation in Liberia has remained very sensitive since the civil war exploded again in April and response has been based on a "minimum input, maximum output" approach. Meanwhile the peace process in Sierra Leone gave cause for optimism,

and with improved humanitarian access following elections. OFDA is encouraging PVOs and the UN to develop resettlement plans and integrated assistance programs that strengthen and support transition objectives, moving populations from direct emergency relief to rehabilitation and self-reliance. Given that USAID and the EU are primary donors for emergency and rehabilitative agricultural activities in Sierra Leone, both offices agreed to undertake an assessment that includes recommendations for future activities. The objectives of the OFDA assessment team are to:

- 1) work with the EU at the field level to analyze the impact and appropriateness of their current agriculture activities, and
- 2) make recommendations for an agriculture recovery strategy in Sierra Leone, emphasizing subsistence agricultural practices in order to phase out relief assistance.

The FMA Coordinator and an FMA consultant agriculturist will participate on the assessment scheduled for late October-early November 1996.

#### 5. **Linking research and relief/mitigation efforts through the IARCs**

IARCs are key stakeholders in efforts to improve coordination of emergency seed distribution for the GHA, drought-tolerant crop diversification, and community-based animal health care. The success of the PMPP-initiated SOH I project in Rwanda is serving as model for the CGIAR in developing programs in other settings, such as Angola. Regarding animal disease research in the GHA, PMPP/FMA has supported OAU/IBAR efforts to improve coordination with ILRI and other stakeholders on such issues as regional trade policies, animal health and disease control, and research agendas. The objective is to reinforce and maintain liaison with animal health producers through communities, community-based animal health workers, PVO/NGOs, and government livestock services.

#### 6. **Grain storage demonstrations to decrease food aid losses**

Congress has required OFDA to fund demonstrations of methods to decrease food aid grain losses in ports by improving weatherproof storage. Accordingly, OFDA/PMPP gave grants to the American-based PVOs CARE, CRS and WVRD for pilot projects and/or case studies to be carried out in countries that are significant food aid recipients and experience significant losses.

Demonstrations will include:

- 1) Rapid deployment of grain storage facilities
- 2) new methods of commodity packaging, transport and handling
- 3) tests of the effectiveness of storage cocoons, silos and tunnels, and
- 4) use of commodity containers to improve post-harvest storage for targeted grantee farmers.

Successful cost-effective food loss-reduction findings will be disseminated in coordination with FAM through literature and training industry-wide to help improve the food and livelihood security of at-risk populations. The project specifics were being developed at the close of the fiscal year.

## 7. Food Security/Disaster Information

### a. FSRC

A merger of FMA's Resource Library with the PVO-consortium FAM Clearinghouse established the FSRC in October 1995. To ensure responsiveness to client needs FMA supports a full-time Information Specialist who also establishes networks with other information centers that share similar objectives. This association strengthens FMA partnerships with the PVO community and with FFP, which funds FAM. Attachment E is the FSRC progress report.

### b. Haiti

As the final action of its on-going support to USAID/Haiti for development and implementation of a FSIS, FMA produced a SOW for an analysis of the data collected to date by the interim phase of the system. The SOW is on file. Following completion of the SOW in June, 1996 USAID/Haiti contracted a consultant to conduct the work and analyze several databases collected by the iFSIS to specify their implications for food and livelihood security programming in Haiti. The consultant will standardize the results of several systematically collected agricultural and household baseline surveys conducted by the iFSIS so that the data can be compared and mapped. Factors contributing to food insecurity and options for alleviating them will be identified. The analysis will conclude with a workshop in December, 1996 to familiarize the Mission and cooperating sponsors with the results and to explore additional questions interactively using statistical techniques and a Geographic Information System. By that time USAID/Haiti will have made an award to implement the FSIS, the follow-on system to the iFSIS. The analysis and workshop will assist the FSIS contractor in focusing its data collection and analysis efforts based on the results obtained under the iFSIS.

Preliminary results from the analysis, which probably would not have been done without FMA's proactive, indeed aggressive, action, suggest that the iFSIS data are, in fact, very relevant to Haiti food security programming. Nutrition rates, for example, have been found to correlate with market prices of key commodities with a lag of several months. This finding will make it possible to take early action against malnutrition on the basis of market-price monitoring. It is safe to say, without exaggeration, that FMA's role in developing the SOW and recruiting the consultant probably prevented this project from becoming another million-dollar-plus white elephant, collecting reams of data that would never have been analyzed, much less used to improve Haitian food security. Not only will the analysis provide immediately-useful information, it will also get the FSIS contractor off on the right foot.

### c. OFDA PMP video

In 1994 the then-OFDA/PMPP Assistant Director conceived of a video that would document the high socio-economic costs of natural and manmade disasters and illustrate measures to prevent, mitigate and prepare for them. The video is intended for an audience of disaster professionals but will

be of broadcast quality for the general public. During 1996 this dream has moved several steps closer to reality. FMA has assumed the lead on this effort, developing the concept, compiling stock disaster footage, issuing funding documents, liaising with USAID/LPA (who is providing technical leadership), coordinating multiple donors, working with USAID/OP to release an RFP and reviewing offers. A contract to produce the video will be awarded during the first quarter of FY97. The video is co-funded by FEMA, ECHO, the Australian EMA and CIDA.

d. Other

Other examples of activities in this area include:

- 1) Data collection and analysis on livelihoods and coping strategies of at-risk populations to assist with OFDA contingency planning.
- 2) FMA and OFDA supported publication and distribution of the National Research Council book *Lost Crops of Africa: Grains to African*, USAID and other colleagues. The book documents indigenous grains and describes steps for increasing their use. Many of the crops have immense untapped potential, especially with regard to drought tolerance.

8. Spatial Information

a. Maps and mapping

During FY96 FMA developed a three part plan for meeting OFDA's burgeoning spatial information needs. The plan's three elements were:

- 1) clarification of the process of obtaining maps and map products at OFDA
- 2) mechanisms for obtaining such products, and
- 3) procedures for specifying and obtaining custom-made maps for disaster response applications.

To clarify the process of obtaining maps and map products, FMA held several meetings with the OFDA/ISU in which it was determined that the ISU would meet routine requests, while FMA would handle specialized requests involving other government agencies or custom cartography. These procedures were codified in the OFDA Operations Manual and in a special section of the OFDA FOG drafted by FMA. The section of the FOG also covers the process of collecting and mapping data in the field. FMA also worked with OFDA's Training Specialist to identify a three-part training course on map acquisition and use that will be developed and implemented in FY97.

