PN-ACR-843
118520

EVALUATION OF USAID/MALAWI'S STRATEGIC OBJECTIVE 1: INCREASED AGRICULTURAL INCOMES ON A PER CAPITA BASIS – 1993 TO 2001

Submitted to:

U.S. Agency for International Development

Under:

The Evaluation IQC AEP-I-00-00-00023-00

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January 2003

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LIST OF ACRONYMS

ACDI	Agricultural Cooperative Development International
ACDI/VOCA	Merger of ACDI with Volunteers in Cooperative Assistance
ACOSCA	African Cooperative Saving and Credit Association
ADC	Agribusiness Development Centers
ADMARC	Agricultural Development and Marketing Corporation
ADD	Agricultural Development Division
ACMV	African Cassava Mosaic Virus
AFOs	Associations Field Officers (NASFAM)
AFSU	Audit and Financial Systems (NASFAM)
AGM	Annual General Meeting
AI	Artificial Insemination
AMC	Association Management Center
APRU	Agricultural Policy Research Unit
ARD	Associates in Rural Development
ASAP	Agricultural Sector Assistance program
BOT	Board of Trustees
CA	Cooperative Agreement
CAN	Calcium Ammonium Nitrate (fertilizer)
CBO	Community Based Organization
CEO	Chief Executive Officer
CfW	Cash for Work
CIDA	Canadian International Development Authority
CIP	Centro Internacional del la Papa (International Potato Center)
CP	Condition Precedent
CRLSP	Central Regional Security Livelihood Program
CFF	Central Finance Facility (MUSCCO)
CREMPA	Central Region Milk Producers' Association
CRS	Catholic Relief Services
CSP	Country Strategic Plan (USAID)
CSPM	Cassava and Sweet Potato Multiplication Project
CTO	Cognitive Technical Officer (USAID)
CUNA	Credit Union National Association (USA)
DANIDA	Danish Technical Cooperation
DARTS	Department of Agricultural Research and Technical Services
DCA	Development Credit Authority (USAID/W)
DEC	Disasters Emergency Committee (UK)
DRIMP	District Road Improvement Program (established under Banda for rural road maintenance)
EBCM	Evangelical Baptist Church of Malawi
ECCO-FINANCE	Excellence in Cooperative Community Financial Services
EI	Emmanuel International
EPA	Extension Planning Area
FA	Field Assistant
FT	Field Technician
FFW	Food for Work

FSN	Foreign Service National
GAC	Group Action Committee
GIS	Geographic Information System
GPM	Groundnut/Pigeon Pea Multiplication Project
GVH	Group Village Head
GDP	Gross Domestic Product
GOM	Government of Malawi
GTZ	German Technical Assistance
HEA	Household Economic Survey
HPI	Heifer Project International
IB	Intermediate Buyer
IFA	Inputs for Assets (EBCM seed- and fertilizer-for-work program)
IFPRI	International Food Policy Research Institute
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IITA	International Institute of Tropical Agriculture
JICA	Japanese International Cooperation Agency
LOL	Land O'Lakes
MAC	Market Action Center
MAFE	Malawi Agro-Forestry Extension
MASAF	Malawi Social Action Fund
MASIP	Malawi Agricultural Sector Investment Program
MALSIP	Malawi Agricultural and Livestock Investment Plan
MBG	Milk Bulking Group
MDBDP	Malawi Dairy Business Development Program
MDFA	Mzuzu Dairy Farmers Association
MDI	Malawi Dairy Industries
MDSA	Malawi Dairy Stakeholders Association
MEPC	Malawi Export Promotion Council
MK	Malawi Kwacha: MK 1 = US$0.0125 (= 1.25 cents) in 11/02
MOAI	Ministry of Agriculture and Irrigation
MOALD	Ministry of Agriculture and Land Development (MOAI until 1994)
MRA	Malawi Revenue Authority
MRFC	Malawi Rural Finance Company
MSB	Malawi Savings Bank
MUSCCO	Malawi Union of Savings and Credit Cooperatives
NEC	National Economic Council
NFRA	National Food Reserve Authority
NASDEC	NASFAM (Holdings) Development Corporation
NASCOMEX	NASFAM Commodity Marketing Exchange
NASCENT	NASFAM Center for Development Support
NCES	National Crop Estimate Survey
NGO	Non-governmental organization
NLDMP	National Livestock Development Master Plan
NORAD	Norwegian Technical Assistance Program
NPA	Non-Project Assistance
NRC	Natural Resource College
NRM	Natural Resource Management
NSO	National Statistics Office

NSP	NASFAM Strengthening Project
OFDA	Office of Foreign Disaster Agency
OPV	Open pollinated varieties (of maize, i.e. not hybrid)
PA	Project Assistance
PAC	Policy, Advocacy and Communications Unit (NASFAM)
PACD	Project Assistance Completion Date
PEAC	Promotion, Education and Advisory Committee (antecessor to MUSCCO)
PEARLS	Cooperative Union Financial Monitoring System
PIL	Project Implementation Letter
PPU	Policy and Programs Unit (NASFAM)
PROSCARP	Promotion of Soil Conservation and Rural Production (EU)
PVO	Private Voluntary Organization
RCO	Regional Contracting Officer (USAID)
RCSA	Regional Center for Southern Africa
RDP	Rural Development Precinct
SACCO	Savings and Credit Cooperative Organization
SADC	Southern Africa Development Community
SADP	Smallholder Agricultural Development Project
SARRNET	Southern Africa Regional Crops Research Network
SCF	Save the Children (UK)
SDP	Strategic Development Program
SHMPA	Shire Highlands Milk Producers Association
S&L	Savings and Loan
SSDP	Smallholder SACCO Development Project
SSLPP	Small Scale Livestock Promotion Program
SWOT	Strengths, Weaknesses, Opportunities, Threats Analysis
TAMA	Tobacco Association of Malawi
TA	Traditional Authority
UNCDF	United Nations Capital Development Fund
US$	Malawi Kwacha (MK80 = US$1 in November 2002, official rate)
VAC	Vulnerability Assessment Committee
VAM	Vulnerability Assessment Monitoring
VDC	Village Development Committee
VCBO	Village Community-Based Organizations
VOCA	Volunteers in Overseas Cooperation Assistance
VS&L	Village Savings and Loan
VSO	Volunteer Service Organisation (UK)
USAID	United States Agency for International Development
UTIP	Universally Targeted Inputs Program
WOCCU	World Council of Credit Unions
WWS	World Wide Sires

EXECUTIVE SUMMARY

I. INTRODUCTION

The following evaluation was conducted over a seven-week period. October - December 2002, by a team of four agricultural economists who had over 125 years of accumulated development experience in the region and elsewhere in the developing world. The evaluation covers an unusually long period (11 years) for USAID programs, as well as a broad range of project and non-project activities.

The purpose of the evaluation is to: assess the development impact of project assistance (PA) initially included in Strategic Objective One (SO1), "Increased Agricultural Incomes on a Per Capita Basis", which has now become Strategic Objective Six (SO6); assess the success of Non-Project Assistance (NPA) on the Government of Malawi's (GOM's) agricultural policy reform efforts that are undertaken in exchange for cash transfer payments; and, identify design and implementation strengths and weaknesses and lessons learned for future activities of this nature. For programmatic purposes, SO1 and SO6 are more commonly referred to as the Mission's Agricultural Sector Assistance Program (ASAP), with a first phase beginning in 1991 and ending in 1994, and a second phase picking up in 1994 and ending in 2003. While this evaluation covers both phases in a general sense, it concentrates on the second phase.

The ASAP was authorized on September 26, 1991, with a total funding level of $30 million: $ 20 million in Non-Project Assistance (NPA) and $ 10 million in Project Assistance (PA), for a three-year period. Following a program evaluation in March 1993, the first phase of ASAP was amended in September 1994, creating ASAP II and extending the program assistance completion date (PACD) by four years to September 1998. This amendment increased the authorized levels of NPA and PA funding by $ 35 million and $ 5 million to a new total of $ 55 million and $ 15 million respectively, although only $ 49 million in NPA funding was ever obligated. Further amendments extended the PACD to September 2003, and increased the life-of-project funding to almost $46 million in PA obligations. Lastly, in 1997, $ 6 million in NPA was de-obligated.

According to the Country Strategic Plan (CSP) 1995-2000, the SO1 goal of increased agricultural incomes on a per capita basis was to have been achieved through the Intermediate Results (IRs) of liberalized input and output markets, expanded rural agribusiness and marketing activities, and reduced transportation costs of agricultural inputs and outputs. The CSP for 2001-2005 alters this slightly by changing the IRs for SO1 to: sustainable increases in agricultural productivity; increased off-farm earnings by rural households; and, increased local participation in natural resource management. This evaluation is concerned with the activities and projects directed at achieving the first two IRs, but not the last one concerning natural resource management.

II. PROJECT ASSISTANCE

Eight separate projects, under the umbrella of the Agricultural Sector Assistance Program (ASAP), were the subject of this evaluation. The following table provides basic information.

TABLE 1
Projects, Implementation Periods, Contractor/Partner and Funding Levels

Activity/Project	Implementation Period	Contractor/Partner	Obligated Funding Levels
Smallholder Burley Club Strengthening Project Smallholder Agribusiness Development Project	10/93-9/00	ACDI/VOCA	$ 8,457,255
NASFAM Strengthening Project	10/00-9/03	ACDI/VOCA, NASFAM	$ 5,448,790
Malawi Dairy Business Development Program	3/99-3/03	Land 'O Lakes	$ 3,656,707
Malawi Union of Savings and Credit Cooperatives	9/99-3/02	MUSCCO and Barents Group	$ 1,175,048
Central Region Livelihood Security Program	9/99-9/02	CARE International	$ 1,279,958
Famine Early Warning System Network	7/00-9/03	Chemonics International	$ 872,659
Groundnut and Pigeon Pea Multiplication	8/99-1/02	ICRISAT	$ 677,350
Cassava and Sweet Potato Multiplication	12/98-5/01	IITA/SARRNET	$ 382,334
Fertilizer for Work Program	5/01-5/03	Evangelical Baptist Church of Malawi and Emmanuel International	$ 744,900

Brief descriptions of the activities and impacts of these eight projects, plus the NPA program follow:

A. THE NATIONAL SMALLHOLDER FARMERS ASSOCIATION OF MALAWI (NASFAM)

Over the course of time since USAID first started supporting smallholder farmer incursions into the marketing of high value crops, a national organization. The National Smallholder Farmers Association of Malawi (NASFAM) has been created which has allowed member farmers to organize, to develop their business skills, and to retain for themselves and for their member-owned businesses a significant fraction of the wide margins formerly enjoyed by intermediate buyers. Initial support resulted in NASFAM's meeting its original goal of assuring smallholders a role in the national economy and in meeting the objectives of strengthening smallholder clubs and helping them operate in a more businesslike fashion.

Initial project support to these clubs has been transformed into support for the development of NASFAM, which has been instrumental in assisting smallholder farmers in the marketing of their crops, in taking advantage of economies of size on both the product and input sides, and in developing an organization capable of analyzing the challenges facing (and opportunities available to) smallholders, and in representing their interests in public fora. The impact on

member incomes has been positive and significant, in the process of turning farming from a way of life into a business which produced income significantly higher than farmers had ever achieved before -- and higher than incomes now obtained by non-member farmers with similar resources.

Farmer associations have had a positive impact on communities, from a commercial standpoint by raising farmer incomes, as well as contributors to local development through their cooperation with schools and other community projects, and through the provision of services otherwise unavailable (private health clinics, farm supply shops and paraffin pumps). As farmer associations' ability to make money from the crops they produced improved through better marketing, interest surged in improving crop production practices; moreover farmer efforts have been supported by crop production and marketing efforts of Association Field Officers, whose private extension efforts helped farmers increase the volume of products that they could then market through their associations. The associations also contribute by their example as democratically run, transparent and financially responsible institutions and act as a model for other community institutions to operate in a similar fashion. NASFAM clubs and associations have also been heavily involved in community development efforts (school construction, bridge rehabilitation, etc.) and in literacy efforts not directly tied to turning farming into a business.

Donors other than USAID, who have come to cover an increasing proportion of the costs of developing NASFAM and of expanding its coverage to other areas, have perceived of the initial investment of USAID which was instrumental in its creation, as a good one. They have financed the construction of permanent offices, warehouses, and marketing centers, lending an air of permanence to NASFAM's operations. NASFAM still runs its headquarters operations out of rented premises; however, the organization is seeking to construct its permanent headquarters building and has purchased a plot in Lilongwe for that purpose. The Government recognizes NASFAM's contribution to raising smallholder incomes and improving their status, and is constantly putting pressure on the organization to expand its membership and geographical coverage.

Within the past year, new corporate structures have been developed which clearly delineate NASFAM's commercial operations and separate them from its developmental activities. NASFAM has set up a holding company (NASDEC) to control the two companies established to manage its two different types of operations: the NASFAM Commodity Exchange (NASCOMEX), a commercial trading company able to carry out a broad range of trade operations with members and with the general public, and the NASFAM Center for Development Support (NASCENT), focusing on advocacy and communications, training and human resource development, and information services. The mandate of NASCOMEX has been broadened to allow it to engage in any kind of commercial operations in agricultural marketing or processing, which after analysis appear to be profitable. Though new, it is becoming a large enough force in marketing in Malawi to generate criticism from traders, whose privileged control of markets and monopoly profits are being affected and who are being forced to lower prices for inputs and to raise prices for the products that they purchase in markets where NASCOMEX is active. Nevertheless, after less than one full season of operation, the new structure cannot be said to have proven itself to be fully established in markets that have been long dominated by a few, financially powerful traders.

B. THE MALAWI DAIRY BUSINESS DEVELOPMENT PROGRAM (MDBDP)

The program has been successful in increasing milk production and sales through milk bulking groups (MBGs) and in stimulating interest in dairy production. Potential interest is increased by falling prices for tobacco. The program has also stimulated a high degree of interest in dairy farming. However, a long-term effort will be required to meet the expectations that have been created.

Assisting potential members who are interested in dairy production but who own no cows can best be stimulated by purchasing local Zebu cattle and by artificially inseminating them to produce crosses which combine vigor with reasonably high levels of milk production; this is the best way for a long-term development program to reach large numbers of participants at reasonable costs.

Women tend to have less interest in producing tobacco and other cash crops, and generally do a better job in managing milk cows. Women constitute a high percentage of potential members of the dairy production program and are willing to take the time and effort necessary to start up dairy production based on local cows and artificial insemination.

The lack of competition in the dairy processing industry gives processors an unfair edge in setting milk prices at low levels and in failing to raise producer prices to milk bulking groups for extended periods of time, despite increases in retail prices to consumers. Thus far, program efforts have not succeeded in fully addressing this issue and have not offset the farmers natural tendency to sell all, or part of their milk in raw form and without processing (except for dilution with water) to bicycle traders for sale to final consumers -- with the attendant health risks. Until competition is increased in the dairy processing industry, the program needs to deal more forthrightly with this situation in its promotion efforts with members, which at present consist of coercive measures applied to those engaged in vending. Where dairy farms are located in close proximity to urban areas and where rural demand among neighboring families and in the trading centers is significant, vending will continue to occur and needs to be analyzed and dealt with as part of the development of the dairy industry.

C. MUSCCO FINANCIAL AND FIELD SUPPORT ACTIVITY

While the Malawi Union of Savings and Credit Cooperatives (MUSCCO) has been funded through various mechanisms since 1980, the specific project under evaluation is the Smallholder SACCO Development Program (SSDP). A Savings and Credit Cooperative Society (SACCO) is similar to a credit union.

The SSDP has achieved its objectives of improving MUSCCO's financial management, and of increasing its financial self-sufficiency, through the appropriate use of the Central Finance Facility. The numbers of rural SACCOs have been increased (in partnership with NASFAM) and some existing SACCOs have been strengthened. There is also a heightened awareness of the importance of savings and the ability to do so through rural SACCOs ; this results from a media campaign carried out as part of the support provided by the SSDP.

Some common bond SACCOs have yet to seriously consider the possibility of opening up their membership to a broader spectrum of the community, in order to increase membership and, potentially, their ability to provide more and better services to existing and new members.