To better meet map requests not able to be satisfied by the ISU, FMA established an unpriced purchase order with DMA. Approximately 50 maps were obtained from DMA through the unpriced purchase order in FY96.

To meet demands for cartographic characterization of OFDA country programs and other operationally-relevant information FMA took the short-term step of establishing an informal

arrangement with another government agency through which maps could be generated according to OFDA's specifications. A dozen maps were produced under this arrangement, of Angola, Burundi and Sierra Leone. FMA is currently in the process of recruiting a Cartographic Information Specialist to perform this function for OFDA in-house in the future. Equipment, software and data for the Specialist were identified by the FMA during FY96 and procured by OFDA.

b. Information systems and networks

In FY96 OFDA continued its support of the DHA ReliefWeb project. ReliefWeb is an internet-based project that grew out of OFDA and US DOS efforts to make crisis-response information widely available throughout the humanitarian assistance community. OFDA provided funding for a half-time staff member to DHA to manage information for ReliefWeb, managed by FMA. FMA also provided information products to ReliefWeb such as a map interface linked to text information about humanitarian assistance activities in Angola. This innovative project, developed cooperatively with DHA, involved development of custom-designed software and text extraction techniques by FMA. It was implemented by the Science Advisor and Resource Specialist.

In a related DHA effort, FMA assumed management of the OFDA/DRD-funded IRIN that compiles situational information from the Africa Great Lakes region. IRIN and ReliefWeb are complementary, with IRIN reports distributed through ReliefWeb's web site.

Finally, in 1996, FMA closed out the WFP AFRNET project, jointly funded by OFDA and AFR/DRC. This project supplied internet and HF radio links to WFP country offices in the GHA, replacing an ad hoc system of telephone and fax links. Among other things, AFRNET will be used for transmitting WFP food pipeline reports. Initial reports indicate that telecomm charges have been significantly cut as a result of the new system. The final report has been received by USAID/FODAG in Rome and is in the process of being mailed to FMA.

c. Education and training

Several times during 1996 FMA was called upon to provide training or educational materials. FMA developed and conducted training sessions for OFDA's two principal training courses: PMP concepts and functions at OFDA's DART training and Assessment of vulnerabilities and capacities at the Assessment training course. FMA also developed a chapter on spatial information management that was incorporated into the University of Wisconsin Disaster Management Center's (DMC) emergency settlement manual. The FMA Science Advisor served as a resource person on information issues and GIS at the DMC's April Emergency Settlement workshop.

### III. DRAFT FY97 WORKPLAN

FMA will support implementation of the PMPP Strategy for Humanitarian Emergencies approved by OFDA in early September, 1996. The majority of planned activities follow on to efforts underway in FY96, which primarily seek to promote adoption of mitigation measures by countries at risk of natural and man-made disasters, OFDA's S.O.-1. The workplan is flexible to ensure responsiveness as needs arise from the field, OFDA and other collaborating partners, and to allow the workplan to develop as PMPP proceeds in carrying out its strategy in such areas as maintaining informational databases and formulation of country response strategies for OFDA. It also seeks to take advantage of opportunities to continue to test new approaches to strengthen relief and development linkages. FMA will work closely with OFDA in the coming months to develop appropriate impact indicators in accordance with OFDA's own monitoring and evaluation efforts. FMA will also continue to provide quarterly narrative progress reports.

#### 1. Regional activities to support mitigation activities integrated with the GHAI, Southern Africa and the Sahel.

##### a. Seed quality/availability for relief and development

Disseminate DESFIL and ICARDA study findings with the objectives of involving the private sector more and training PVO/NGOs through workshops. Continue discussions within USAID to ensure recommendations are incorporated into new planning and programs. Explore replication of similar studies in the Sahel. Expand CGIAR involvement.

##### b. Livestock management and mitigation strategies

Continue efforts to improve coordination and linkages among stakeholders in the GHA. Follow study on dynamics of conflict mitigation underway in Uganda through Tufts agreement. Explore possible needs in herd restocking, pastoral networks in GHA and other regions.

##### c. Markets, food movement, cross-border trade

Continue to support studies in cross-border linkages issues and cross-border flows that relate to response activities including formal and informal markets/trade (flow of goods and people) and implications for relief activities (food aid, seeds and tools, water/sanitation) in GHA and Sahel.

##### d. Crop diversity, drought tolerance

Link seasonal climate forecasting capabilities with improved coping strategies and alternative management strategies of small-scale farmers in southern Africa. Designate collaborative partners and develop specific workplan. Build crop diversification efforts into national contingency strategies through a coordinated program with UNSO. Explore possible utilization of Lost Crops of Africa.

Grains. Expansion of CGIAR involvement will be further developed.

e. Additional southern Africa drought mitigation in addition to promoting crop diversity

Develop a regional PMP strategy with OFDA southern Africa Representative in Harare with inputs from SCF/UK PRA and other sources. Draft a white paper with the World Bank and NOAA to improve USG drought policy in the region. Continue efforts to support NOAA/OGP's International Research Institute and southern Africa regional applications network.

2. **Mitigation in countries in transition**

Continue to develop and manage activities which help integrate relief and development and provide the basis for transition out of relief dependency. Assist in follow-up to Sierra Leone assessment recommendations. Assist BHR and AFR in developing an Angola agricultural-economic strategy.

3. **Food Security Information Dissemination**

Further develop the FSRC with FAM to ensure sustainability through PVOs. Continue information exchange with other collaborators. Produce and distribute the PMP video.

4. **Grain storage**

Manage three grants throughout the study process and participate in dissemination of results. Explore additional activities in household storage to reduce post-harvest losses.

5. **Spatial information Support**

Recruit, train and supervise Cartographic Information Specialist. Train OFDA staff in map reading, acquisition, use and development. Coordinate special spatial information projects as needed by OFDA. Develop methods and applications in disaster early warning and VAM.

6. **Southeast Asia extreme hydro-meteorological event mitigation**

Support NOAA/OGP efforts to establish Asian regional climate forecasting applications network. Obtain and disseminate findings of NCAR and FMA climate impacts studies.

## ANNEX A. Sub-Agreements with Collaborating Institutions/Agencies

### A. Tufts University, Animal Vaccine Production, Agreement No. 58-3148-5-061.

Original grant authorization: 6/1/95-3/31/96 for \$49,230.  
Amendments this period: 6/26/96, Increased funds by \$120,000  
Current PACD: 3/31/97  
Total grant funding: \$141,600.  
Expenditures to date: \$ 42,249.  
Balance: \$ 99,351.

### B. International Institute for Tropical Agriculture (IITA), Drought Resistant Cassava and Sweet Potato Production, Agreement No. 59-319R-2-031.

Original grant authorization: 9/30/92 - 9/30/94 for \$201,780.  
Amendments this period: 2/7/96, No-cost extension  
Current PACD: 3/31/96  
Total grant funding: \$494,424.  
Expenditures to date: \$494,424.  
Balance: \$ -0-

### C. University of Wisconsin-Madison, Technical Assistance - Prevention, Mitigation, and Preparedness Program, Agreement No. 58-319R-4-047.

Original grant authorization: 9/19/94 - 9/30/95 for \$23,848.  
Amendments this period: 2/7/96, Increased funds by \$2,200.  
Current PACD: 9/30/96  
Total grant funding: \$251,602.  
Expenditures to date: \$196,140.  
Balance: \$ 55,462.

D. International Center for Agricultural Research in the Dry Areas, Strengthening Seed Availability for Disaster Vulnerable Areas in West Asia and North Africa, Agreement No. 59-3148-5-017.

Original grant authorization:	9/1/95-9/30/96 for \$50,000.
Amendments this Period:	8/7/96, No cost extension
Current PACD:	9/30/96
Total grant funding:	\$ 50,000.
Expenditures to date:	\$ 19,100.
Balance:	\$ 30,900.

E. Save the Children Fund/UK, Participatory Rapid Appraisal Study of the 1992 Drought in Malawi and in Zambia, Agreement No. 59-3148-6-002.

Original grant authorization:	11/1/95-12/31/96 for \$20,000.
Amendments this Period:	4/10/96, Increased funds by \$14,000.
Current PACD:	12/31/ 96
Total grant funding:	\$34,000.
Expenditures to date:	\$ -0-
Balance:	\$34,000.

F. Other USDA Agencies:

1) ERS: Agricultural Economist, 100 workdays, 10/1/95 - 9/30/96, funded \$42,038.

G. Misc. Other Services:

1) Gordon Wagner, Northern Uganda, 10/1/95-10/31/95, funded \$4,500, 6/17-7/20/96, funded \$4,500.

2) CIRA: Technical Information Specialist for Food Security Resource Center, 10/1/95-9/30/96, funded \$45,157.

3) Steve Romanoff, Haiti Food Security Interim System, 10 workdays, 5/24-6/25/96, funded \$3,760.

## Annex B. FMA Reports Completed during 1996

### Specific Working Documents Generated by the Famine Mitigation Activity

1. Dilley, M., Dommen, A. and M. Mericle. 1996. *Evaluation of USAID/BHR's Grant to the World Food Program for Disaster Mitigation.*

In 1993 OFDA awarded a grant to WFP for a Disaster Mitigation Program. The program includes three OFDA-funded components: VAM, emergency training, and project identification and formulation. This report evaluates WFP's performance over the three years since the grant award on the basis of criteria provided in a log frame jointly developed by WFP and OFDA specifying the grant's expected results. The evaluation comprised an interim review of the present status of the grant with the aim of identifying both progress and constraints on the way to reaching intended results, and a strategically-informed evaluation of the effectiveness of the three WFP program components supported under the grant.

2. Osborn, T., Dommen, A., Ross-Sheriff, B. and K. Kaplan. 1996. *Seeds for Disaster Mitigation and Recovery in the Greater Horn of Africa.*

This report was initiated because OFDA/PMPP recognized that millions of dollars are granted by USAID to NGO's for procurement and distribution of seeds to farmers who, because 1) of complex disaster, have lost their usual harvests and desperately need seeds to recover self sufficiency, and 2) the seeds provided are not always the optimum crop varieties for the farmer's needs, or the best quality, or provided at the best time with regard to the farming seasons. OFDA/PMPP realized that improvements in the efficiency and effectiveness of seeds for disaster mitigation and recovery could result in faster recovery and subsequent reduced necessity for continued food aid. The study bore out OFDA/PMPP's expectation. Significant scope does exist for improvement in the use of seeds, with subsequent benefits for disaster victims as well as reductions in total disaster assistance costs.

3. Wagner, G. 1996. *Northern Uganda Food Security Project (NUFSP).*

The Northern Uganda Food Security Project (NUFSP) is based on the concept that humanitarian aid to refugee populations should encourage self-sufficiency while simultaneously addressing the short and long-term development requirements of the host country populations. This proposal is the result of an initiative by both USAID/W and

USAID Uganda and the Government of Uganda, with support from the Minister of State for Northern Affairs, the Ugandan Veterans Assistance Board and U.S. Department of Agriculture's Famine Mitigation Activity.

**ANNEX C.**

**1996 Technical Advisors Roster**

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## **Progress Report on Seed Security Assessment In Drought Vulnerable Areas in Wana Region**

The completion of the study got dragged due to slow response from some countries to participate in the envisaged seed security assessment study. However, to date the national coordinators for the study have been identified. The last coordinator who responded positively was Dr Ali Noaman after repeated contact with Dr Hassan Mohammed Amer DG National Seed Multiplication Center failed to identify a person for the seed security study in Yemen.

The first draft report is completed for all countries except Sudan and Eritrea where the final report is ready.

### **Eritrea (July 17 to July 20, 1996)**

During my stay I visited the Division of Agricultural Research and Extension Services under MOA and the Ministry of Agriculture Office in Asmara to be able to get information on their agricultural development effort. The draft report was discussed with Mr Tekle-ab Mesghena to be incorporated into the final report.

### ***Role of Agriculture***

Over 80 percent of the population depend on agriculture for their livelihood and the major contribution to the GDP, 50-70 percent used to come from Agriculture prior to the escalation of war in 1970s. After 1970 due to the war in Eritrea agricultural production fell down to an all time low level. Agriculture production rose by 10 percent in 1991/1992 following its independence from Ethiopia.

The major agro-ecological zones for Eritrea fall into six categories with annual rainfall between 400-700, 700-1000 mm and less than 300 mm. Precipitation is highly variable in amount and distribution across the country and overtime.