Marketing efforts in some SACCOs, despite assistance from MUSCCO to enlarge membership through special loan funds from its Central Finance Facility (CFF), are insufficient, and only a small fraction of possible members are joining. DANIDA had planned to provide assistance in marketing, but unfortunately did not do so before leaving Malawi. MUSCCO needs to do more to market the kinds of services that SACCOs can provide in both urban and rural areas.

As part of these efforts, a better understanding is needed of the potential market for members' crops, which marketing studies could contribute to clarify. SACCOs do not have either the human or financial resources to carry out such studies on their own. MUSCCO's own resources are inadequate to finance the kind, level and duration of a media campaign that would be required to make a meaningful contribution to the public awareness of SACCOs, the services that they can provide, and as to their benefits to members.

The present supervision of savings and credit cooperative societies is insufficient. Though MUSCCO does a good job of providing advice, this advice is often ignored. Where members' savings are put in jeopardy by the improper management or operation of a SACCO, outside supervision and the imposition of sanctions are necessary.

D. CENTRAL REGIONAL SECURITY LIVELIHOOD PROGRAM (CRLSP)

The CRLSP met or exceeded most of the targets related to Community Based Organization (CBO) formation and as to their use in achieving social, educational, health and environmental improvements. However, results for crop productivity and marketing related goals were mixed. Significant increases in area planted to groundnuts and beans occurred during the first year, (as against the baseline), but area planted to groundnuts declined the second year. Area planted to cassava increased slightly over the baseline the first year, but was lower than the baseline the second year, while sweet potato plantings declined each year. Very significant yield increases were recorded for all four crops over the baseline during the first year, but results were very disappointing for the second year. At least in part, the yield reductions were related to crops being harvested early or stolen from the fields, due to the severe hunger experienced during the 2001/02 hunger period. Moreover, the experience of marketing produce (primarily groundnuts) through Group Village Head (GVH) CBO marketing associations was not very successful. Farmers operating as individuals, or through smaller village structures, usually fared better than farmers selling through the group village head marketing associations.

The general success of the socially oriented community based organization activities, when compared with the mixed results of the economic activities carried out by the same organizations, suggests that perhaps CARE or MOAI Extension staff could have provided additional technical support during the 2001-2002 season in order to consolidate some of the area planted and yield results of the first year.

In addition:

- The village seed groups provided the structure for distributing improved seeds and other planting materials for either initial or expanded plantings to approximately 35,000 farmers. Distribution of groundnuts (20,706 farmers) was the largest program, with 11,100 farmers receiving bean seed, 1,005 receiving cassava cuttings, 1,189 receiving sweet potato vines and 484 receiving Irish potato sets.
- The formation or reactivation of 375 CBOs provided the organizational base for implementing more than 300 village level activities that addressed:
  - Village development through: road construction, shallow well and borehole construction and maintenance, road rehabilitation, and village security;
  - Social and health improvement through: adult literacy training, dissemination of HIV/AIDs messages, and school block construction;
  - Environmental protection through: construction of dams, weirs, gully protection structures, and hillside reforestation;; and
  - Increased household economic well-being through: seed groups, marketing associations, and wetland crop cultivation.
- Almost 2,500 residents became members of functioning village savings and loan groups, with average savings of MK 709 per participant and loans averaging MK 972 per participant. Some 92 percent of the Village Savings and Loan (VS&L) members were women. The VS&L membership was more popular with poorer households than with those who were economically better off. At the same time, VS&L members did not feel that the existing formal credit institutions, especially the Malawi Rural Finance Corporation, were able to meet their credit needs.
- Cash for Work activities provided an important source of cash income to almost 2,500 individuals (67 percent women), and in the process contributed to the strengthening of fragile wetland environments, to expanding winter crop production, and to improving road infrastructure.

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

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

Summary conclusions include:

- Users of the FEWS NET monthly reports indicate that it provides a useful presentation and analysis of the Malawian food security situation within the limitations imposed by the accuracy of the supporting database.
- FEWS NET staffs are closely associated with, and are major contributors to vulnerability assessment monitoring (VAM) and to vulnerability assessment committee (VAC) activities.

- Since mid 2000, FEWS NET reports have been distributed monthly to almost 100 donor, NGO, GOM and private sector staff and officials. These reports can also be downloaded from the FEWS NET web site. Individuals receiving the reports generally indicated that these were the only systematic source of information and analysis addressing the wide range of indicators influencing agricultural production, marketing, and food security issues. However, some respondents on the mailing list indicated that they did not receive reports on a regular basis.
- The major data source for preparing the national food balance sheet that is included annually in the FEWS NET report is the Ministry of Agriculture and Irrigation's (MOAI's) managed National Crops Estimates Survey. The data from this survey are viewed with varying degrees of skepticism by many users, as data collection, data aggregation, and survey supervision is done by MOAI district and local officials, who are also responsible for implementing the MOAI normative development programs. Moreover, field assistants responsible for primary data collection often lack training in the survey methodology and also lack equipment such as scales and calculators, which can assist in providing accurate crop yield estimates.
- Components of the annual food balance sheet are not consistent over the past three years, suggesting that an effective methodology for developing this indicator is not yet in place. The FEWS NET Project provided $20,000 in 2001 to purchase calculators and scales for local level extension Field Assistants to improve the measurement of crop yields and the aggregation of primary data; this equipment also was provided to enumerators to improve market price data collection and compilation.
- Concerns about the overstatement of the food availability situation, as reported in the national food balance sheet, led to a multi donor effort, starting in late 2001, to carry out separate field household economic assessments. These surveys confirmed that potentially serious food shortages existed among a large number of low-income rural households. The GOM, through the National Economic Council, is now coordinating the effort to identify food deficit areas, with full involvement by the FEWS NET professional staff.

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

F. GROUNDNUT AND PIGEON PEA MULTIPLICATION PROJECT (GPM)

The GPM Project was designed to meet the expanding need for improved quality groundnut and pigeon pea seed for use by small farmers to supplement dietary protein intake and to increase cash income. It marked the initial effort by the MOAI and the donor community to systematically support the use of improved seeds to increase the production of these two crops. Conclusions from this two-year project are summarized as follows:

- The area planted to groundnuts and pigeon peas has increased significantly in recent years; the area planted to groundnuts has doubled between 1997 and 2002 and has increased by about 24 percent for pigeon peas;
- The improved basic seed provided by the project was sufficient to plant some 3,650 ha. of groundnuts and some 5,300 ha. of pigeon peas;
- Ninety five percent of Malawi's pigeon pea production is concentrated in the three southern Agricultural Development Divisions (ADDs) of Machinga, Blantyre, and Shire Valley, where this product is consumed in the local diet and where the food industry is processing pigeon peas into dhall for export markets;
- Seventy five percent of Malawi's groundnut production is concentrated in the central and southern ADDs of Kasungu, Lilongwe, Machinga, and Blantyre;
- Seventy one percent of the groundnut seed produced by the project was purchased by NGOs to support their small farmer food security and income generation activities;
- Eighty one percent of the pigeon pea seed produced by the project was purchased by NGOs to support their small farmer food security and income generation activities;
- The project exceeded its target production of groundnut basic seed by 97 percent, but met only 53 percent of targeted pigeon pea basic seed production;
- About 10 percent of the basic seed produced by the project was sold to NGOs and donors in the neighboring states of Zambia and Mozambique to meet pressing shortages for improved seed in those countries;
- The project effectively provided technology transfer activities to more than 13,000 farmers, by holding 100 field days and 2,185 on-farm demonstrations, in collaboration with the Extension Department and eight NGO or donor projects. Almost one half of the field day attendees were women;
- Four training courses were provided for some 200 MOAI (DARTS, Extension Service) and NGO staff to update and augment the technical skills for conducting seed production quality inspections and to provide training to farmers in groundnut and pigeon peas cultivation; and,
- USAID received a direct and indirect return on their investment in the expanded multiplication of groundnut and pigeon pea of approximately 1:1.3 over the three-year project period. That is, for each dollar spent by USAID on this project, the returns from sales of basic seed and from increased yields obtained by farmers who planted these seeds were about $1.31. This figure does not include the added value from future production of basic seed from the revolving fund, nor the added value from the use of own groundnut seed by farmers for the next three years.

G. CASSAVA AND SWEET POTATO MULTIPLICATION PROJECT (CSPM)

The CSPM Project has made a major contribution toward increasing the production and consumption of cassava and sweet potato in the diet of rural Malawians. The inauguration of the USAID funded regional Southern Africa Regional Crops Research Network (SARRNET) research and development system in the early 1990s, provided the initial impetus for small grower expansion of cassava and sweet potato. From the early 1990s through 1998, new varietal improvement was undertaken for both crops. Some 10 cassava varieties and 12 sweet potato varieties had been improved and distributed in all agricultural development divisions (ADDs) for on-farm testing, prior to the start of the current project. From this work, four cassava and four sweet potato varieties were introduced for rapid multiplication.

Early projections, based on survey data collected by the MOAI, that cassava and sweet potatoes have become highly significant consumption items in the diets of rural Malawians, have proven to be overly optimistic. Similarly, leaders of most private sector companies that would utilize cassava for industrial processing remain skeptical that bitter cassava can rapidly become a major new cash crop for smallholder rural households.

These initial results suggest that the further introduction of processed cassava in human food products, for animal and poultry feeds and for starch substitutes, are possible. However, the lack of raw material supply for industrial application, limited direct consumer demand in Malawi, and the lack of readily availability export markets, continue to hamper the short-term expansion in the industrial use of cassava.

At the same time, the impact of the project on the introduction of cassava and sweet potato into the diet of rural households, as commodities that can provide needed caloric intake during the November to March hunger season, is significant. Operating within the SARRNET umbrella the CSPM project:

- Increased the awareness of government, private sector leaders and farmers of the positive nutritional qualities of cassava and sweet potato, when appropriately processed;
- Strengthened the GOM policy support for continued expansion of cassava and sweet potato as a source of rural household nutrition and cash income;
- Provided multiplication of the new varieties to almost 300,000 farm families, by expanding primary, secondary and tertiary nursery sites;
- Expanded the existing three secondary multiplication sites to 15 sites comprising some 46.4 ha. of planted nursery, and formed 16 secondary nurseries with 135 ha.;
- Distributed some 8,131,200 meters of cassava stems and 3,816,000 of sweet potato stems to farm families;
- Trained more than 1,000 government, NGO and private sector technical staff in the production and processing techniques of cassava and sweet potato for food and commercial use;
- Increased the use of cassava and sweet potato by rural households to augment rural nutrition during the annual hunger periods;
- Introduced low cost hand and power driven farm level processing equipment to expand the food and processing uses of cassava;
- NGOs, DARTS, and Extension staff held field days in 11 sites, where some 14,000 persons were provided with an understanding of using the new processing equipment;
- Increased farmer and private sector entrepreneurial awareness of industrial uses for cassava as a source of household income.

While the project successfully maintained the three existing primary cassava and sweet potato nurseries, and added one more -- it did not meet the stated objective of forming 30 secondary sites. This was largely because a greater emphasis was placed on the formation of tertiary nurseries able to directly provide farmers with new planting materials.

Cost comparisons for producing planting material in farmer managed community nurseries and in tertiary nurseries maintained by project and government staff, show that farmer nurseries were more cost effective producers, earning from 12 to 18 percent greater net income from the sales of planting materials grown on similar sized plots. However, it is noted that the government

managed secondary nurseries produced a greater amount of planting material per ha. and did return a significant surplus over production costs.

The Cassava and Sweet Potato Multiplication Project (CSPM) spent for all project activities the equivalent of about $1.36 for each farmer who was directly or indirectly impacted by the improved cassava planting materials. The ratio of USAID Project funds to increased total crop value resulting from increased yields from direct and indirect farmer plantings of improved cassava and sweet potato varieties, is 1:6.7. That is to say, for each dollar of USAID project funds provided to the project, directly and indirectly impacted farmers gained an additional $6.70 in added value from the harvest of improved cassava and sweet potato varieties.

H. FERTILIZER FOR WORK PROGRAM

Building on the credibility and years of experience that the Evangelical Baptist Church of Malawi (EBCM) has had in the area, the Fertilizer for Work Program has succeeded in its dual objectives of rehabilitating a significant extension of roads in the rural Balaka and Machinga districts and of improving food security dramatically. In all around 270 kilometers of roads were improved in the USAID project, and a further 100 km of roads were improved with Tearfund/Disaster Emergency Committee (UK) funds. In addition to road rehabilitation carried out with hand-tools, water-crossings that frequently interrupt road transit during the rainy season, were also addressed. Additionally, more than 220 culvert crossings were built and 15 small bridges were rehabilitated.

Food security increased dramatically, as the increased production of maize was sufficient to cover more than three months of additional family needs for food. For many families, this meant the difference between covering their food needs year-round and depending on handouts of food aid. Indeed some of the participants working on the project were so short of food that they were barely able to do the roadwork that requires considerable physical exertion.

This program provides a model for resolving Malawi's chronic and recurrent food security crises. Most of the country's population is rural and must provide for the bulk of its food requirements for the main staple, by on its own producing the maize. To produce an adequate supply of maize to cover family food requirements on the limited land that people have in this densely populated country, and on the limited area that they can work with hand-labor alone, farm families have to increase yield by using a package composed of improved seed and fertilizer. Farmers understand the value of this package through the extension efforts and experience of the past, but have been unable to purchase these inputs in recent years. Credit is not the solution, because hardly any of the increased production will be sold, since it is used for family consumption in most years, and therefore, funds will not be available for the repayment of loans. The model of seed-and-fertilizer-for-work pioneered by EBCM with the help of USAID is valid. This model will work nationwide to meet chronic maize deficits for poor families willing to participate in the program -- if it is supported by USAID's lead and by the collaboration of the World Bank and other donors. Unlike the Starter-Pack program that is inadequate in amount and wasteful of resources, the seed-and-fertilizer-for-work program is self-targeting for the poor and directly addresses and resolves their chronic food security problem.

III. NON-PROJECT ASSISTANCE

A major component of USAID's Agricultural Sector Assistance Program (ASAP) in Malawi has been non-project assistance (NPA). This pattern has reflected the recognition, both locally and among the country's international partners, that policy and institutional issues, at least in theory, have been among the most serious constraints to broadly based improvements in productivity and incomes, especially among the country's smallholder farmers. In these circumstances, conventional projects or investments, even if they are well designed and funded, may be far less significant for smallholder incomes and development than directly addressing these policy issues and instituting the necessary reforms.

The intention of the NPA program has been to provide a mechanism for collaboration between USAID/Malawi and the Government of Malawi to identify and address the above constraints. The idea was to jointly design a series of policy and institutional reforms as "Conditions Precedent" (CPs). The NPA approach is that once the specified CPs are verifiably implemented by the relevant GOM or parastatal agency, substantial budgetary transfers are made to the county's Treasury. In cost benefit terms, if policy and institutional issues are significant constraints to improved efficiency and to the growth of incomes and jobs in the sector, the economy-wide benefits accruing from reforms in these areas are potentially far higher, and far more broadly distributed than are the returns from conventional investment projects undertaken without the reforms. It is also thought that conventional projects, such as the development of the institutional and physical infrastructure to sustain and support greater farm productivity, have very much more attractive returns, once the reforms are in place. The NPA component spanned both ASAP I and II, and as of June 2002, had disbursed six tranches totaling US$ 42 million. ($1 million remains as an unearmarked balance.)

TABLE 2
NPA Tranches By Date And Amount

Tranche	Date	Amount (US$ Millions)
1	3/92	4.0
2	8/93	6.0
3	10/94	10.0
4	3/95	5.0
5	11/95	10.0
6	6/02	7.0
Total		42.0

It should be noted that with twenty-one CPs as a part of ASAP I, and fifty-two as part of ASAP II, there is a total of seventy-three conditions to be met. While some of these CPs are of a purely administrative nature, others are programmatic and often mutually reinforcing or additive in terms of their effects. A set of CPs in the early years of the program aimed, for example, at removing the longstanding restrictions on smallholder participation and trading rights in the tobacco market. These changes, among others, now allow smallholder producers and traders access to whichever markets they deem to be most adequate to their needs.

A further set of conditions addresses the liberalization of prices and the opening up of market participation to private sector traders and operatives -- and doing so without discrimination based on gender, religion, ethnicity, or race. Across a range of different commodities, these measures

were designed to change the tradition of control by a pervasive series of state or parastatal authorities, and to reduce the extreme dualism, favoritism, and elitism that had earlier characterized Malawi's agricultural production and marketing system. They were also aimed at improving the competitiveness and performance of these markets. The explicit intention was to broaden both the access to existing income sources and markets, and to enhance both the level and the distribution of incomes and welfare among producers. In such cases where the beneficiaries may be from the same population, with the benefits mutually reinforcing, it is difficult to distinguish the separate effects of each reform component. In these circumstances, the effects of interacting reforms have been grouped together for purposes of the evaluation.

Lastly, as can be seen from the above table, the non-project assistance program progressed well for its first four years, and then stagnated with only one tranche having been disbursed in the past seven years. While many of the reasons for this are discussed in detail in the body of the report, there is a general thread providing an explanation for this situation. It begins with popular pressures building in the early 1990s and especially gathering strength with the advent of multi-party rule in 1994. Democracy was being tested and livelihoods had to increase. Political leaders and donors decided that a 'liberization' of the lucrative, export, estate dominated tobacco sector would be the most efficient way to do this. With insufficient opposition from the 'Estate' tobacco sector, tobacco became a smallholder's crop. In the early NPA tranches the principal focus of the CPs was almost entirely directed at ways to assist this process, as the GOM's goals were in direct agreement with those of the donors, and especially USAID. By 1995, however, the tone and targets of the CPs became more general in their scope, in liberalizing the seed, fertilizer, and agricultural trade sectors, and in doing away with parastatals involved in agricultural services. While more NPA funding was disbursed in 1995 than in any other year of the program, many of the CPs achieved had been in process for some time. What is clear is that from approximately tranche four onward, the policy agenda of the Mission began to diverge from that of the GOM, or at least from the Government's ability to fully implement the accepted CPs. There has also been some 'backsliding' as certain CPs were initially met, funds were disbursed by the Mission, and then the policy(ies) reversed. The following list of factors is an attempt to set fourth a partial reasoning as to why "what didn't work, didn't work".

- The vast majority of NPA CPs are oriented towards reforms in the economic sector. As such, they do not take into account current or past political realities, nor the socio-cultural ramifications of their implementation.
- While both expatriate and national advisors, planners, and technicians can agree as to what are the necessary economic reforms to be undertaken, it is not until they are implemented and their impact is known by the intended beneficiaries and by their elected representatives that any reform can be thought to be permanent.
- External shocks, beyond the control of GOM planners and officials, be they climatic (droughts and floods), economic (declines in the world prices of tobacco, coffee, cotton, etc.), or financial (devaluations and inflation) -- can all separately or individually negate any progress towards the desired reforms.
- With approximately 65 percent of Malawi's population living below the poverty level, defined as US$ 30 per person per year, and essentially representing a segment which is outside of the monetary economy, it is unrealistic to expect that this population, or the economy as a whole, will respond to stimuli in ways that economic theory would predict. This is particularly important, given the significant amount of GOM and donor support being provided as humanitarian aid, be it in the form of subsidies or outright grants.

EVALUATION OF USAID/MALAWI'S STRATEGIC OBJECTIVE 1: INCREASED AGRICULTURAL INCOMES ON A PER CAPITA BASIS 1993 TO 2001

I. BACKGROUND

A. INTRODUCTION

The following evaluation was conducted, over a seven-week period from October to December 2002, by a team of four agricultural economists with over 125 years of accumulated development experience in the region and elsewhere in the developing world. It covers an unusually long period (11 years) for USAID programs, for reasons that will be explained below, as well as a broad range of project and non-project activities.

The purpose of the evaluation is to: assess the development impact of project assistance (PA) initially included in Strategic Objective One (SO1), "Increased Agricultural Incomes on a Per Capita Basis", which has now become Strategic Objective Six (SO6); assess the success of Non-Project Assistance (NPA) on the Government of Malawi's (GOM's) agricultural policy reform efforts that are undertaken in exchange for cash transfer payments; and, identify design and implementation strengths and weaknesses and lessons learned for future activities of this nature. For programmatic purposes, SO1 and SO6 are more commonly referred to as the Mission's Agricultural Sector Assistance Program (ASAP) with a first phase beginning in 1991 and ending in 1994, and a second phase picking up in 1994 and ending in 2003. While this evaluation covers both phases in a general sense, it concentrates on the second phase.

The ASAP was authorized on September 26, 1991, with a total funding level of $30 million of which $ 20 million was allocated to Non-Project Assistance and $ 10 million to Project Assistance, for a three-year period. Following a program evaluation in March 1993, the first phase of ASAP was amended in September 1994, creating ASAP II and extending the program assistance completion date (PACD) by four years to September 1998. This amendment increased the authorized levels of NPA and PA funding by $ 35 million and $ 5 million, respectively, to a new total of $ 55 million and $ 15 million respectively -- although only $ 49 million in NPA funding was ever obligated. Further amendments extended the PACD to September 2003 and increased the life-of-project funding to almost $ 46 million in PA obligations. Lastly, in 1997, $ 6 million in NPA was de-obligated.

According to the Country Strategic Plan (CSP) 1995-2000, the SO1 goal of increased agricultural incomes on a per capita basis was to have been achieved through the Intermediate Results (IRs) of liberalized input and output markets, expanded rural agribusiness and marketing activities, and reduced transportation costs of agricultural inputs and outputs. The CSP for 2001-2005 alters this slightly by changing the IRs for SO1 to: sustainable increases in agricultural productivity; increased off-farm earnings by rural households; and, increased local participation in natural resource management.[1] This evaluation is concerned with the activities and projects

[1] Natural Resource Management is not the subject of this evaluation and has recently become part of a separate SO concerning the environment.

directed at achieving the first two IRs, but not the last one concerning natural resource management. (See Delivery Order Scope of Work, Annex C.)

The following table depicts the PA and NPA activities that are the subject of this evaluation, the contractors/partners involved, the dates during which implementation took, and continues to take place, and the various funding levels obligated.

TABLE 1
Projects, Implementation Periods, Contractor/Partner and Funding Levels

Activity/Project	Implementation Period	Contractor/Partner	Obligated Funding Levels
Non-Project Assistance	9/91-9/03	Mission Monitored	$ 43,000,000[2]
Agricultural Policy Reform	10/98-12/00	HIID[3]	$ 1,020,000
Smallholder Burley Club Strengthening Project Smallholder Agribusiness Development Project	10/93-9/00[4]	ACDI/VOCA	$ 8,457,255
NASFAM Strengthening Project	10/00-9/03	ACDI/VOCA, NASFAM	$ 5,448,790
Malawi Dairy Business Development Program	3/99-3/03	Land 'O Lakes	$ 3,656,707
Malawi Union of Savings and Credit Cooperatives	9/99-3/02	MUSCCO and Barents Group	$ 1,175,048
Central Region Livelihood Security Program	9/99-9/02	CARE International	$ 1,279,958
Famine Early Warning System Network	7/00-9/03	Chemonics International	$ 872,659[5]
Groundnut and Pigeon Pea Multiplication	8/99-1/02	ICRISAT	$ 677,350
Cassava and Sweet Potato Multiplication	12/98-5/01	IITA/SARRNET	$ 382,334
Fertilizer for Work Program	5/01-5/03	Evangelical Baptist Church of Malawi and Emmanuel International	$ 744,900

B. SALIENT ISSUES OF OVERARCHING IMPORTANCE

Malawi is one of the five poorest countries in the world with the second highest population density in the world. In 2001, overall GDP increased by 2.3[6] percent. Per capita GDP in 1994

[2] $ 1million remaining.
[3] Support to NPA activities. Not included in this evaluation.
[4] Includes two consecutive "projects".
[5] Centrally funded regional program.

was less than $150 and this has risen to only $180 in 2002. As such, 63 percent of its population lives in extreme poverty earning less than $ 30 per capita per year; female-headed households, which represent 30 percent of the population, are disproportionately represented in the bottom 25 percent of the country's income distribution. Additionally, the country has suffered at least four severe droughts in the past ten years and the level of HIV/AIDS is one of the highest in the world.

Additional economic factors serve to exacerbate this situation. GOM spending to ameliorate this situation, combined with inefficient management, and alleged corruption has led to excessive government spending and borrowing leading to bank interest rates in excess of 50 percent, inflation rates of over 30 percent per year, and a devaluation of the Malawian Kwatcha from MK 2.5 to the dollar in 1991 to MK 90 at present. The significance of this is that agricultural credit is out of the reach of most smallholders, and the nominal prices of imported hybrid seed and fertilizers have increased astronomically and cannot be afforded by most smallholders, thereby lowering potential yields significantly.

Given this situation, the GOM feels forced to offer free and highly subsidized commodities to its "targeted" poor, although this targeting at times becomes universal. For example, the import "parity" price of maize, the principal staple of the Malawian diet, is MK 28 per kilogram (kg.), while it is being sold through government facilities for MK 17 per kg. The situation is similar for fertilizer sales. Additionally, this year the GOM, with financial support from the World Bank and British Aid (DFID) are again supplying free "starter packs" containing small amounts of hybrid maize seed and fertilizer. Under this program three million smallholder farm families will be assisted. This is in addition to the hundreds of thousands of tons of food aid and other free commodities that are being supplied by the World Food Program, the European Union, USAID and a plethora of other donors and international NGOs.

In this environment of free and subsidized commodities and other goods and services, it is extremely difficult, if not all but impossible, for USAID to attempt to promote a liberalized free market economy as it has tried to do, mostly through its NPA program. Humanitarian aid, which Malawi direly needs, is almost impossible to distinguish from development aid, especially in the minds of the smallholder sector. This intractable problem will be mentioned and referred to throughout this evaluation, and has served as a compelling negative influence on the success of the Mission's project assistance and non-project assistance alike.

Of lesser importance, but of significance nonetheless, is the relatively high turnover of Mission personnel, including both US direct hire personnel and Foreign Service Nationals (FSNs). During the roughly ten-year period covered by the evaluation, there have been four Mission Directors and five Agricultural Officers. While it is assumed that the Mission's program, planning, and implementation processes were all followed according to Agency policy and guidelines, the evaluation team cannot help but question the impact of this level of turnover on the Mission's priorities, emphasis, and working relationship with GOM counterparts.

Another administrative matter that deserves mention, if only in passing, since it is not within the scope of this evaluation, is the relatively high number of affirmations and complaints

[6] This is the official GOM estimate. The World Bank and others estimate that GDP growth was negative in 2001 and will most likely continue to be in 2002.

surrounding the length of time that the Contracting Office in Gaborone takes to approve and process contracts, payments, and other documents. The delay of this evaluation by almost a full year is but one example.

II. METHODOLOGY

The methodology used in this evaluation consisted of an initial orientation by Mission staff and a review of pertinent documents, including those in the Mission's library, as well as file documents. This was then followed by in depth interviews with the staff of all eight projects under evaluation and a further review of their document files. In the case of non-project activities, interviews were held with selected officials in the Ministry of Agriculture and Irrigation (MOAI), other government of Malawi (GOM) representatives, private sector traders, processors, and suppliers of agricultural inputs, and other international donors and NGOs.

An initial draft of this document was then prepared. Appropriate sections were then circulated among the eight partners, in order to correct any error of fact or omission. The entire first draft was then presented to Mission staff and a verbal presentation was made to the Mission Director. Feedback was then received from the Mission and incorporated into the final draft evaluation document.

III. STRATEGIC OBJECTIVE ONE (SO1) PROJECTS

A. SUPPORT TO SMALLHOLDER FARMERS ORGANIZATIONS

1. Funding Levels and Project Goal, Purpose, and Objectives

USAID has been providing support to smallholder farmers since 1993 to help them to organize, to better market their products, and to improve family income. This support has led to the creation first of the National Smallholder Farmers Association of Malawi (NASFAM) and more recently to the NASFAM group of companies which address the commercial and developmental aspirations of smallholders in Malawi. This section analyzes the development of NASFAM from the beginning and the contribution of USAID's support to its evolution. This assistance can be divided into three stages: the Smallholder Burley Club Strengthening Project, the Smallholder Agribusiness Development Project (SADP), and the NASFAM Strengthening Project (NSP). ACDI/VOCA has been the implementing partner during all three stages, under two separate Cooperative Agreements.

Stage I: Smallholder Burley Club Strengthening Project

Stage I, Cooperative Agreement number 623-0235-A-00-4006-00 and Stage II, Cooperative Agreement number 623-A-00-94-00006-12, were funded at $8,457,255 and implemented consecutively from October 1, 1993 to September 30, 2000.

Project Goal: To expand the participation of smallholders in the national economy.

Project Purpose: To increase smallholders' cash returns from growing and marketing burley tobacco.

Objectives:

- To strengthen existing and new clubs and to improve their access to credit and their ability to cooperate;
- To make their operations more professional and businesslike; and
- To provide training to the Ministry of Agriculture and Land Development (MoALD) field staff who, in turn, would provide this training and technical assistance to the clubs.

Stage II: Smallholder Agribusiness Development Project (SADP)

Project Goal: To expand the participation of smallholders in the national economy.

Project Purpose: To make them stronger economic actors by increasing their organizational and technical skills and transforming selected smallholder clubs into viable business entities.

Objectives:

- To improve business and financial management skills of smallholder clubs and associations;
- To improve burley marketing skills of smallholder clubs and associations;

- To facilitates smallholder empowerment through business development, group action and policy impact;
- To strengthen business links between clubs and associations and market service providers;
- To improve the participation of women in smallholder clubs and associations;
- To promote crop development and diversification initiatives among smallholders; and
- To promote improved environmental practices.

Stage III: NASFAM Strengthening Project (NSP)

The NASFAM Strengthening Project (NSP), number 690-A-00-00-00172-00 started on October 1, 2000 and is scheduled to end on September 30, 2003. It was funded at $ 5,448,790 also under a Cooperative Agreement with ACDI/VOCA. The goal and purpose were the same as for SADP above, although emphasis is being placed on the changed roles of ACDI/VOCA staff from managers and implementers to advisors to Malawian managers. Its new objectives are:

- To develop and strengthen smallholder business associations and rural business, both on- and off-farm;
- To expand direct commercial interactions between NASFAM's farmer members and private sector buyers, suppliers, service providers, and market intermediaries;
- To expand crop production initiatives around coffee, cotton, spices and herbs;
- To introduce food security/land use planning/agro-forestry initiatives carried out through the smallholder association system;
- To expand the flow of business development, technical, and financial services to area associations through NASFAM Agribusiness Development Centers; and
- To pursue an aggressive policy impact program in which the NASFAM association structure becomes a focal point for organizing and transmitting smallholder perspectives on issues affecting the economy and the future of agriculture.

2. *Findings*

a. The Projects

Smallholder Burley Club Strengthening Project

The liberalization of tobacco beginning in 1990 gave rise to the formation of large numbers of smallholder tobacco clubs to take advantage of the opportunities offered by this high value crop. By 1992, smallholders had a quota of 3.5 million kg and were authorized to sell their burley tobacco to ADMARC, or directly on the auction floors, rather than through the estates, their only outlet before that time. Some clubs obtained Intermediate Buyers' (IB) licenses. Starting from nothing in 1990, their tobacco sales quota rose to 8.5 million by 1994 and the number of clubs reached 1,500 by 1994. Smallholder involvement in burley tobacco rose dramatically from the early to mid-1990s. Clubs were formed to obtain finance from the Malawi Rural Finance Corporation (MRFC), but needed assistance to make effective use of this credit for the production and marketing of their crop.

USAID's support started in 1993 with field visits and a survey of 150 smallholder clubs by ACDI staff. Based on this survey, the Smallholder Burley Club Strengthening Project started in February 1994. The basic assumption underlying the project was that club performance could be

improved through the credit and extension structures already in place. Initial assistance focused on strengthening these clubs through the extension service of the Ministry of Agriculture and Land Development. ACDI used a training-of-trainers approach: field assistants (FAs) were trained in accounting, record-keeping, grading, transport, marketing, and credit. FAs were then supposed to train clubs and pass on what they had learned. A system linking record keeping and reporting to the various entities involved in tobacco production and marketing was established. A manual and support materials were developed.

By late 1994, it had become apparent that the FAs were not passing on the information and skills being provided by the project. Smallholder success was seen to depend on long-term technical support to turn the clubs into viable businesses, to provide them with training in business skills, to improve the registration system for clubs, and to identify the clubs which were capable of developing into credit-worthy enterprises. Members needed to identify with their clubs as businesses, each having its individually determined procedures and business plans. Clubs needed to take advantage of the Intermediate Buyer program to function as intermediaries in marketing members' products. The conclusion was reached that provision of these business support services through Ministry of Agriculture field assistants, who did not possess the requisite training or skills, would be very difficult.