The main crops include:

Cereals - Sorghum, millet (pearl & finger), barley, wheat, maize.  
Pulses - Chickpea, lentil, field pea, faba bean.  
Oil seeds - Sesame, groundnut.  
Fiber crop - Cotton.  
Vegetable - Potato, tomato, pepper, onion.

Crop production, basically is rainfed with very few small irrigation schemes. Yields have been very low as shown below.

### ***Agricultural Research***

The division of agricultural research and extension services, MOA started its activities in 1992. Currently the Division has

developed research policies and strategies compatible with the overall agricultural development objectives of the country. Varietal development is now based upon introduction of germplasm and testing them in different climatical zones. Introductions are mostly from Ethiopia ICARDA and ICRISAT. Several landraces indigenous to the country are also being tested and utilized.

### *Seed Production*

At present there is no commercial importation or production of seeds except vegetable seeds being imported from international seed companies. In the absence of any seed producing organization, MoA has stepped in to produce and supply cereal seeds on adhoc basis. Seed production has been underway since 1993 by MoA the highest produced in 1995 amounting to about 130 tons but large quantities of grain seeds locally purchased were distributed to farmers.

To date there is no systematic seed production, processing and marketing of seeds not seed quality control system in place. However, a national seed development project study by DENOTE has been completed and pending project implementation.

### **Sudan (July 28 - August 9, 1996)**

Agriculture is the mainstay of the economy in Sudan, currently contributing 33.4 percent of the GDP. The total irrigated land is about 4.2 feddan (1 hectare = 2.4 feddan) and rain-fed agriculture is approximately 21-27 million feddan.

### *Climate*

Most of the land in Sudan lies within desert to semi-desert climatical zones with low and erratic rainfall south, south western and southeastern part of the country has monsoon type of climate and a small pocket in the south is within highland climate. Rainfed agriculture is only reliable in the areas with monsoon type and highland climates

### *Main crops*

Sorghum, wheat, maize, millet fababean, chickpea, lentil snap bean, sesame, sunflower groundnut, cotton, vegetables and forage crops.

### *Agriculture Research*

The Agricultural research corporation (ARC) is responsible in the development of crop varieties. The ARC has collaboration with international organizations, namely ICARDA, ICRISAT, CIAT, FAO, CIAT, GTZ, CIMMYT in the exchange of research and development information. Some of the research institutions also provided germplasm for testing.

### *Varietal development*

There are over 10 improved varieties of sorghum while over 20

landraces of sorghum are utilized by farmers. Wheat and other crop varieties are all introductions from other countries.

### ***Seed Production***

The National Seed Administration (NSA) has been the responsible body in the production, distribution and certification of seeds. However, at present more and more private seed producing agencies are participating in the production and marketing of seeds such as the Gezira scheme, Mechanized Farming Corporation Rahad Agricultural Corporation New Halfa Agricultural Corporation.

The NSA currently on its farms produces about 10% of the country's requirements of seeds. The bulk of seeds required for planting are met from farm-saved seeds.

In emergency situation the government of Sudan and NGOs buy grains from the Agricultural Bank and Farmers Bank of Sudan who normally keep grain receive the grain purchased are cleaned treated and tested for germination and distributed to the farmers with the knowledge of the NSA.

While the existence of an established formal seed system is encouraging, the participation of the private sector needs to be encouraged to supply seeds to small-holder farmers.

### ***Regulatory services***

- there are well-established seed release and control system in Sudan.

**Seed release** - the technical committee for variety release (TCVR) is under the Ministry of Agriculture and answerable to the Minister is the responsible committee to review data and performance of variety submitted for release. The practices requirements resistance to diseases zone of adaption breeder's name and morphological description of the varieties etc the new variety is then entered into a register book.

**Seed certification** - the seed certification administration (SCA) under the NSA is responsible for certifying seeds in the country. The seed law has been enacted and enforced in 1990. Seed certification is voluntary and minimum standards are followed.

**Quarantine** - any seed or plant parts entering into the country are subject to plant quarantine at the port of entry by the plant protection department (PPD).

**Seed Export** - any person dealer or agency in seed trade is required to have a license from NSA seed for export should be accompanied with NSA certificate for purity and germination and a phytosanitary certificate from PPD. Seed importation is restricted to only released varieties and with relevant information on quality.

### ***Constraints of food production***

- Economic production areas are limited, found in the irrigated narrow strip along the Nile River bank.
- Rising input costs for agriculture is preventing the small-holder farmers to participate in food production.
- Most of the sorghum producing areas lack access roads.
- Tribal conflicts retarded food production
- Marketing policies are not encouraging for the production of all the major crops.

## **Annual Report**

# **Tufts Thermostable Rinderpest Vaccine Technology Transfer Project (TRVTT) and Participatory Community-based Vaccination Project (PARC-VAC)**

**Submitted to the USDA Foreign Agriculture Service's Famine Mitigation  
Activity**

**Chip Stem, DVM, MRCVS, MA  
Tufts University School of Veterinary Medicine**

**October 1996**

# Project Overview

## Introduction and Project Description:

1. The Tufts Thermostable Rinderpest Vaccine Technology Transfer Project (TRVTT) has now been superseded by the Participatory Community-based Vaccination Project (PARC-VAC). This change in name reflects the evolution of the TRVTT Project from a laboratory-based transfer of technology project to a field-oriented effort that combines *Food Security, Conflict Mitigation, and Private-Sector Community Development for the Pastoral areas of the Greater Horn of Africa*. The PARC-VAC's main technical focus rests with animal health interventions. This is because in the pastoral areas of the horn of Africa livestock play a central role in the livelihood, food security and economy of the East Africans exploiting these areas.
2. In addition, it is precisely these areas that have been repeatedly subject to civil strife, low-grade civil war, and politically induced famine over the past several decades. It is the pastoral inhabitants of Ethiopia, Sudan, Chad, Uganda, Kenya, Rwanda, and Somalia that are at the greatest risk and live closest to life's edge. Livestock is central to these peoples lives and one of the main engines of the rural economy. Activities that promote increased livestock production and security through greater community empowerment and economic independence are therefore fundamental to increasing regional food security, mitigating conflict and supporting coping strategies for these vulnerable populations enabling them to be better prepared for man-made and natural disasters.