Smallholder Agribusiness Development Project (SADP)

Phase I

The Smallholder Agribusiness Development Project (SADP) was implemented in two phases. The first phase covered FY1996-1998. Its guiding philosophy was "farming as a business," helping clubs become credit-worthy and viable enterprises. Five agribusiness development centers (ADCs) were set up and staffed by Malawian project personnel supported by expatriate volunteers who turned out business materials. Each ADC served two (or sometimes more) Extension Planning Areas (EPAs).

With the advice of ADC staff, quality improvements and improved production of tobacco allowed members to obtain better average prices, which soon reached par with the prices obtained by the estate sector. This had the effect of increasing smallholder incomes significantly, in accordance with the theme of "putting more money in your pocket, not more of your money in someone else's pocket."

Initially clubs operated independently, each doing its own collective marketing of members' produce. Soon clubs started collaborating among themselves to hire vehicles more cheaply to transport their products to market. Clubs banded together to achieve collective action to solve problems and to develop more structured associations of farmer clubs to acquire economies of size and collective power of voice. Initially, there were less than 20 farmers per club and under 100 clubs per association; in recent years, both the number of members per club and the number of clubs per association have risen (currently to over 50 members per club and nearly 160 members per association). However, gains acquired by collective input purchases and by joint transport and marketing of the tobacco crops of individual clubs were soon exhausted. Group action committees (GACs) were started during the second year of the project to achieve additional volume discounts on input prices and freight rates. Training centered on problem-identification, group decision-making to resolve problems, fair and transparent elections and

stress on good governance, financial accountability, and organizational sustainability. Changes resulting from the development of the clubs and GACs made it possible for smallholders to obtain for themselves most of the benefits from the liberalization of tobacco marketing which had been brought about by changes in Government policy. SADP also focused on institutional development and capacity-building and was therefore more than just simply a project which improved tobacco production and sales.. Individual farmer success depended on the responsibility of their leadership for each farmer's actions and on a clear understanding of issues and on building a consensus of the group before their leaders took and implemented decisions on the group's behalf. Strength of the organization spilled over into community empowerment and participation in local developmental activities.

Advocacy began during this stage, with strong contacts being established with all major players in the tobacco industry. These contacts were used successfully in raising the quota for smallholder tobacco to 30 million kg by 1996, by which time smallholders accounted for 11 percent of tobacco sold at auction. A major theme of the advocacy work has been to allow smallholders to secure a higher share of the final auction floor price of tobacco, by improving and speeding access to the auction floor by the use of larger vehicles and by lowering freight charges by more expeditious loading and unloading. It was also argued successfully that smallholders should be exempt from the five percent tax on their tobacco sales.

Outreach efforts were also started during SADP in preparing 25-50 programs per year for transmission in the local language (Chichewa) on the radio. Content was broad-ranging and covered topics of general interest to smallholders. Radios were one of the first household items which smallholders purchased with their additional income. A newsletter was also started ("Titukulane").

New programs were established and linkages were developed with other institutions. Linkages were also made with intermediate buyers. A start was made in credit and finance by linking the more advanced clubs with the Malawi Union of Savings and Credit Cooperatives (MUSCCO), as well as with MRFC, and by encouraging those clubs that could to self-finance their production. Diversification into other crops started as new associations were formed around non-tobacco crops such as chilies, coffee, and others. Environmental work was begun through collaboration with USAID's Agro-Forestry project. Considerable efforts were made to assure equal opportunity for participation by women. Work was begun on MIS and on a monitoring and evaluation system.

Phase II

Phase II of SADP covered FY 1999 to 2000. In July 1997, NASFAM was officially established with 14 associations of farmer clubs as founding members. It was officially incorporated under the Trustees Incorporation Act in February 1998. Until the end of the SADP I it was managed by the ACDI/VOCA project staff. SADP II started on October 1, 1998. From that point on, SADP staff came under the responsibility of NASFAM and the ACDI/VOCA expatriate staff became advisors to NASFAM. Additionally, at that point, NASFAM also became responsible for the provision of services to member associations. Budgetary control was retained by ACDI/VOCA, but all other aspects of operations were transferred to NASFAM. The General Manager and Deputy General Manager were chosen by the Board of Trustees and hired by NASFAM in June 1999. The Deputy General Manager was selected among senior Malawian

SADP staff and assigned the task of managing field operations. The transition was carried out smoothly and did not lead to noticeable operational problems.

At the start of SADP II, NASFAM was composed of 17 smallholder associations, 1,776 clubs, 196 Group Action Committees, and 33,821 members. Until that time, most associations focused on tobacco production, but as part of its strategy to diversify, farmer groups were developed focusing on coffee (in the North), spices and herbs (Lilongwe South), cotton (Balaka district), and chilies (Mulanje district). All associations began investigating crop options other than tobacco.

Between the beginning of October 1998 and the end of September 2000, the numbers of associations increased from 17 to 31, the number of clubs from 1,776 to 3,972, the number of GACs from 196 to 354, and membership from 33,800 to 72,700. NASFAM, which had been working in 24 EPAs, also increased this number to 46 (out of about 150 EPAs in the country) by September 2000. All associations covered the costs of operating their business from their own resources, with no subsidies from NASFAM or the project. Principal sources of income are membership fees and commissions on input and product sales. In newly established associations NASFAM does pay the cost of the general manager and his assistant on a declining basis, until the association generates a volume of business sufficient to cover their salaries. This does not include the cost of some of the infrastructure of warehouses, shops and offices whose construction costs have been paid by various donors.

Based on the results of a 1998 International Food Policy Research Institute (IFPRI) study, NASFAM members had higher yields, production, and income than non-members. The study also showed modest differences in the nutritional status of children in the families of members compared to non-members, confirming that NASFAM's strategy of focusing on the production of high value crops rather than food crops was a good food security strategy in most years when food is available for purchase in the marketplace. Following the recent food drought and crisis where food availability fell dramatically, NASFAM has increased its work in encouraging its members to produce basic food crops needed by their families.

While the first phase of SADP focused on institution building leading to the creation of NASFAM, the second phase build capacity within NASFAM, both at the central and association levels. The goal was to transfer project staff at the ADC level to the associations, as they developed the capability of handling the additional responsibility. This transfer was already substantially achieved in Mulange by September 1999 (with only the ADC coordinator remaining on the SADP staff).

In order for associations to be members of NASFAM, they must fulfill the following conditions:

- Membership entrance fees and annual dues paid, membership base created;
- By-laws adopted by the Annual General Meeting;
- At least two general meetings held and committee meetings held regularly;
- Annual General Meeting held with elections, audited financial report, annual program reports, annual budget and annual work plan presented;
- Manual of standard operating procedures approved and abided by; and,
- Salaried manager in place with accounts, records, banking systems, and quarterly audits.

In short, associations must have good governance, be self-supporting, or following such a path, have a clear-cut plan of work and procedures to follow, keep clear and transparent accounts and have professional staff capable of managing the enterprise. Technical Service Advisers from NASFAM were gradually replaced by Association Field Officers (funded by the associations) providing assistance in forming and registering clubs, record-keeping, leadership and governance training, annual plans, establishing club credit requirements, assisting with club operations, marketing, and sales activities, and club participation in associations and GAC activities, and in resolving problems.

New funding came in from DANIDA and the EU, and later from NORAD. DANIDA funded NASFAM's expansion into new areas and in developing new associations to serve these areas: Mchinji (groundnuts), South Mzimba and Karonga (rice). The European Union's Promotion of Soil Conservation and Rural Production (PROSCARP) project provided funding for soil conservation and land use activities (and three advisers to support them), crop finance for bird's-eye chili, and finance for treadle pumps to allow for the dry season production of spices and high value vegetable crops, cereal and soybean seed, and fruit tree seedling production. The availability of the treadle pumps increased farmer income as well as the supply of products, such as strawberries in Lilongwe and other markets. NORAD supplied funds for training and outreach, community-based projects, the construction of shops, and for strengthening partnerships.

During SADP II cooperation was improved with MRFC and the National Bank of Malawi began providing some credit to associations. To convince a commercial bank in Malawi to finance small farmers is a huge step for a banking system that has always been reticent to finance agriculture, even the large estates. With funding from DANIDA and NORAD, associations built and managed farm supply shops, improving their earnings through profits from sales of fertilizer and other inputs, and also provided their members with a source of needed inputs and a modest selection of basic household goods (sugar, salt, flour). Some associations are, on their own, broadening the selection of goods that they carry, although this expansion is not actively encouraged by NASFAM, due to insufficient working capital and due to competition from other traders.

Furthermore, during SADP II, chili peppers were exported successfully. Coffee and cotton exports were less successful. Little coffee was available for export, since demand for processing for the domestic market absorbed most of the small crop at prices significantly higher than could be supported by prices in the international market. Cotton is facing serious problems because of low international prices. Farmers faced problems when the seed supplied by the ginnery was substandard and pesticides other than those ordered were delivered. Many farmers also sold to intermediate buyers for immediate (though low) cash payments, rather than selling to their association and waiting for a deferred but higher payment. Farmers who were producing spices and other products in Lilongwe South defected in large numbers from their associations and engaged in considerable side selling to nearby traders in Lilongwe.

NASFAM continued SADP's strong support for training at all levels from its own staff down to the club level in required business skills. DANIDA provided funding for literacy training, which reached 11,500 members in need of such training, most of them women; about a third of NASFAM's members are illiterate. The contribution of member literacy to good governance of an organization like NASFAM is hard to overstress, although the returns are hard to quantify.

Also during SADP II, policy, advocacy, and communications (PAC) activities expanded to allow NASFAM to: have good communications with its rapidly expanding membership, to act as the voice of smallholders on national issues affecting them, to provide specialized services in policy analysis and discussion, and to publish newsletters, and produce radio programs for broadcast. The PAC unit was responsible for carrying out a food security study funded by the international NGO "Bread for the World" and for hosting a conference at which food security issues were discussed. NASFAM's support of gender issues was passed on to each association with assistance from DANIDA and was institutionalized by requiring that one of the three delegates sent by each association to the annual general meeting be a woman.

Moreover, during SADP II, land, natural resource, and soil conservation issues have been addressed with the support of the USAID-funded Agro-Forestry Extension (AFE) project and the EU's Promotion of Soil Conservation and Rural Production PROSCARP) project. Seed multiplication programs for leguminous plants such as soybeans and groundnuts, which fix nitrogen in the soil -- allowed farmers to diversify their income and improve the nitrogen level of the soil. Land use management advisors also helped establish nurseries to provide tree seedlings and vetiver grass for soil conservation efforts affecting more than 2,000 participating farmers. Forty model farms were also set up. All of these efforts are expected to have long-term benefits for NASFAM members.

During SADP II, NASFAM also began to form its individual member database by installing computers (including internet access, where feasible) and by training data-entry operators. The goal of the information and data processing system is to allow two-way communication between members and their organization. When completed, this database will provide a strong tool for NASFAM's marketing efforts on behalf of members, as well as a strong analytical tool for investigating the impact of policies, regulations, and procedures on smallholders. NASFAM also strengthened its accounting system at the association level and set up a standard accounting system for associations, institutionalized quarterly field audits, and provided back-stopping to association accountants for managing their accounts and improving their systems and procedures.

The GOM and various donors and development partners expressed satisfaction with NASFAM's work with smallholders and its collaboration with their programs. The World Food Program (WFP), for example, congratulated NASFAM on its excellent management of a Food-For-Work (FFW) road rehabilitation and bridge building program. Nevertheless, considerable pressure began to be put on NASFAM to expand its membership and its coverage dramatically to include all parts of the country.

In summary, SADP saw the creation of NASFAM, institutionalizing the work of the project, and supported NASFAM in its establishment. It allowed smallholder farmers to retain part of the wide margins previously taken by intermediate buyers and assisted them in diversifying into other crops and to reaching new markets. It also established a system of good governance and strict financial accountability to safeguard the time and money that its members and those who have supported them have invested in creating the organization. Graft is not tolerated and any staff stealing from members are pursued and jailed as an example to others. Similarly, NASFAM holds members to a high standard in their own dealings, particularly with respect to honoring debts to credit institutions. It also made certain that women participated equitably in the benefits of association, with 28 percent of all members in 2000 being women.

NASFAM Strengthening Project (NSP)

The NASFAM Strengthening Project (NSP) covers the period October 1, 2000 to September 30, 2003. The project continues to be implemented by ACDI/VOCA, which provides two expatriate technical advisors (a principal advisor and a finance advisor). The goal of this project is to institutionalize the gains made by smallholder farmers from earlier phases of USAID support, in light of NASFAM's five-year strategic plan for the 2001-2006 period. It covers the first three years of the five year transition period from a national smallholder farmers organization into a set of smallholder owned companies with mutually supportive purposes; the project is designed to make smallholders significant players in agricultural trading in Malawi and the region, as well as recognized stakeholders representing the rural development interests of smallholders, both members and non-members. The NSP, including the one-year extension to September 2003, is overseeing and backstopping the transformation of NASFAM from a multipurpose trust organization to a farmer association-owned holding company, NASFAM Development Corporation (NASDEC), which, in turn, owns and manages two companies pursuing different goals and activities benefiting smallholder farmers: NASFAM Commodity Marketing Exchange (NASCOMEX) to engage in trade and commercial activities of all kinds, and the NASFAM Center for Development (NASCENT) to pursue non-commercial developmental objectives and to provide in-group services to NASCOMEX and NASDEC.

The period spanned by the NASFAM Support Project also has seen the broadening of support for NASFAM to include other donors and an expansion of its commercial activities to include the marketing of other crops and the supplying of inputs and farm equipment, which both members and non-members need for growing these new crops. Most project equipment and infrastructure was transferred to these new entities.

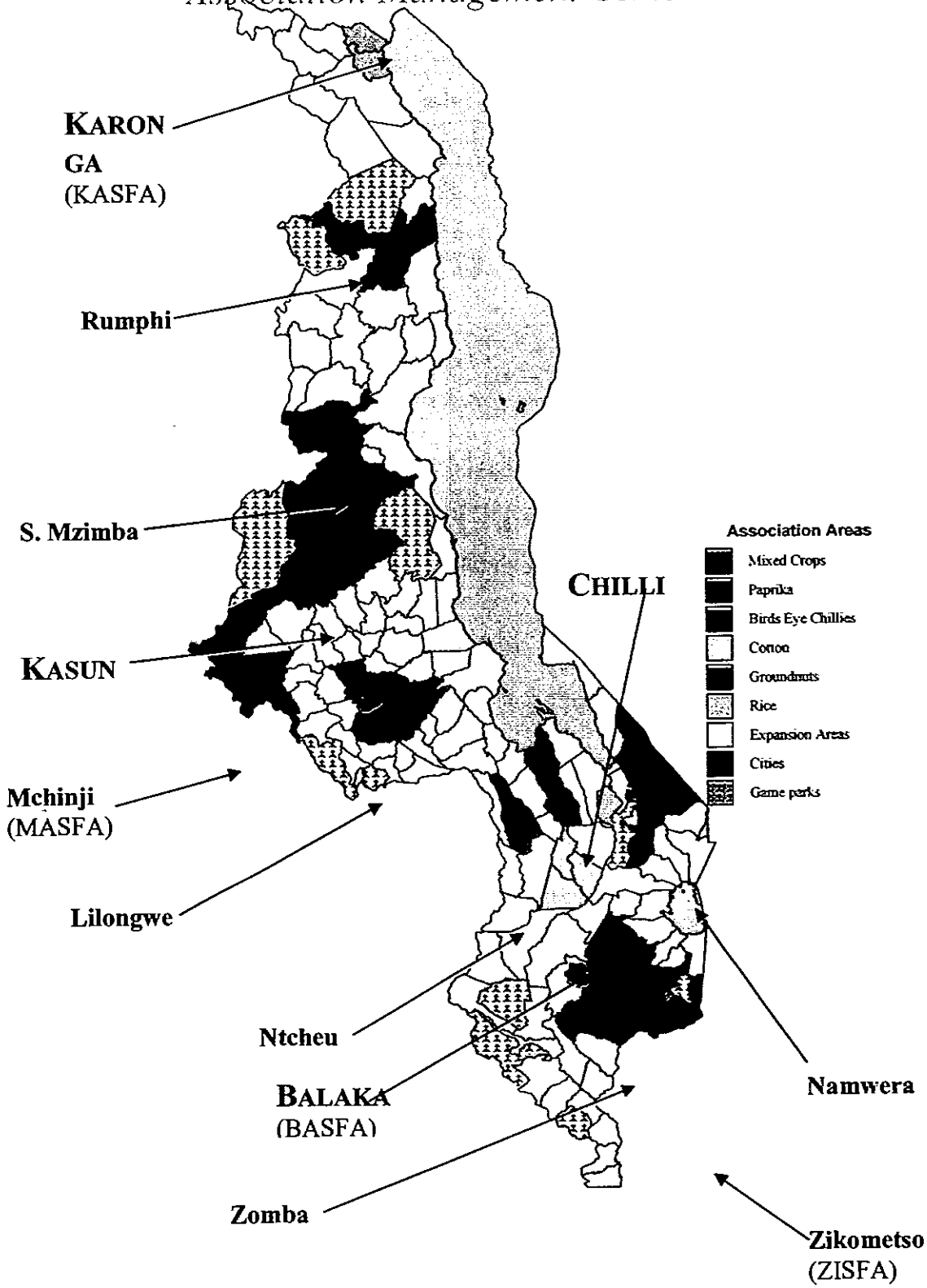
The three companies were approved at NASFAM's annual general meeting in early December 2001. NASFAM functions were divided up and transferred to the new companies. The holding company NASDEC became responsible for: organizational development, crop production, auditing and financial services, and administration and finance. NASCOMEX is responsible for business and marketing operations, and for seeking out new commercial opportunities to exploit. NASCENT focuses on program and policy development, management information services, and human resource development.

NASFAM's ten Agribusiness Development Centers (ADCs) have been closed and their equipment and staff transferred to Association Management Centers. These are operated by 12 for-profit Association Group Companies. Technical services are provided on a fee-for-service basis by three regional teams (north, central and south). Each team is composed of an auditor/financial systems advisor, a management systems advisor, and a NASCOMEX regional representative.

The following map shows the locations of NASFAM activity and the principal crops grown.

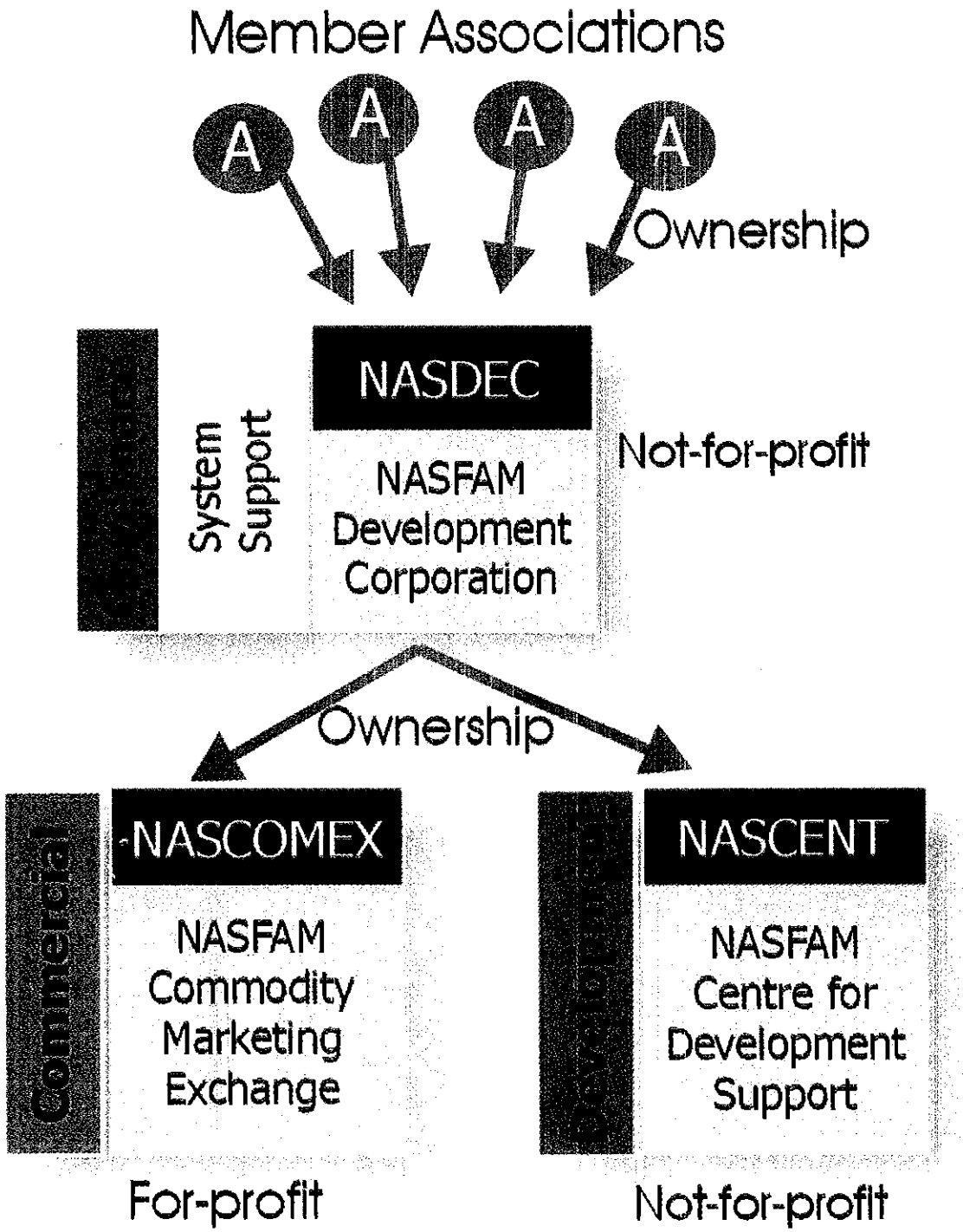
NASFAM 2001 - 2002

Association Management Centers



Revised: October, 2001

The following organizational chart portrays the relationship between the three organizations:



b. The Current Organizations and their Functions

NASFAM Development Corporation (NASDEC)

NASFAM Development Corporation (NASDEC) is a not-for-profit company set up to manage the NASFAM business system. It is owned by NASFAM member organizations. It provides these organizations with financial resources, training and technical assistance to support their development. It will help member organizations in their own transformation into viable business enterprises. It will share certain costs with member companies on the basis of fee-for-service agreements outlined in joint work plans. These arrangements will facilitate direct contact between member companies and NASDEC staff, rather than having to go through layers -- thus improving communication between members and NASDEC staff.

NASDEC will oversee the development of NASCOMEX, the NASFAM's trading company and commodity exchange and of the NASFAM Center for Development Support (NASCENT), which will provide information, training and advocacy and communications services to members. NASDEC will establish the management of the holding company and develop its ability to oversee the operation of the component units of the NASFAM system.

NASDEC's Board of Directors was chosen at the annual general meeting in December 2001 and is 100 percent Malawian. The Board meets quarterly to set policy and review progress in the achievement of corporate goals. An advisory committee composed of NSP's expatriate Project Director and Assistant Director, and of NASFAM's CEO and Chief Operations Officer, handle day-to-day decisions on a consensus basis. (The Assistant Director and the Chief Operations Officer both left in October 2002, after being with NASFAM and its predecessors from the beginning.) In September 2002, the committee was enlarged to seven members to include the Director of NASCENT, the General Manager of NASCOMEX, and the Director of Finance. The Finance and Administration Department is installing a new corporate accounting package (at a cost of $35,000, plus annual maintenance). The department is responsible for the management of the assets and accounts of the three corporate entities.

Revenue and Funding Sources

All revenues and grants for the 99/00 through the 01/02 financial years were incorporated into a single NASFAM budget audited and projected for 02/03 by KPMG.

TABLE 2
NASFAM Grants and Revenues by Percentages

Revenue Source	99/00	00/01	01/02	Projected 02/03
USAID/NASFAM Support Project	54	38	47	41
EU-PROSCARP	7	4	0	0
DANIDA	33	27	0	0
NORAD	0	27	19	40
NASFAM Revenues	6	4	14	19
Totals	100%	100%	100%	100%

The EU Promotion of Soil Conservation and Rural Production (PROSCARP) project ended in June 2002. DANIDA abruptly withdrew in May 2002 due to dissatisfaction with accounting for funds supplied to other projects (unrelated to its funding for NASFAM). (It should be noted that DANIDA was very satisfied with its collaboration with NASFAM and left in place funds for buying crops, which had originally been provided as a loan.) NORAD support followed that of DANIDA by one year, and when DANIDA withdrew, NORAD stepped in to fill the breach. NASFAM's own revenues have been rising and covering a higher percentage of costs. Proportionately, USAID's support has fallen from 54 to 41 percent over the four-year period covered.

EU's contribution provided MK 9.5 million principally for the construction of warehouses, land use management services, sprayers, inputs, and crop finance (for buying crops). Before it left, DANIDA provided nearly US$1 million for equipment and training needed to expand NASFAM's coverage area, office construction, and crop finance. NORAD funding started in October 2001 with a budget of $1.5 million and covered human resource development, material support, commercial programs, overhead, and community action programs.

Staffing

With the changes in NASFAM's structure, its staff numbered 85 (including drivers and other support staff). With the closure of the ADCs, the associations and the regional offices have picked up their staff on a cost sharing and declining percentage basis. NASDEC field staff numbers 22, (down from 36 a year ago), including 9 drivers. Associations employ 189 managers and staff, 70 percent of NASFAM's total workforce.

Over the years, volunteers have been used extensively by NASFAM, starting with those provided by VOCA in the early years. Other organizations providing volunteers include the US Peace Corps, VSO, UN Volunteers, APSO, and WUSC. These volunteers have worked in a variety of capacities from business management skills training to audit services. Currently a UN volunteer is providing assistance on NASFAM's new gender policy.

Central Audit and Financial Services Unit

This unit provides financial services and oversight as an honest broker to the entire NASFAM system, including maintaining accounts and carrying out audits. This assistance is provided on a fee for service basis. The unit maintains the budgets and accounts of the various departments and units and produces necessary financial reports. Its Grants Management Section handles all flows of donor money to the NASFAM system, or through it to member organizations. The unit is also developing lease-purchase schemes for the acquisition of equipment for value-added operations of member companies, to be paid for out of the stream of revenue derived from these activities.

Annual audits of member associations are compulsory and a basic criterion for membership. The unit is involved in setting up and maintaining operational systems, stock control, financial links with the associations and on systems within the associations. Significant work remains to be done with the associations in regards to their accounting and financial systems. The AFSU staff goes from association-to-association and farm supply shop-to-shop, helping with the books and auditing the accounts. This unit needs longer-term support, including expatriate assistance and salary support for local staff.

Crop Production and Marketing

When support from USAID started in 1993, it was channeled through the Ministry of Agriculture's field assistants. It soon became apparent that their skills in the business areas were lacking, forcing the reorientation of support in a way that has led to the formation of NASFAM and its member companies. However, even in the standard agricultural extension area, the Ministry has for many years been unable to provide the basic advice that farmers needed to efficiently grow the crops which NASFAM was helping them market. NASFAM has found it necessary to establish a Sustainable Agricultural Production Unit staffed by a manager and 12 Crop Production and Marketing Managers, who supervise 40 Associations Field Officers (AFOs). This unit and its staff supply the information and support that farmers need to improve productivity in growing the crops marketed through their associations.

Association Development Support

NASDEC's organization development unit coordinates field staff (managers of association and regional management advisors). It provides technical assistance through regional management systems advisors to association managers, and to crop production and marketing managers. It also coordinates the rural self-help program (road improvement, bridge repair), association equipment (motorcycles and computers), and the program of matching grants for warehouse, office, and supply shop construction (with local materials and unskilled labor being provided by the associations).

Twelve Association Management Centers (AMCs) have been established (in replacement of the ADCs) to assist the 32 associations, 5000 clubs, and 400 market centers of NASFAM's 97,000 members. As of September 2002, NASFAM was operating in 61 (out of 160) EPAs, an increase of three in the past year. New crops are being given priority and associations are active in marketing cotton, coffee, rice, soybeans, paprika, and groundnuts in 52 of these 61 EPAs. The number of farmers active in marketing crops other than tobacco, reached 78,400 (82 percent of total membership), up from 32,000 farmers (34 percent of members) the previous year.

TABLE 3
NASFAM Membership Growth 1996 to 2002

Membership	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	% increase last 2 yrs.
EPAs	12	24	36	46	58	61	5%
Farmers	18,759	33,821	50,088	67,580	93,542	95,322	2%
Clubs	990	1,776	2,551	3,663	5,162	5,105	-1%
MACs/GACs	105	196	257	344	453	438	-3%
Associations	12	17	23	31	34	32	-6%

Women now constitute 38 percent of all members, 58 percent of chairpersons of associations, and a mandatory 33 percent of representatives to NASFAM's General Assembly. Women's clubs constitute 21 percent of all clubs. Women, who also comprise a majority of other staff, manage many of the farm supply shops. Except for representation at the annual general meeting, gender quotas are not imposed. NASFAM simply follows the principle that dealing fairly with women is good business for the organization, as well as for the women themselves.

In 2001/2002,, all associations showed a surplus, although on aggregate the surplus was lower at $114,000 for all associations compared to $250,000 for the previous year. It should be recalled that through cost sharing, some association staff are partially or fully funded by NASFAM. Also, some costs that might normally be borne by the Government, such as crop extension, have to be covered by NASFAM, because of deficient or non-existent Government services.

Since 1966, a large part of the work has focused on training farmers, clubs, and associations in business management skills appropriate for each level. In 2001/2002, over 5,300 training meetings were held and attended by 131,500 participants, a third of whom were women.

Warehouse and Office Construction

Using funding provided by EU-PROSCARP and DANIDA, 24 market centers, 15 office-shop-warehouse complexes and four large regional warehouses were built. Under these matching grants, skilled labor, equipment and non-local materials are funded, with the associations and members bearing a share of expenses through labor input and local material supply. These buildings put NASFAM on a more even footing with private traders and with ADMARC, which, for the most part, own their own facilities and do not pay rent.

NASFAM Center for Development (NASCENT)

The NASFAM Center for Development (NASCENT) is composed of three program units: the Policy and Programs Unit (PPU), the Human Resource Development (HRD), and the Management Information Systems (MIS). Though its primary focus is on members, NASCENT in fact provides services to and serves as an advocate for all smallholder farmers.

Program and Policy Unit (PPU)

The Policy and Programs Unit (PPU) provides news and information and is active in the advocacy of policy issues affecting all smallholders. Taskforces are being established in member companies to monitor and report on areas of interest. NASCENT has four priority policy areas: 1) access to financial services, 2) marketing systems, 3) agricultural marketing and 4) rural infrastructure. Every other year there is a smallholder conference that focuses on whichever of these issues is deemed a priority for that year. As issues within these areas come up, NASCENT does advocacy work as appropriate, such as paid insertions in the press when actions are taken which are detrimental to the interests of its members and to the country as a whole -- as was the case with tobacco exports to Zambia and Mozambique.

Each quarter the PPU distributes 6,000 copies of its newsletter (*Titukulane*) to members, agribusinesses, donors, and to the Ministry of Agriculture, and these issues also reach non-members. Two thirds of the newsletters distributed are in Chichewa; the remainder is divided equally between Tumbuka and English. The PPU also issues its own crop bulletins on principal crops marketed by smallholders through NASFAM, to provide production and market news to farmers. NASFAM produces a large number of radio programs each year, with the help of the Ministry of Agriculture and Irrigation's Communications branch. This is the medium of choice, since it reaches large numbers of farmers, many of whom are illiterate and cannot be reached through the more expensive print medium -- and brings messages to a broad spectrum of non-members as well as members. A variety of awards and demonstrations are conducted with clubs

and associations to encourage excellence of various types. NASFAM is an active participant in policy advocacy and joins in coalition with other interested parties on policy and environmental issues of interest to smallholders. It collaborates with a variety of institutions from the Malawi Chamber of Commerce and Industry to the National Resource College, ICRISAT, and MUSCCO on issues of common interest. Its role in advocacy work will only tend to grow in the coming years. It is also investigating the possibility of setting up an endowment fund to cover the costs of capacity-building for members. The PPU also handles program monitoring and reporting to donors for resources they supplied and for programs operating with donor funding.