## I. Progress This Year

### A. TRVTT: The final months.

1. The TRVTT Project concluded its activities with an extension that that permitted project activities to continue through early 1996 acting as a bridge to the PARC-VAC Project.
2. **Field Mission to Karamoja, Uganda, and the Rwanda-Uganda Border Area and Kigali Rwanda**
  - a) A supervisory field mission to monitor the TRVTT-trained CAHWS of the Karamoja region of Uganda was completed during August and September 1995. A refresher course was conducted for active CAHWS and participating communities identified new CAHWS who were trained and equipped. A locally active and supportive NGO, the Church of Uganda was identified to act as a field-level coordinator and monitor for these activities. Support to the NGO in terms of fuel for field monitoring and supervision trips was provided.
  - b) Contact was made with a second NGO, Christian International Peace Service (CHIPS) to further develop CAHWS as a basis of conflict resolution between the Teso and the Karamojong in the rinderpest endemic region between Moroto and Soroti Districts. As part of this

effort, a proposal was submitted to the USAID Mission in Kampala, it was not funded.

- c) A short reconnaissance mission to Rwanda and the Rwanda border Area of Uganda was conducted to determine the specific risk of rinderpest, Contagious Bovine Pleural Pneumonia (CBPP) and other animal health and management constraints. Emphasis was placed on cross-border movements and trace-backs to Uganda to determine the origin of livestock that had entered Rwanda since the improved security conditions following the recent civil war in Rwanda. It was determined that a significant number of animals had indeed moved into Rwanda from rinderpest infected areas of Sudan and Uganda. However, the more immediate risk was cbpp and in fact, there was a risk of re-introduction of infected animals back into Uganda as the limited available pasture in Rwanda and threats of continuing unrest there were beginning to precipitate animal movements from Rwanda back into Uganda. Further, it was determined that the Ugandan Livestock Service was poorly prepared for this event, lacking contingency plans, a means of surveillance and quarantine and vaccination preparedness.

### 3. Supervisory Mission to southern Sudan

- a) A supervisory mission to southern Sudan was conducted with the USDA's Famine Mitigation Coordinator to southern Sudan where CAHW training was being conducted by OXFAM and community-based rinderpest vaccination teams were using Thermovax. While the TRVTT Project no longer directly supports this program, it did so initially as a pilot project which is now operated by Tufts in collaboration with Unicef under direct OFDA, EC, Australian, CIDA, and Swiss funding. Further, this effort is similar the PARC-VAC plans where the CAHW and community-based vaccinator approach will be used in the nations of the Greater Horn of Africa. As in southern Sudan, these activities will be coordinated and conducted with indigenous and International NGOs who have made a long-term commitment to supporting community empowerment and self sufficiency for the inhabitants of the region.

## B. PARC-VAC Initial activities:

### 1. Rinderpest ELISA test improvement

- a) **Background and justification:** The currently accepted diagnostic test for rinderpest which is cold chain dependent, precludes rinderpest outbreak diagnosis and monitoring of vaccination coverage in the more remote areas of the Greater Horn of Africa where rinderpest is endemic. This test, a competitive Enzyme Linked Immune Sero Assay (cELISA) is highly accurate and reliable at detecting rinderpest antibodies from livestock naturally infected with rinderpest as well as those that have been previously vaccinated against the disease. However, the current protocol requires that collected blood be centrifuged and refrigerated or frozen until laboratory analysis. A modification of the ELISA protocol to accept filter paper on which drops of whole blood have been dried will permit greater CAHW and vaccinator participation in the monitoring of vaccination coverage and outbreak detection. This should greatly facilitate

rinderpest identification and permit a low-cost effective way of monitoring vaccination coverage in the more remote and insecure areas of the region.

- b) **A collaborative effort:** The research was a collaborative effort that linked a Kenyan NARS, the Kenya Agricultural Research Institute (KARI), with the PARC-VAC project and the World Rinderpest Reference Laboratory in Pirbright, U.K (Pirbright). A third-year veterinary student from Tufts University performed the laboratory work during the months of June, July, and August at KARI and Pirbright. The KARI field supervisor for this effort was Dr. Henry Wamwayi. Dr. Wamwayi took played an especially active role in facilitating the development of this test. Dr. John Anderson of Pirbright, supervised the validation of the filter paper-based protocol providing independent verification of the test.

This is an important step towards one of the important goals of PARC-VAC, namely to involve NARS and international research institutions in developing appropriate and practical solutions to pressing constraints and problems facing the pastoral zone of the Greater Horn of Africa. Partial funding for this effort was obtained from the National Institutes of Health (NIH), the Kenya Agricultural Research Institute (KARI) and the World Rinderpest Reference Laboratory in Pirbright, U.K.

- c) **Results:** The cELISA test was successfully adapted to a filter paper-based medium.

The accuracy and precision of the filter paper-based cELISA was excellent, with a sensitivity of 100% and specificity of 98.26% ( $P < .01$ ) when compared to cELISA test results using neat serum. Whole blood dried on filter paper proved to be a stable medium that can withstand direct sunlight and a temperature of at least 34 °C. Samples, once suspended, can be frozen at -20 °C for later testing.

### C. **Conflict Mitigation Activities and NGOs:**

1. **CHIPS:** An informal agreement was made with an intentional NGO, Christian International Peace Service (CHIPS) that operates in the Moroto and Soroti districts of North Eastern Uganda. Part of the CHIPS mandate is to develop effective and sustainable methods of conflict mitigation that can lead to conflict resolution. Convinced of the fact that many conflicts have their roots in economic uncertainty, CHIPS is committed to supporting and expanding local communities abilities to further develop and support livestock raising and health activities in the Karamoja region. The PARC-VAC Project will work closely with CHIPS enabling them to become facilitators of decentralized animal health care delivery as a means of conflict mitigation over the long-term.
2. Other NGOs that PARC-VAC is currently expanding relationships with include the Church of Uganda and OXFAM-UK, both of whom are active and interested in the livestock sector of Karamoja.

#### D. **Personnel:**

1. **Activity to date:** A laboratory researcher was engaged for two and one half months to develop the Filter paper-based rinderpest cELISA test described above. The PARC-VAC Technical Coordinator has supervised the development of the filter paper cELISA test and has conducted searches for the field staff discussed below under next quarter activities..