Human Resource Development (HRD) Unit

The Human Resource Development (HRD) unit provides training courses and workshops to staff consistent with their needs to improve their service to members. Donors have provided strong and consistent support for training; these donors recognize that, as of result of the limitations of education in the past, even college graduates require specialized training to work effectively in supporting the development of the business and development-oriented organizations within the NASFAM system. Content is based on a rolling three-year training plan. There were 568 participants in 2001/2002, 25 percent of these are women. The unit is also responsible for adult literacy, which, through the provision of 400 five-month courses, has reached over 12,800 member farmers. Participants were overwhelmingly women (84 percent), but more male participation is expected in the future -- as male members get over their shyness in learning alongside women and in studying subjects that they missed out on, and which their children already know.

The Strategic Development Plan envisages the role for the HRD unit of providing a broad range of training to NASDEC, NASCOMEX and NASCENT board members and staff, to assure good governance and to improve their business operations. It will also assist member companies with training courses designed to meet member concerns and needs identified in their internal assessments. A proposal has been made to set up a NASFAM Human Resource Development Institute as a permanent training program for smallholders and for those who serve them, possibly in conjunction with the National Resource College.

Information Services Unit

NASFAM has established and maintained an up-to-date computerized database of its membership concerning their purchases, production, intentions, sales, and gender. Combined with crop marketing, fertilizer sources, and price bulletin (August to November), commodity source and price bulletin (May to November), quarterly and annual progress reports and program tracking reports systems, the MIS system can constitute an important business tool for management of the three companies. The unit will support NASCOMEX' ability to provide a broad range of market pricing and market news information. The database on members, which includes business history as well as biographical and socioeconomic data, can be used, once it is fully operational, as an analytical tool to simulate the impacts of policy changes on smallholders, thus helping to avoid some of the policy mistakes of the past.

NASFAM Commodity Marketing Exchange (NASCOMEX)

One of the main reasons behind NASFAM's decision to restructure was the need to broaden its business base and to separate its business from its developmental activities. NASCOMEX is a for-profit market development and trading company. More than a simple commodity exchange providing commodity brokering and price information, NASCOMEX will assist member companies to identify and market high potential crops, and, where justified, to add value to and then market these products in the most profitable presentations. NASCOMEX is a company oriented primarily toward exports, but able to pursue any agro-based business opportunity in Malawi, which would provide benefit to its members or to other smallholder farmers. Unlike standard commodity exchanges, such as have been operating in Zimbabwe (now closing due to changes in Government policies), NASCOMEX controls significant quantities of its own members' products, which can serve as a basis for larger trading operations combining member production and purchases from non-members. In other words, NASCOMEX will function as a smallholder-owned trading company, marketing member produce together with products bought from non-members. Trading can be either domestic or for export. Sales in the domestic market may either be sold at wholesale, or as brand name packaged products for sale at retail, or for sale at retail in supply shops owned by member companies. Trading in food crops, such as maize, which has been limited to small buying operations designed to establish food reserves for members, can be expanded to include purchases for holding and sale to the public in general, as is already occurring with aromatic rice from Karonga currently sold at retail nationwide.

As long as tobacco represents nearly three quarters of Malawi's exports, smallholder burley tobacco is likely to remain NASCOMEX' core business for many years to come. However, NASCOMEX is pursuing a broad range of other cash crops for the export and domestic markets. Some of these products are being developed in new geographical areas with newly formed associations; in other cases farmers are substituting these crops for burley tobacco, in view of declining tobacco prices.

NASCOMEX' main goal is to produce a profit in order to sustain the whole system and to provide financial support to other parts of the NASFAM system. Its operations will include purchases of significant volumes of products from non-members. Wherever possible, NASFAM will make use of services offered by associated companies like NASDEC (for accounting and financial services) rather than incurring the cost of establishing in-house units to provide for these needs and for NASCENT (for training, communications and policy advocacy).

New Product Marketing

Zikometso Association has been marketing chilies for the past five years with 250 clubs and 50 marketing centers located in nine EPAs for its 5,000 farmer members. In the 2002 marketing season (beginning in March 2002), over 70 metric tons were bought at a farm gate price of $62,500, despite significant competition from local traders. Nine containers of chilies worth $147,000 were exported to Europe. A similar program is also starting in Balaka (BASFA association) in addition to its usual marketing of cotton, which is faring less well, due to problems with major buyers, crop finance delays, and increased competition.

The Mchinji Association (MASFA, visited during fieldwork for this evaluation) was originally organized to market groundnuts, but now also markets soybeans. Last year it handled 343 metric

tons of groundnuts and 57 of soybeans. For the association to be self-sufficient, it will have to reach marketing volumes on the order of 1,000 metric tons, by buying and marketing a greater volume of product. Currently NASFAM is picking up the salary costs of the general manager and of the crop production and marketing manager.

The Karonga pre-association (KASFA) in northern Malawi bought 121 metric tons of paddy rice by August 2001, having the rice milled and packed in 50 kg bags, which it sold in Blantyre. It has also begun packaging and marketing one and two kg bags of rice in NASFAM shops around the country and in selected supermarkets in Lilongwe and elsewhere. This move by the association marks a break with past practice in NASFAM, which saw a high-level of value-added in processing as being beyond the capabilities of its members. At the end of the first season, members in South Mzimba had sold 27 metric tons of paprika to Cheetah (a regional company with headquarters in Zambia, also operating in Mozambique). Eight associations in the Rumphi and Kaasungu areas have taken up the crop; in one association, paprika is replacing coffee as the main crop. Four associations (including MASFA) are engaged in soybean marketing, which is fast becoming NASFAM's major secondary crop, followed by paprika (sold to Cheetah Malawi). A total of 62 metric tons of all non-tobacco commodities were marketed in the 2001 season; for 2002, the amount will be in the neighborhood of 300 metric tons. Total sales for non-tobacco crops for NASCOMEX during the March 1 to September 30, 2002 marketing season were $650,000.

Business Operations

Over the years, NASFAM has been negotiating tenders with local suppliers of fertilizer and have brought the prices down significantly by being able to negotiate for large amounts of fertilizer from a single supplier. The sales are made through the local association, which, in the 2001 sales season earned almost $19,000 in commissions (1 to 3 percent of sales volume). Associations get free delivery of produce to their marketing centers and prices to members average 10 percent less than local retail prices.

In the 2002/2003 season, however, NASCOMEX decided to directly import fertilizer itself from a South African supplier through an arrangement with a Malawian partner (Rab Processors). Its imports account for five percent of total fertilizer imports into Malawi. NASCOMEX shared the margin obtained with participating associations, although a few associations decided to go with another supplier (Hydro). In markets where NASCOMEX was in competition with them, other traders lowered prices to undercut NASFAM's (cross-subsidizing them by raising prices in markets not served by NASFAM). Since associations lost projected revenue of MK20-40 per bag (out of which they pay their costs), some associations (not NASFAM itself) in their quarterly general meeting fined their members MK30 per bag for not taking delivery of fertilizer which they had ordered. Traders have filed a complaint with the Ministry of Agriculture. Until NASFAM is accepted as a permanent feature in the fertilizer market, similar non-competitive behavior by other players can be expected. NASCOMEX can expect to make significant income from fertilizer sales to member associations, while reducing average fertilizer costs to both member and non-member farmers and in introducing a strong element of competition (i.e., lowering prices) in the fertilizer market in areas where it is actively selling through its farm supply shops and member associations.

NASCOMEX also competes on other farm inputs with other suppliers through a network of 34 farm supply shops (26 of which opened in the 2001/2002 year). Lacking working capital, these shops work largely on consignment, maintaining a minimum inventory of fast-turnover items that are much needed by farmers. Some basic household goods like sugar, flour and maize are also stocked. Although not encouraged to do so by NASFAM, shops stock other items such as biscuits, matches, razorblades, etc., in areas where there is little competition and where such goods are otherwise unavailable. The shops are seen by members as providing a much needed service in meeting farm input needs; they are appreciated also for their contribution to association revenues needed to meet their costs of operation (gross sales of $244,000 in 2001/2002 for non-fertilizer items). Some items like treadle pumps are supplied from NASCOMEX headquarters, under arrangements that it has with donors and with the Ministry of Agriculture. In some places where such services are not available, local associations are seeking to add maize mills and paraffin pumps with assistance from NASCENT; they seek funding for these investments whose returns are more long-term and benefit the community in ways that go beyond the commercial interests of the association alone.

Transportation

At a late stage in its development, NASFAM obtained two small trucks (4 and 7 ton) that are managed by NASCOMEX and which earned a net surplus of $20,000 on gross revenues of $45,000. NASCOMEX also manages bulk transport contracts for its members worth nearly $600,000, on which it received revenue equivalent to $17,000 in 2001/2002. One of the early roles of NASFAM and its predecessor projects was to help farmers band together to find cheaper sources of transport.

c. Pipeline and Requested Support for the Consolidation of the NASFAM System

The Strategic Development Program 2001-2006: A Plan for Transition, Growth and Sustainability, proposes an extension of the current agreement with ACDI/VOCA through 2006 to provide support to NASFAM; this support should last for the period of time that it takes for the recently constituted structure of associated companies to become well-established and operating firmly within the commercial market targeted by NASCOMEX and also to become thoroughly networked into the development community (NASCENT).

A year ago, a proposal for an extension, along the lines laid out in the strategic plan, was submitted to USAID by ACDI/VOCA to fund the remaining three years of the transition period. The alternative of funding NASDEC, without separate direct funding for external technical assistance, has also been discussed and likely outcomes of such an approach have been noted. The remaining three years (late 2003 to late 2006) is envisaged as the consolidation phase for the newly established structure of NASFAM companies; for the transformation of associations and groups of associations into for-profit companies in their own right; for establishing the linkages with international and regional markets; and for putting the NASFAM group of companies on an even footing to compete with the well-established traders and trading companies which currently dominate agricultural marketing. The consolidation of the NASFAM system is designed to give smallholder farmers the option to participate in the benefits accrued from the marketing and processing of their own products and, for non-members, the option of selling their products to or buying their inputs from a group of companies dedicated to serving smallholder interests and to

increasing competition in rural areas. At the same time, the consolidation phase will improve retail trade in rural areas, which has languished for years, since the forced departure of Asian traders -- as associations open farm supply and essential goods shops in areas currently not served by other traders.

3. Conclusions

Over the course of time and since USAID first started supporting smallholder farmer incursions into the marketing of high value crops, an organization has been created which has allowed member farmers to organize, to develop their business skills, and to retain for themselves and for their member-owned businesses a significant fraction of the wide margins formerly enjoyed by intermediate buyers. Initial support resulted in its meeting its original goal of assuring smallholders a role in the national economy, and has strengthened smallholder clubs and helped them to operate in a more businesslike fashion.

Initial project support to these clubs has been transformed into support for the development of a national organization (NASFAM), which has been instrumental in assisting smallholder farmers in the marketing of their crops, in taking advantage of economies of size on both the product and input sides, and in developing an organization capable of analyzing the challenges facing (and opportunities available to) smallholders and representing their interests in public fora. The impact on member incomes has been positive and significant, in the process of turning farming from a way of life into a business producing income which was significantly higher than farmers had ever achieved before -- and higher than incomes now obtained by non-member farmers with similar resources.

Farmer associations have had a positive impact on communities both from a commercial standpoint by raising farmer incomes; also as contributors to local development through their cooperation with schools and other community projects, and through the provision of services which are otherwise unavailable (private health clinics, farm supply shops and paraffin pumps). As farmer associations were able to make more money though the improved marketing of crops, interest surged in improving crop production practices; farmer efforts have been supported by crop production and marketing activities of Association Field Officers, whose private extension efforts helped farmers increase the volume of products that they could market through their associations. The associations also contributed by setting an example as democratically run, transparent and financially responsible institutions. NASFAM clubs and associations have also been heavily involved in community development efforts (school construction, bridge rehabilitation, etc.) and literacy efforts not directly tied to their central focus of turning farming into a business.

Donors other than USAID, who have come to cover an increasing proportion of the costs of developing this organization and of expanding its coverage to other areas, have perceived of the initial investment of USAID, which was instrumental in its creation, as a good one. They have financed the construction of permanent offices, warehouses, and marketing centers, lending an air of permanence to NASFAM's operations. NASFAM still runs its headquarters operations out of rented premises; however, the organization is seeking to construct its permanent headquarters building and has purchased a plot in Lilongwe for that purpose. The Government recognizes NASFAM's contribution to raising smallholder incomes and improving their status, and is

constantly putting pressure on the organization to expand its membership and geographical coverage.

Within the past year, new corporate structures have been developed which clearly delineate NASFAM's commercial operations and separate them from its developmental activities. NASFAM has set up a holding company (NASDEC) to control the two companies established to manage its two different types of operations: the NASFAM Commodity Exchange (NASCOMEX, a commercial trading company able to carry out a broad range of trade operations with members, with the general public and for its own account); and the NASFAM Center for Development Support (NASCENT, focusing on advocacy and communications, training and human resource development, and information services). The mandate of NASCOMEX has been broadened to allow it to engage in any kind of commercial operations in agricultural marketing or processing which, after analysis, appear to be profitable. Though new, it is becoming a large enough force in marketing in Malawi to generate criticism from traders whose privileged control of markets and monopoly profits are being affected, and who are being forced to lower prices for inputs and raise prices for the products they purchase in markets where NASCOMEX is active. Nevertheless, after less than one full season of operation, the new structure cannot be said to have proven itself to be fully established in markets long dominated by a few, financially powerful traders.

A trading company like NASCOMEX, even when buying products from its members, has to have access to a large volume of funds at the beginning of and throughout the marketing season for a given crop, in order to buy successfully, fulfill its marketing plans, and meet commitments to the buyers it in turn is supplying. In a number of cases members hard-pressed for cash, have sold to intermediate buyers and lost many of the advantages of their status as members, because of NASFAM's lack of sufficient liquidity at critical times during the marketing season. Unlike the situation in other countries (such as in Mozambique) where major crops come in at different times of the year, providing some continuity in demands on finance and allowing funds to be employed in marketing throughout the year -- in Malawi most crops are harvested at almost the same time. NASFAM needs a much larger amount of liquidity than it currently has available in order to operate efficiently and to be in a position to buy crops as they become available during the marketing season from non-member smallholders, as well as from its own members. When it closed its operations in Malawi, DANIDA left behind a small marketing finance fund; though originally provided to NASFAM as a loan, DANIDA converted it into a grant in recognition of NASFAM's successful use of the fund for buying smallholder crops. USAID might be able to supplement these funds and other funds that NASFAM has access to, by either providing a grant for use in crop purchasing; or, alternatively, it could use the Development Credit Authority (DCA) to facilitate NASFAM's access to borrowed fund at a preferential rate, at a relatively low cost to the USAID/Malawi mission. (The DCA provides a 50 percent US Government guarantee to institutions that have had a risk analysis by USAID. The risk percentage amount is then deposited in the US Treasury by USAID. The Treasury makes up the difference to achieve coverage of 50 percent of the amount that the institution wishes to borrow).

Likewise, NASCENT, in taking over the developmental side of NASFAM's activities, needs time to develop a full network of contacts within the development community which will permit it to attract and make the best possible use of development resources that donors and NGOs want to channel toward smallholders.

The timeframe established in the strategic development program is reasonable for putting newly established businesses and business units on a sound financial footing. Despite the complications affecting the agricultural economy as a result of uncertain rainfall and those brought on by the continuation of old and the introduction of new unsound economic policies (both within Malawi and in neighboring countries), within the six-year period contemplated -- the companies in the NASFAM system stand an excellent chance of succeeding, provided the investments called for in the program are in fact made. Past investments of their own supported by USAID have made smallholders a significant force in production and marketing for the domestic and export markets, with their own national organization to promote their interests. Additional investments are necessary over the three years remaining in the program to transform the national organization into a set of allied smallholder-owned companies pursuing an integrated approach to the economic and social development of smallholders. Without continued support from USAID to guarantee successful management of this transformation, the likelihood of success will be significantly reduced, despite any complementary support NASFAM may receive from other donors.

4. Recommendations

Recommendation 1

USAID should consider reviewing and responding to the proposal that NASFAM sent a year ago concerning the implementation of its five-year strategic program for 2001 to 2006. The investment in such a program can rightly be viewed as insurance on the rather substantial investment USAID has made, over the years, in developing and in laying out a structure for farmer associations and farmer-owned businesses in Malawi to belong to and to grow with in the years to come.