## II. **Next Quarter Activities:**

#### A. **Field Sites:**

1. **Karamoja, Uganda:** A monitoring and supervisory mission will be made to the Karamoja region from late November through mid January, 1997. Activities will include an evaluation of progress since the last mission, a refresher course, and groundwork will be laid for a new CAHW training course to be given during the first or second quarter 1997. Work will be conducted in close collaboration with CHIPS, the Church of Uganda, and OXFAM-UK. Technical support and operational funds will be provided to these organizations in support current and future activities.
2. **Kenya:** Coordination with the Kenya Livestock Service, PARC, and the FAO will be done to begin to standardize the various CAHW programs underway or in planning. Field sites will be identified for future PARC-VAC activities to be begun in 10997.
3. **PARC-VAC Coordination Meetings.** As part of regional coordination, plans will be made to expand either the first or second 1997 quarterly Unicef/Tufts Livestock Program Coordination Meeting to include regional NGOs involved in community animal health delivery. In addition, local NARS and the livestock international agriculture research center (ILRI) will be invited to participate.

#### B. **Rinderpest ELISA test improvement**

1. **Next Steps:** Now that the test has been successfully developed and tested under controlled laboratory conditions, field trials will be conducted that will compare it to the standard cELISA test. These are expected to be completed in 1997. Providing these are successful. Official endorsement will be sought from the international organizations concerned with rinderpest surveillance, control and eradication. These include the Organization International des Epizooties (OIE), the International Atomic Energy Agency of the United Nations (IAEA), the Global Rinderpest Eradication Program (GREP) and the Pan African Rinderpest Campaign (PARC).

Following successful field trials, the test will be introduced into the CAHW vaccination programs in Sudan, Ethiopia, Kenya, Uganda, and Chad. This will permit extensive sero-surveillance that will be of considerable assistance in the final phases of rinderpest eradication. This is scheduled for late 1997.

#### C. **Personnel**

1. **A regional livestock advisor** for PARC-VAC has been identified and is expected to begin part-time activities in mid-November 1996. Full time activities will begin on January 1, 1997. The livestock advisor will serve as the PARC Policy Advisor for Special Action Areas. This collaborative link between the PARC-VAC Project and PARC will enable greater policy-level influence and coordination of rinderpest eradication and animal health care delivery privatization efforts in the nations of the Greater Horn of Africa.
2. **A Participatory Animal Health Care Training Specialist** has been identified and will begin full-time activities in mid November 1996.

ACCELERATED MULTIPLICATION AND DISTRIBUTION OF CASSAVA  
AND SWEETPOTATO PLANTING MATERIALS AS FOOD SECURITY  
MEASURE IN  
LESOTHO, SWAZILAND AND ZIMBABWE

FIRST ANNUAL REPORT SUBMITTED TO OFDA/FMA

SEPTEMBER 1996

## A. CONCISE ACTIVITY UPDATES

### 1. Recruitment of Multiplication Expert

The program provided for the recruitment of a Multiplication Expert to be based in Zimbabwe to coordinate the program for the three countries and to offer the required leadership in the implementation of the program within the framework of SARRNET.

Interviews for the position were held at IITA, Ibadan in mid-July, 1996. The name of the selected candidate has been forwarded to SACCAR, Gaborone and to the Government of Zimbabwe (GOZ) for clearance. Strike action in Zimbabwe during August 1996 has delayed the process.

### 2. Memorandum of understanding - (MoU) with GOZ

It is the requirement of IITA that it has to sign MoU with a host government before placing a Scientist in a particular country. A revised MoU was submitted to GOZ in July. Again the strike action in July delayed the process of approval.

Initial contacts with government officials in Zimbabwe indicate enthusiastic approval of the program; only that it takes time working through the government machinery. We hope that signing of the MoU and clearing the scientist will be done soon from the assurance received.

### 3. Amendment of SARRNET Agreement and Obligation of Funds

Amendment No. 3 to SARRNET Grant No. 690-0268-G 00-3006-00 increasing the amount of Grant by USD 516,780 for the expanded activities in Lesotho, Swaziland and Zimbabwe was signed by USAID on 18 July 1996.

### 4. Start of expanded activities

The countries participating in the expanded activities have started the initial work of setting up country task forces and developing national workplans. This is in readiness for the planning workshop and Steering Committee meeting for the three countries to be held as soon as the Multiplication Expert is on board. Collaborators include Government and non-government organizations and farmers/farmer groups in each country. FMA Coordinator and USAID/Malawi representative attended SARRNET Steering Committee meeting in Gaborone in May followed by a visit to Zimbabwe where expansion activities were discussed (trip reports distributed).

Sweetpotato varieties for rapid multiplication have been identified in the three participating countries. Cassava varieties have been identified for Zimbabwe.

The SARRNET Coordinator and Assistant Coordinator visited Lesotho in late June 1996 (copy of trip report submitted to FMA). SARRNET Assistant Coordinator visited with OFDA Director during her recent trip to Zimbabwe in August.

Steering Committee meeting will be held later in the year, when the Multiplication Expert is on board, to approve consolidated workplans and budget for each country.

## B. ACHIEVEMENTS TOWARDS PROGRAM OBJECTIVES

The following have been achieved in preparation for full implementation of the program to meet its objectives.

i) Creating enabling environment : Several meetings have been held with potential collaborating partners among government officials and institutions, NGOs and farmers/farmer groups to create an enabling environment for smooth take off and implementation of the program in each country.

ii) Each participating country has developed its workplan including formation of a broad-based national task force for the implementation of the program.

### Constraints

The program of accelerated multiplication and distribution of cassava and sweetpotato planting materials as a food security measure for resource poor households is a unique intervention program.

It has a relatively long gestation period but it is cost effective and sustainable. The need for emergency food supply is reduced once the program is fully established. The program is a drought mitigation activity which enables vulnerable groups to produce their own food where other crops would fail. Results/impact not apparent immediately.

The need for transparent recruitment of Multiplication Expert and strike action in host country have delayed the process of having the Multiplication Expert on board. It is hoped that this constraint will be overcome soon.