Recommendation 2

An alternative has been proposed to replace current funding through ACDI/VOCA by providing funding instead to NASDEC and allowing it to decide whether or not to hire external technical assistance. This alternative is unlikely to achieve the goal of assuring continuity in the provision of the level of technical assistance NASFAM needs during the 2003 to 2006 transition period. It is unlikely that Malawian managers would be willing to hire external technical assistance, given the difference between national and international salary scales.

Since the failure to continue with external advisors would have an adverse impact on the likelihood of a successful transition to sustainable commercial and developmental activities of the new NASFAM structure, it is advisable that USAID continue to fund expatriate technical assistance directly until the end of the transition period, even if most of the funding to NASFAM itself is channeled directly to NASDEC.

Recommendation 3

For NASCOMEX to function profitably and for NASFAM to provide properly for the needs of its members, NASCOMEX will have to have access to a much larger volume of financial liquidity. USAID might be able to provide for this need at a relatively low cost by accessing the

Development Credit Authority, which USAID/Ethiopia has used very successfully for a similar operation.

Recommendation 4

Funds are also needed to cover the costs of putting the finance, accounting, and MIS systems in place, down to association and even club level; expatriate technical assistance will be required for these systems to be the most modern possible.

Recommendation 5

Networking of NASCOMEX staff with international traders in inputs and principal products is necessary, and its initial cost would have to be borne by outside sources of funding.

Recommendation 6

Moderate growth from its current membership of nearly 100,000 members should be supported, but should be guided, as it has been in the past, by careful selection of areas with the greatest commercial potential and integrity and accountability of potential members. The primary focus of growth should be in expanding membership in existing associations and in areas contiguous to those in which NASFAM is already operating -- thus providing a greater density of service, rather than expanding geographically to new areas with low commercial potential.

Recommendation 7

Support is needed on both the business and developmental side of NASFAM to consolidate these operations within the new structure being established under the terms of the 2001-2006 Strategic Development Program. On the business side, in order to put NASCOMEX on an even playing field with traders and trading companies which have received considerable favors and special conditions in the past -- capital expenditures need to be supported for buildings, equipment and machinery for new value-added and trading operations, communications and travel for establishing international business contacts needed for promoting and maintaining competitiveness in export trading, and for external technical assistance for new product and new market development work. On the developmental side, NASCENT needs support to improve the depth of its analysis of issues affecting smallholders and to better present their interests to Government and to the general public through the appropriate media; to improve and adapt its training efforts to the needs of the new structures now being established within NASFAM; and to put in place a nationwide data-capture and analysis system to provide other NASFAM companies, donors and Government with a tool for analyzing the impacts of proposed commercial and developmental strategies. NASDEC needs support to put in place financial systems in all NASFAM companies and to provide them with top-quality financial services, towards assuring accurate and transparent operations necessary to allow informed member decisions and good governance.

Recommendation 8

Support is needed to put crop production and marketing services in place to replace Government extension services which have ceased to function, particularly for the commercial crops that NASFAM encourages its members to grow.

Recommendation 9

In view of recent food security problems which have affected even NASFAM's commercially oriented farmers, NASFAM needs support to help its members increase family food production, as well as family income from the cash crops whose marketing and production has been NASFAM's main focus since it started in the mid-1990s.

5. Lessons Learned

- The agribusiness orientation to producer organization support and development was unproven at the time that USAID/Malawi proposed moving its support in that direction. The approach adopted by the Malawi Mission has now been proven and confirmed by USAID missions across the African continent in similar programs, from Mozambique to Mali and Ethiopia to Malawi.

- Long-term support and continuity are essential for a smallholder farmer development program to succeed. Short-term, pilot projects are unlikely to achieve the development of institutions capable of handling farmer needs in the long-term.

- Based on their success derived from initial support from USAID, NASFAM and similar organizations in other countries are able to leverage significant support from other donors, to expand the number of farmers served and the areas covered, and to increase the percentage of their operating costs covered by their commercial operations.

- Keeping the focus on improving farmer income has been a key element to the success of NASFAM in maintaining farmer interest in the organization and farmers' willingness to devote their own efforts to help make their local clubs, associations and national association a success.

- Initial marketing of raw products with improvement in grading and quality due to organization and external business-oriented support are the best focus of resources.

- Programs need to concentrate at the start on those high-value crops that smallholders know best and which they can manage most easily, in this case burley tobacco (which does not require wood for curing).

- Subsequently, other crops can be added in the same areas or new areas opened up, using new, high-value crops for which a market is well established.

- Initial bulk purchases of inputs from the local market are probably the best way to develop these markets and to assure farmers at the same time of the economies of bulk

buying; direct import of fertilizer and other inputs, once organizational capacity has been developed, can also improve profits and lower costs to farmers.

- Value-added processing activities and direct importation of inputs are better left until later, and when they are done, should concentrate on those crops most easily processed (such as rice) and on the most commonly used inputs (basic kinds of fertilizer, common pesticides, etc.).

- Input supply shops of farmer associations should concentrate on the main inputs used by farmers and should minimize the size of their inventories by stocking only high-turnover products. Other items and services (basic household goods, paraffin sales, maize milling, etc.) should only be added where market conditions and association management are favorable to their addition to the shops' basic inventories.

- Good governance and accountability of leaders and managers for member funds are essential for the sustainability of the organization.

- Accountability for borrowed funds is part of an organization's accountability to members; if members do not honor commitments to financial institutions that have provided credit because of the good name of their organization, the ability to obtain financing in future years will be reduced.

- Complaints of major traders are an indication that the organization is beginning to have an impact on improving marketing for smallholder farmers, and should serve as a guide for continuing interventions in the future to improve marketing in precisely the same areas as are the focus of such complaints.

B. MALAWI DAIRY BUSINESS DEVELOPMENT PROGRAM (MDBDP)

1. Funding Levels and Project Objectives

The Malawi Private Dairy Business Development Program cooperative agreement no. 690-A-00-99-00148 was first obligated by USAID at US$ 1.5 million for Phase I, and US$2.1 million for Phase II. The program is managed by Land O'Lakes, Inc. (LOL), with Phase I lasting from March 26, 1999 to March 25, 2001 and Phase II scheduled for March 26 2001 to March 25, 2003.

Project Goal: To stimulate the development of a viable commercial dairy sector that will result in significant increases in rural incomes, employment opportunities, and overall performance of businesses that will contribute to Malawi's GNP.

Project Purpose:

To facilitate improvements in the dairy sector resulting in efficient milk production, processing and distribution, such that producers, processors, and distributors increase their incomes and deliver lower cost, better quality dairy products to meet consumer demand.

Project Objectives:

- To continue technology transfer to producers and processors focusing on improving cost efficiencies, commercialization, and environmentally sustainable farm-to-market dairy systems;
- To strengthen private dairy industry associations capacities to provide milk consumption promotional and educational activities, policy reform dialogue with government officials, market information services; and,
- To leverage government, international donor assistance, project cost sharing to extend assistance to a broad base of dairy stakeholders, and thereby, generate significant cost-benefit to USAID's funding contribution.

Specific objectives included:

- Development of efficient milk producer organizations – 3 milk producer groups registered and functioning as cooperatives;
- Innovative dairy processing and marketing – 2 dairy operating businesses improved their operating and management procedures, increasing profit margins by 10 percent; and,
- Expansion of industry support services – establish 5 in-house extension services for dairy production and 5 in-house artificial insemination units.

2. Findings

a. Overview

Malawi's livestock population in 1999 was estimated at 712,000 cattle, 1,427,000 goats, 413,000 pigs, and 103,000 sheep. About 90 percent of the cattle in the country are Malawian Zebu. Only about 5.2 percent of the population of Malawi own cattle; however, smallholders own about 96

percent of all cattle in the country. The predominant dairy breeds in order of importance are Friesian-Zebu crosses and Friesians (Holstein). Apart from a small number of dairy estates, smallholder dairy production is concentrated in three milk sheds: Blantyre, Lilongwe, and Mzuzu; these farmers have about 6000 Friesian-Zebu crosses of various grades.

Dairy development dates back to the 1950s when Government began a program of producing Friesian-Zebu heifer crosses to distribute to smallholders with the goal of national self-sufficiency in milk production. Other efforts continued, including one with Canadian support which provided imported heifers and semen to parastatal dairy farms.

The results of past programs have been disappointing. By 1991, the national dairy herd was supplying only 17 percent of domestic milk consumption, milk consumption per capita was variously reported at 4 and 7 kg/year (in either case the lowest in the region) and livestock products contributed only 8.7 percent of the total protein supply in Malawi. In recent years, however, a number of positive developments have taken place, which set the stage for the development of a dairy industry. The parastatal processing company Malawi Dairy Industries has been privatized. Most parastatal dairy farms were allowed to fall idle and to go out of business. Despite their weaknesses and problems, a significant number of milk bulking groups (MBGs) exist and form the basis upon which a dairy development program could be established. There is some understanding of artificial insemination and of the role it could play. On the other hand, public extension services for dairy are minimal and have yet to be replaced by private sector providers. Value-added technology in the processing industry is also inadequate.

It is against this backdrop that USAID and its partner Land O'Lakes agreed to start the Malawi Dairy Business Development Program (MDBDP) to support producers, processors, and service providers and to develop a strong private dairy industry providing for the needs of consumers, raising income for farmers, and contributing to the national economic growth.

The project has three components:

1. The Development of Efficient Milk Producer Organizations to:

- Increase quality and quantity of milk production on dairy operations;
- Improve profitability and management of dairy businesses;
- Free-market primary society/cooperative development;
- Development of "umbrella" cooperative societies; and,
- Improve household food security and increased household purchasing power through intensification and diversification of production.

2. *Innovative Dairy Processing and Marketing that provides for:*

- Business and market plan development;
- Self-financing of business start-up or expansion;
- New product and packaging development; cottage industry, and medium-scale processing;
- Marketing and promotion;
- Quality control;
- Financial management and accounting practices; and,

- Operational efficiencies and human resource development.

3. *The Expansion of Industry Support Services to provide for:*

- Development of private artificial insemination services;
- Availability of private dairy production services and inputs leading to improved technology transfer;
- Increased economic and leadership opportunities for women;
- Active dairy associations in dairy policy, promotion, and industry support;
- Increased numbers of young dairy farmers in the agricultural sector; and,
- Improved environmental management in production and processing.

To achieve these objectives, Land O'Lakes worked with milk bulking groups, processors, and service providers. It also did advocacy work on behalf of farmers and processors. The project worked in the three major milk sheds: Northern (Mzuzu region) with the Mzuzu Dairy Farmers Association (MDFA), Central (Lilongwe region) with the Central Region Milk Producers Association (CREMPA), and, to a lesser extent, in the south with the Shire Highlands Milk Producers Association (SHMPA). Given the biological parameters of milk cows, time is a major component in the development of the dairy industry. Many of the efforts of the project and of individual dairy farmers will only bear fruit long after the project has finished.
By the end of the first phase, Land O'Lakes noted in its Phase II proposal that it had worked with:

- Twelve milk bulking groups to strengthen the organizations composed of nearly 4,000 dairy farmers;
- Four large processors and six mini-dairies in business skills training to increase profitability;
- Private artificial insemination services that had been launched with the support of World-Wide Sires (WWS);
- The financial sector for loans to the industry; and,
- A national dairy industry association, Malawi Dairy Stakeholders Association (MDSA), was formed and work was in progress on improving the legal and organizational status of the national processors association.

After the first phase of the project, Millennium Consulting Group did a survey for Land O'Lakes in July 2001, which provided the following findings:

- Purebred milk cows were found only on large-scale dairy farms and on a very few small farms;
- Small farmers who had succeeded in obtaining pure or nearly purebred cows, had suffered losses due to mortality resulting from poor management;
- On average farmers had only two cows that they were milking;
- Artificial insemination (AI) services provided by LOL were preferred to those of other providers;
- Thirty-two calves had been born at the time of the survey and none had died: low calf mortality (compared to a national average over 30 percent mortality) is an indication that farmers take care in rearing calves produced by AI; and,

- All Milk Bulking groups surveyed (except one) experienced significant growth in their membership during the time that the project was operating; the one exception is a group where members dropped out because they found side-selling of raw milk outside the MBG (called "vending") to be more lucrative. There was a 51 percent increase in membership for all groups (and a115 percent increase, if the group where vending became important is excluded).

A number of problems were noted in the survey. There was considerable dissatisfaction with milk prices paid by the processor, and with his discounts for transportation, and payment delays. Other problems identified were: a lack of cows and a lack of a loan scheme to purchase them, low milk yield, lack of security (cattle theft), loss of milk from souring due to an inability to cool (lack of diesel fuel), and the high cost of veterinary drugs.

b. Production Increases

Land O'Lakes has assisted farmers with improving their pasture, provided them with better designs appropriate to their resources for the housing of cattle, assistance in improving security to minimize theft; it provided artificial insemination services through its partnership with World Wide Sires to improve the dairy herd in the long term, taught local farmers how to provide AI services, provided assistance to improve veterinary care, and partnered with Citizens Network for Foreign Affairs through an inventory credit guarantee of 50 percent, in order to improve the availability of veterinary medicine, feed and, other dairy supplies.

The project has increased the availability of purebred cattle through imports. It is working with the Irish NGO Bothar, the Heifer Project International (HPI) and with the Small Scale Livestock Promotion Program (SSLPP) to import pure bred in-calf heifers from Ireland donated by Irish farmers. Three plane loads of animals have been imported; two of the three have been enormously successful, although there were problems with one plane load, due to the failure of pressurization equipment on the aircraft the cattle were traveling in, and the suffocation of most of the heifers. The EU, Oxfam, and DANIDA, all have provided additional funding for heifer loan programs for women and for the poorest rural households.

Land O'Lakes is also working with the Malawi Social Action Fund (MASAF) that is proposing to form 25 groups to help orphans and other disadvantaged and vulnerable people enter the dairy production field. Most of the members of these groups are women. Each group receives between MK500,000 and 700,000. This is a relatively new program and its success has yet to be proven. As the Malawi Dairy Business Development Program (MDBDP) noted, the design of the program is deficient and it is not likely to succeed. In view of this problem and of past problems encountered by other Malawi Social Action Fund (MASAF) projects, such as its food-for-work program in Balaka district -- this collaborative effort needs to be monitored closely.
There is also a cooperation agreement between MDBDP and the Southern Africa Regional Crops Research Network (SARRNET) on cassava silage. About 80 percent of the mass of the silo is constructed from leaves of closely planted cassava (30 cm spacing) that is harvested four times a year. Roots are sliced mechanically (using a manual or motorized slicer) and added in a one to four proportion. Given the increased price of cassava (which closely follows the price of maize), there is a need for careful cost analysis in the use of cassava as animal feed, rather than for direct human consumption.

As a result of the support received from Land O'Lakes, milk yield, which is based on the 1999 national average of 4.5 liters per cow per day, increased by twenty percent to 5.4 liters. Some individual farmers reported spectacular increases, attributable to better management practices learned through their interaction with the project, and also attributable to the acquisition of a better quality of animals.

Dairy is potentially a highly profitable activity, as evidenced by the fact that in recent years, with the decline in the price of tobacco, some of NASFAM's farmers have approached the Dairy Development project in order for them to be able to convert or expand into dairy production. By increasing the number of farmers involved in dairy production, the Malawi Dairy Business Development Program (MDBDP) is helping these farmers increase their incomes, which increases family food security by their ability to buy food when they need it. Also, based on reports, dairy farmers' families consume about 12 percent of the milk they produce, equivalent to about 1 liter per family per day. Therefore, as a direct contribution to family nutrition, milk is important. The implication of this analysis is that the quickest way to increase income and nutrition/food security would be to purchase cows for families that do not have them -- which is one of the strategies being proposed by the project.

c. Producer Groups, their Legal Status, and Other Group Issues

Groups have been re-formed around cooling centers established by government in the past. These centers were supposed to be within 8 kilometers of all dairy farmers. Many of the cooling centers had fallen into disrepair and the groups associated with them were inoperative. This equipment has been repaired and the groups have again been formed with the help of LOL. Two of the groups in the Northern region now have legal status, after having registered as cooperatives. The others are not legally recognized yet. Work is continuing with the Milk Bulking Groups, as well as with the three regional associations, which work closely with the project.