Satisfactory ground work is being done to ensure smooth take-off

# Save the Children (U.K.)



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## SAVE THE CHILDREN FUND (UK)

### INITIAL FINDINGS FROM THE ZAMBIA AND MALAWI PRA DROUGHT STUDIES

#### A/ Water

##### **1/ Main Findings**

- a) Dry water sources had multiple effects during the 1992 drought: reduced vegetable production, reduced earnings from income sources which depended on water (eg vegetable sales, beer brewing, brick-making), increased livestock mortality
- b) Less visible costs of the drought included greatly increased time spent on water collection, with concomitant opportunity costs, especially for women.
- c) During discussions with villagers on lessons learned from the 1992 drought and kinds of future assistance needed, almost no mention was made of water harvesting or water conservation.

##### **2/ Policy and practice suggestions:**

- a) The likelihood of future droughts, coupled with increasing human and (in many areas) livestock populations, mean that improved access to safe water for rural people should be the top priority for governments, donors and NGOs in southern Africa. Additional benefits would be improvements in rural incomes, and possible reductions in the rate of increase of rural-urban migration.
- b) Perhaps the greatest improvement in rural water supplies could be obtained per dollar spent by improving water harvesting and conservation in villages. This may be more cost effective, and less environmentally damaging, than the provision of new water points, though these will also be needed. This implies increased expenditure on education and training in these areas.
- c) Small dams may possibly help mitigate the effects of future droughts; however, their viability needs to be properly assessed, due to problems with siltation and relatively high evaporation rates.

#### B/ Sources of staple food during the drought

##### **1/ Main findings**

- a) Purchases of grain and maize-meal by villagers between early 1992 and early 1993 usually accounted for a much higher percentage of their consumption of staples than relief food distributions. In particular, poor farmers generally seem to spend more on such purchases than rich farmers, and this difference may possibly increase during drought. This is because poor farmers usually have smaller harvests than rich farmers, for one or more of several reasons (smaller land area, lower quality land, fewer purchased inputs, less draft power, less labour, delays to planting due to the need to work to obtain food and/or money to buy inputs); they therefore sacrifice medium term gains (possible improvements to their next harvest) to meet immediate needs. Drought seems to tighten this poverty trap, and may widen the gaps between rich and poor.

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b) There were substantial opportunity costs involved in such increased purchases: due to poor infrastructure villagers spent much longer travelling to buy grain/maize meal, and this sometimes involved higher expenditure on transport, between early 1992 and early 1993. Rural roads are very much worse in both Zambia and Malawi than in Zimbabwe, and consequently there are fewer rural stores, and fewer transporters willing to service rural areas.

c) Food received from relief distributions was often smaller than the official ration, and subject to delays and poor targeting. In some cases the rich received as much relief food as the poor, and occasionally more - perhaps because they were usually in charge of intra-village distributions.

d) Wild foods contributed very little towards food consumption between early 1992 and early 1993, and probably contributed even less in many areas than during normal years: the drought reduced their supply. Wild foods may be important during drought in certain areas (parts of Sudan and Ethiopia, Binga in West Zimbabwe) but in much of southern Africa they make a relatively unimportant contribution to survival during drought.

## 2/ Policy and practice recommendations

a) Since most rural people obtained more food from purchases than from relief food distributions, - despite the fact that 1992 saw the worst drought and the biggest relief food operation in living memory - the financial cost of drought for villagers (in terms of increased expenditure on staples) could be reduced by stabilising and reducing the prices of less desirable grains (sorghum, millet, yellow maize), at least for the designated emergency period; this would have several potential benefits:

- it would involve an element of self-targeting, since wealthier people would tend not to buy such grains;
- it would also benefit rural millers, whose incomes are reduced during drought
- commercial food imports generally reach rural people much more quickly than relief food imports (this was certainly true in Zimbabwe in 1992)
- it could reduce the expenditure of rural people on grain and m/meal during the drought, without reducing the amount purchased
- the cost of the subsidy would be offset to some extent by the reduction in the purchase and distribution costs of relief food
- the increased availability of commercial grain would reduce rural people's purchases of more expensive substitutes

b) Targeting of relief food should be substantially improved. However, experiences across many relief operations suggest that this will be difficult, and therefore arguably less food should be distributed free, and more should be sold at subsidised prices, if the subsidies can be placed on less desirable grains.

c) Food for work (FFW) projects should be initiated in emergencies only if certain criteria are met. FFW is a development tool which has been adapted, largely unsuccessfully, for emergencies. FFW projects usually fail in emergencies because it is rarely possible to coordinate the supplies, equipment and people required in the short time available. Moreover, they may increase the already heavy work burden shouldered by women (which drought worsens in other respects, eg increased time and energy spent on water collection and income-earning). FFW projects should be limited to outputs which

- provide lasting benefits
- require relatively few inputs

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- villagers genuinely want, and are prepared to maintain after the emergency
- are properly planned in advance
- take account of gender and environmental considerations
- can be objectively evaluated

Such conditions can only be met by greatly limiting the number of emergency FFW projects

d) Combinations of methods of improving food supplies to rural people affected by drought should be tried; no one single measure will suffice during particularly serious droughts. Moreover, varying political, institutional and economic factors mean that different combinations may be needed in different countries, or in different regions of one country.

### C/ Cropping pattern

#### **1/ Main findings**

a) Increases in area planted to drought tolerant crops in the 4 planting seasons following the 1929 drought were less than might have been expected in many areas. The main reasons for this appear to be

- the continuing influence of the "maize culture" which has dominated much of southern Africa for the last 30 years
- the relative unavailability of improved varieties of sorghum and millet, and of cassava plant material
- small farmers' unfamiliarity, in many areas, with improved varieties of sorghum and millet, and cassava

as well as preferences for certain features of maize (eg taste, resistance to bird damage...)

#### **2/ Policy and practice recommendations**

- a) Agricultural extension services should place much more emphasis on drought tolerant crops
- b) Supplies of improved sorghum and millet seed should be greatly increased; various ways of achieving this should be investigated, including providing subsidies to commercial seed companies,
- c) Attempts should be made to stimulate demand for drought tolerant crops; various ways of achieving this should be investigated, including the provision of credit to small farmers only for drought tolerant crops.

### D/ Livestock

#### **1/ Main findings**

a) There were massive reductions in livestock numbers during 1992 in certain areas, especially in Zambia's Southern Province. Reductions occurred for one or more of several reasons: deaths due to shortages of water and graze; deaths due to disease (there were outbreaks of corridor disease among cattle and Newcastle's disease among poultry in 1992 in some areas); sales to earn cash to buy food; distress sales (to earn at least some cash before the animals died).

b) Substantial numbers of villagers had not recovered their losses after 3 years.

c) there was also substantial deterioration in the livestock-grain/maize-meal terms of trade; just when villagers had to spend more cash on grain and maize-meal, the income they were able to earn from livestock sales dropped significantly.

**FAM Food Security Resource Center  
Annual Report  
for Fiscal Year 1996**

*prepared by Doreen L. Robinson, Technical Information Specialist*

*The Food Security Resource Center is a joint activity of Food Aid Management and the Famine Mitigation Activity.*

*Food Aid Management is a consortium of 13 private voluntary organizations funded by USAID's Office of Food for Peace.*

*The Famine Mitigation Activity is a joint activity funded by USAID's Office of Foreign Disaster Assistance and coordinated by the United States Department of Agriculture's Foreign Agricultural Service.*

## Overview

In October 1995 the Food Security Resource Center (FSRC) was created through the merger of the resource collections of the Famine Mitigation Activity (FMA) and Food Aid Management (FAM). The merger was effected through a one-year memorandum of understanding. Food Aid Management, funded through an Institutional Support Grant from USAID's Office of Food for Peace, contributes accommodation and office support, while the Famine Mitigation Activity, funded by USAID's Office of Foreign Disaster Assistance, provides funding for a full-time Technical Information Specialist assigned by USDA's Center for Information Research and Analysis (CIRA). The merger was motivated to improve responsiveness, coordinate similar information exchange efforts, avoid duplicative services, and create a more comprehensive collection that could better support FAM in service to its members, the larger PVO community, and USAID and USDA project staff. The new center strives to support FAM and FMA program objectives to strengthen PVO/NGO and international organization capacity to deliver development and emergency services. This is accomplished by providing a depository for practical experience and promoting and facilitating research and linkages in support of activities for improving human food security.

Since its inception, the resource center's collection has grown to approximately 6,000 published and unpublished materials, including books, journals, conference proceedings, training manuals, dissertations, project proposals, reports and evaluations, bibliographies, data sets, CD-ROM's, maps and videos. The resource collections, though originally maintained on two distinct database software systems, were successfully merged onto USAID's MicroDIS. Utilization of the MicroDIS software will allow for improved integration into existing systems managed by USAID's Center for Development Information and Evaluation (CDIE). Similarly, FSRC records will be incorporated into CDIE's quarterly CD-ROM, and their future on-line database. Further, in keeping with the basic data file structures of MicroDIS, the FSRC endeavored to design a unique database using a Visual Dbase 4.0 for Windows skeleton. The new database, funded by FAM, includes searching and reporting capabilities specialized to the needs of FSRC users. At the close of the fiscal year, efforts are being undertaken to make this database available to users via a new Food Aid Management web site, in addition to diskettes and/or CD-ROM's and a paper copy of the bibliography.

Extensive marketing and outreach activities were undertaken by the FSRC, in conjunction with FAM and FMA efforts, in the form of 10 formal presentations, brochures, visual displays, and articles in *Food Forum* and other international newsletters, such as *Monday Developments*. The Information Specialist attended the FAM annual meetings, and the FAM Monitoring and Evaluation Conference to meet FAM members and discuss their information needs. A FSRC policy manual was drafted. A brief FSRC user's survey was conducted to further assess information needs. A FSRC Concept Paper was prepared, office systems were operationalized in conjunction with existing FAM systems, and policies were established.

When compared with first quarter 1995 combined statistics from FAM and FMA, usage of the new Center and its services for FY 1996 has increased by 200%, with a total of 170 literature searches conducted. Topics of searches include all areas related to food security, including food aid management, emergency response, early warning systems, agricultural and environmental rehabilitation, child survival, nutrition and health. Requests are primarily responded to using the

FSRC collection, however, searching has extended to outside information sources on a case-by-case basis. The most frequently tapped outside sources include USAID's Center for Development Information and Evaluation, and agencies of the U.S. Department of Agriculture including the National Agricultural Library.

### **FSRC Bibliographic Database**

The original Famine Mitigation Activity Resource Library was maintained on Pro-CITE version 2.2 and included approximately 3600 records. The original Famine Mitigation Resource Library was maintained on MicroDIS version 2.2i and included approximately 1400 records. In addition, both libraries were maintained using different cataloguing systems. Unfortunately, it was discovered that approximately 10% of the materials from both collections were missing. A unifying system for the FSRC was decided upon, and in the Fall of 1995, FAM provided funds to hire consultants to merge the Pro-CITE database into the existing MicroDIS, so that the FSRC might retain its compatibility with USAID's existing system. Another short-term consultant was hired using FAM funding to edit and standardize data records. The Famine Mitigation Activity offered the services of its Resource Specialist to assist in cataloguing, shelving, labeling and database entry for one day a week over three months. These processes took much longer than originally anticipated due to technical difficulties and a large number of inconsistencies in the data records.

In the Spring of 1996, consultants were hired to create a new database for the FSRC. The new database was designed in the Windows environment using Visual Dbase version 4.0 as a skeleton. Searching and reporting capabilities were specifically designed to be user friendly and catered to the information needs of users working in food security. The actual data files, however, were maintained in a format compatible with USAID's systems. The impetus behind the new database was to allow for greater flexibility in searching and reporting, a more user friendly work environment, compatibility with standard database formats, and the ability to freely distribute the entire FSRC database in read only format to users. Further, the distribution of a searchable database allows users to conduct their own searches and print bibliographic reports from their own computers, a time-consuming task previously conducted by the FSRC. The database was designed to fit on 1 CD-ROM, or 5 diskettes and is compatible with 386 model PCs or higher. At the end of FY96, efforts are underway to complete work and distribute the new database, and to allow on-line access to the database via a new FAM web site, due in late Fall. The web site will include the full FSRC bibliography and immediate email request capacity.

### **Information Searches and Requests for Documents**

The primary audience for the FSRC is the PVO community. A total of 170 topics were researched in the various areas of food security in FY96. A total of 646 copies or excerpts of technical reports, books, journal articles, conference proceedings and/or statistical data sets were carefully selected and sent to users. Referrals were made to other information sources, when appropriate. Thirty six percent of all requests were simple requests for specific documents, and 64% of requests required some level of research and analysis. Of research requests, approximately 33% required in-depth research of specific topics using sources outside of the FSRC. A total of 41 visits were made to the center by users conducting their own research.