Governance issues have surfaced in a number of groups where elected officials were not transparent in their running of the MBGs and failed to properly account for funds. The project works with groups to improve both transparency and accountability. In some cases, where leaders were not adequately representing the groups, these leaders have been able to convince members to have new elections. Both MBGs and associations are assisted to develop their own strategic plans. Considerable assistance also is being provided in basic accounting and record-keeping skills.

A number of volunteers from the Volunteer Service Organization (VSO), Canada, and other organizations have been working with the project. For the most part, their work has contributed to project success. Their presence acts as a catalyst for obtaining external funding for the groups that they are working with. They work most closely on issues related to improving the management of the MBGs and the associations. Milk quality is also improving where equipment at cooling centers has been repaired; as a result of better organization of the MBGs, this equipment remains operational for a higher percentage of time, leading to less milk spoilage.

The MBGs, with support from the program, have been lending maize bran, as dairy feed, to members, as well as medicines and semen. Initially problems developed due to the lack of a loan contract, an unclear loan recovery system, and the failure to specify applicable interest rates.

These problems have been overcome and loan repayment is now made through deductions from the milk payment; however, even this approach has had its problems, which have not been limited to the periods of the year when farmers' cows are dry. There is no loan program for the purchase of cows (except for the HPI in-kind heifer loans).

With the help of the project, farmers have also formed livestock associations to prevent theft, usually chaired by the village headman. In order to transit with animals in an area, people need a permit from the association signed by the village headman. Theft, which used to be rampant in the Lower Shire and west of Lilongwe, has been much reduced. Most stolen cattle are sold to small-scale butchers. Animals are not branded in Malawi; ear tags (like so many other dairy supplies) are also not available in the market.

Milk production in Blantyre is facilitated by the high percentage of enterprises that are using agro-industrial by-products for feed, such as molasses and brewers' grain and not grazing. A good data base system that tracks production and other variables has been established with the assistance of the MDBDP monitoring and evaluation (M&E) staff. There was considerable farmer satisfaction with the AI program and the quality of the calves resulting from it.

The gender breakdown of membership in the groups averages about two thirds male, one third female. The project received a copy of a recent Master's thesis in Animal Science (Revesai, December 2002) whose major conclusions are: 1) that gender was a determining factor on income -- with women farmers earning more than men; 2) that dairy farmers growing tobacco had significantly lower incomes from their dairy operations than those who did not; and, 3) that the optimal genotype cattle for smallholder dairy farming is the 50 percent Friesian, 50 percent Zebu (the cross resulting from AI practiced on local cattle). In other words, women do better at dairying than men; farmers concentrating on dairying as their main activity do better than those who do not, and the best cross of cattle for smallholder dairy farming is achieved by artificially inseminating local cattle.

Discussions have already been held with the Malawi Union of Savings and Credit Cooperatives (MUSCCO) concerning the possibility of establishing exclusively dairy farmer common bond savings and credit cooperative societies (SACCOs) in the Northern and the Central regions. Minimum requirements would be 500 members and a minimum total share capital of MK 1 million ($12,500).

d. Innovative Dairy Processing and Marketing

The Mzuzu plant was inspected by LOL consultants who concluded that most of its equipment was beyond repair and needed to be replaced. Equipment needing to be replaced included the separator, the homogenizer, and the pasteurizer. The plant owner is gradually replacing these items as funds become available. Most replacements are in the form of used equipment in good repair from other countries. (At one point, financing was found with INDEFUND for farmers to purchase the plant; however, their organization was not ready for such an ambitious step at this stage in its development.)

A mini-plant ("Juda Dairy") was established, but at the time of field work (early December 2002) was not operating, due to lack of financing for equipment, vehicles, and working capital. Financing was sought from INDEFUND, but no response was given to the owner's loan

application. Thus, there is still only one processor buying milk in Mzuzu, despite demand that exceeds supply from both the local market and from the export market serving Tanzania and eastern Mozambique.

Overall, processing capacity is underutilized in the industry. This situation makes it difficult to find investors interested in making investments in new plant and equipment. One partnership involving the Electoral Commission, which invested MK 2.0 million, broke down.

Volunteer experts have been brought in by LOL to analyze business accounting and management information systems at dairies in Mzuzu and Lilongwe; these experts concluded that there was a correlation between the use of raw (as opposed to powdered) milk and profitability, and that systems could be developed to pay producers better prices (thus discouraging vending).

The MDBDP has also brought in dairy equipment suppliers from overseas and helped to broker deals with local dairies, including one in Blantyre with an equipment supplier from Holland. Hygiene audits at MBGs and at dairies are conducted periodically to improve milk quality and the care with which the product is handled. These are part of an overall strategy to improve the quality of processed milk.

e. Expansion of Industry Support Services

For artificial insemination purposes, Land O'Lakes is in partnership with World Wide Sires. After training 32 farmers in AI techniques (despite skepticism from the Government), technicians have basic knowledge on improved genetics; they now know how to detect heat, and how to inseminate. Farmers are achieving conception rates on the order of 70 percent, and they prefer the World Wide Sires service to other AI services, which are provided at low cost (MK 25) compared to WWS' price which is ten times that figure, or more (depending on the quality of the sire); the WWS service is preferred because of a known quality of animal and better conception rates with frozen semen. (Other programs work with non-frozen semen, and results are correspondingly poorer.) Initial problems with getting liquid nitrogen to keep the semen frozen have apparently been overcome. Over 500 calves have been born as a result of the AI program, and the overall mortality is only eight percent (well below the national average, which is in excess of 30 percent).

Various types of supplies are needed by the dairy industry, and a good part of these are unavailable. For example, no amino or salt blocks are sold anywhere in Malawi. Competition in veterinary medicines is limited, and in many parts of the country these supplies are not available. Veterinary medicines have to be imported only to a licensed veterinarian, thereby limiting the ability of non-veterinarians (evenly properly advised ones) to import products. At present, two veterinary health models are being followed in the country: the model developed by German Technical Assistance (GTZ) in the North, and that of the EU/SADC working with veterinary assistants in the center and south. Support has also been obtained from the Japanese International Cooperation Agency (JICA) for expanding the breeding of dairy animals at Katete farm, which was formerly owned by the Government and is now privatized.

f. Project Issues Requiring Further Attention

As an industry wide dairy development program, the Malawi Dairy Business Development Program (MDBDP) has a number of internal contradictions that remain unresolved. The first is the price of milk paid by the processors to the farmers. There is a long history going back to the time when all processing was controlled by the parastatal Malawi Dairy Industries (MDI) by keeping milk prices fixed over long periods of time and only adjusting them late, reluctantly, and by as little as possible. With most of the population located in rural areas and with many dairy farms located in close proximity to urban areas or trading centers, farmers often have the option of "vending," that is selling raw milk at higher profit and lower cost directly to consumers. Under Malawian law, this is illegal. Still from the farmer's point of view, this is the most reasonable option for the sale of part or all of their milk during the entire year, or at least part of it. (There is considerable seasonal variation in milk production, providing farmers a strong incentive to vend their milk to bicycle traders and directly to consumers at times of the year when supplies are short).

If the only focus of the program were on raising producer incomes and getting milk cheaply to consumers -- supporting milk vending by farmers would be an option worth investigating. However, since the focus of the program is also promoting the dairy industry and increased milk production (most of which will have to be marketed through MBGs to the processing industry), MDBDP is forced to discourage vending. Furthermore, project personnel are unable to obtain accurate assessments of the volume of milk sold through vending, because members are reluctant to report outside milk sales, for fear of expulsion from the MBGs. (Most MBG by-laws prohibit members from vending milk.) Production is seasonal and the months of lowest production are between February and April. Part of the reduction in milk production may be due to the failure to report milk vended outside the MBG -- since these are the lean months for the family budget and daily sales for quick cash may seem more appealing than waiting a month for the milk payment from the processor.

Distributional issues also arise. The most efficient producers are likely to be the larger ones, whose income levels may be significantly higher than poorer members, especially those who do not have genetically improved dairy animals. These producers also are more likely to have crossbred cows that can easily produce on average over 10 liters of milk per day (compared to 2 liters at best for local Zebu cows). Therefore, the quickest way to increase the volumes of production is to work with these producers rather than with the smaller ones.

Also, if the volume of milk is of interest, the fastest way to raise production is by importing purebred in-calf heifers. This is being done with the support of Bothar, Heifer Project International (HPI), and the Small Scale Livestock Promotion Program (SSLPP) in a pass-it-on livestock loan scheme. If these heifers are to survive and to give birth to calves, the best candidates for receiving them are the larger farmers whose management tends to be better. If this is done, then income distribution within the community becomes even more skewed. If, on the other hand, the heifers are passed on to people without cows (and thus most probably without experience in managing them), there is a good chance that they will die; heifers are worth $1000 in Ireland or in neighboring Zimbabwe, not counting transportation costs (air fare in the case of the Bothar/HPI program).

Moreover, in-kind animal loan schemes are also problematic because of the biological delay in payment, compared to the short lifespan of most projects. An in-calf heifer will give birth approximately 5 or 6 months after arrival; if the calf is female, it is turned over to the next participant when it is one year old. If it is male, the first turnover is after the next calf is born, the following year, assuming that this calf is female. Since normally half the calves are male and the other half female, the average delay in turnover is two years, equal to the lifespan of Phase II of the project. (In Mzuzu, the association has encouraged farmers to replace in-kind with cash repayments when a sequence of male calves is born.) The in-kind animal loan scheme can, in theory, continue without the project, but only if the group is solid, well organized, and cohesive. Given simple transparency and governance issues which have already emerged in a number of groups, it is apparent that at the present stage of their development, most groups have not achieved the level of maturity necessary to operate the in-kind loan schemes, without outside monitoring from the project.

g. Monitoring and Evaluation

Subcontracting out the monitoring and evaluation component of the project during Phase I to a local company proved unsatisfactory, and in Phase II a monitoring and evaluation staff has been hired by LOL to carry out that function in-house. The quality of reporting and problem analysis is much improved as a result.

The indicators for the results expected of the project do not coincide with those that would quantify a well-running dairy development program. For example, artificial insemination is the cheapest way to increase the average quality of a dairy herd. Therefore, the number of crossbred calves produced by artificial insemination should be a major indicator of program success. Half of the calves will become relatively high-yielding dairy cows adapted to the Malawian dairy environment and are the real product of the program. The mortality rate of the calves is also an important indicator. Also, where purebred cows are being imported, one would want some indicator of the survival rate; management capacity of most farmers is not highly developed and therefore, one would expect some losses of these expensive assets due to this situation. Many of the indicators selected for monitoring program results are short-term in nature, and have little to do with measuring the real development of a viable dairy industry development program.

The presentation in some of the monthly and quarterly reports could be improved. For example, in many cases, totals are absent in the monthly reports. In the quarterly report, total amounts of raw milk going for processing are being provided; percent utilization of capacity is not. Some reports provide time-series data on milk prices in nominal terms: these need to be deflated for inflation in order to find out if farmers are winning or losing over time.

3. Conclusions

The program has been successful in increasing milk production and sales through MBGs and in stimulating interest in dairy production. Potential interest is increased by falling prices for tobacco. The program has also stimulated a high degree of interest in dairy farming. However, a long-term effort will be required to meet the expectations that have been created.

The artificial insemination program has achieved a high rate of pregnancy and has given farmers calves that are adapted to the environment and to the prevailing level of management. These

calves are surviving at a very high rate (compared with the national average). Fifty-two percent of the cows in the Lilongwe region are zebu, making the AI program the best choice; in Mzuzu, the percentage of such cows is only 7 percent.

Assisting potential members who are interested in dairy production but own no cows can best be stimulated by a combination of purchasing local Zebu cattle and by artificially inseminating them to produce crosses which combine vigor with reasonably high levels of milk production; this is the best way for a long-term development program to reach large numbers of participants at reasonable costs.

Women tend to have fewer outside interests (such as tobacco and other cash crops) and do a generally better job in managing milk cows. Women constitute a high percentage of potential members and are willing to take the time and effort necessary to start up dairy production based on local cows and artificial insemination.

The lack of competition in the dairy processing industry gives processors an unfair edge in setting milk prices at low levels and in failing to raise producer prices to MBGs for extended periods of time, despite increases in retail prices to consumers. Thus far, program efforts have not succeeded in fully addressing this issue and in offsetting farmers' natural tendency to sell all or part of their milk in raw form without processing (except for dilution with water) to bicycle traders for sale to final consumers, with the attendant health risks. Until competition is increased in the dairy processing industry, the program needs to accept this situation and to deal with it more forthrightly in its promotion efforts with members -- which at present consist of coercive measures applied to those engaged in vending. Where dairy farms are located in close proximity to urban areas and where rural demand among neighboring families and in the trading centers is significant, vending will continue to occur and needs to be analyzed and dealt with as part of the development of the dairy industry.

Through the advocacy work of the project, the 20 percent surtax on dairy products was successfully removed and is a major accomplishment early in the program.

Through its imports of cows, the Malawi Social Action Fund (MASAF) is becoming a major player affecting the development of the dairy sector. Its approach is heavily flawed and MDBDP needs to assess how best to collaborate with the MASAF scheme, without compromising its own integrity and its methodology of supporting individual dairy farmers through milk bulking groups. The MDBDP approach has a far greater probability of success and should not be tied in with the MASAF scheme that has a high probability of failure.

A number of donors (not USAID) are supporting the importation of purebred dairy cows and MDBDP is collaborating with these programs, providing cows to members with experience in dairy farming and in caring for dairy cows. Such programs are expensive and therefore do not lend themselves to large-scale activities, but can contribute to increasing milk production and income to farmers receiving such cows. Distributional aspects of the program appear to be limited, at least initially, and bear watching.

Many of the programs are in-kind animal loans, with the recipient being obligated to pass on the first female calf to another farmer. Such programs generally work only as long as outside

supervision is in place; providing such external support is one justification for making dairy development programs such as MDBDP, long- rather than short-term endeavors.

MDBDP supports credit programs to allow members to buy feed, veterinary drugs and other inputs. These programs suffer from problems of poor design, inadequate systems and poor implementation.

4. Recommendations

Recommendation 1

The main thrust of the program should be on improving the average quality of the milk herd by artificial insemination, rather than by purchasing animals. The focus should be on maximizing the number of participants in dairy farming, particularly by women farmers, who should be encouraged to start with local cattle, breed them up through AI, and develop their production over the medium- and long-term, based on 50 percent (and gradually higher) crosses of Friesian genotypes.

Recommendation 2

Where animals are donated to farmers, either as straight donations or in-kind credit programs, the distributional aspects of these donations/loans need to be looked at carefully. Major assets of this type can skew income distribution within a community even more than is already the case -- either in the first round or in subsequent rounds of distribution. Notwithstanding the need to focus on AI, where there are programs that provide such cows, the project should take advantage of them and try to channel the animals to low income beneficiaries with the experience needed to manage them properly.

Recommendation 3

Long-term oversight will be necessary for assuring that agreements of in-kind animal loan programs designed to pass on female calves, are in fact respected. The best guarantee that they will be respected is to make support to the dairy industry by MDBDP into a long-term activity with support from USAID; even if other donors finance the animal loans themselves.

Recommendation 4

The program needs to reconsider its exclusive focus on selling milk through the MBG and to come to some accommodation which recognizes farmers' need for quick cash and the opportunities offered by the raw milk market.

Recommendation 5

The project should encourage greater competition in the dairy processing industry by supporting new entrants into processing. The current support limited to training and study tours given new entrants is insufficient and needs to be increased. MDBDP needs to help new entrants find financing to establish and expand their operations. While supporting technological

improvements and greater efficiency for current processors, MDBDP needs to support increased competition by stimulating new processors to enter the industry.

Recommendation 6

The project should first study, then come up with a position in concert with members, with respect to liberalizing trade in veterinary drugs and supplies.

Recommendation 7

Any credit programs and loan procedures (including in-kind loans of purebred cows) need to be reviewed and amended by someone with expertise in credit. Credit programs for feed, drugs, etc. need to be reviewed and improved, both in terms of their design and in the way they operate.

Recommendation 8

All proposed activities or subprograms should be subjected to an economic and financial analysis before any significant investment is made in them. For example, silage can be produced from cassava. However, is it profitable? Under what situations is it profitable? Are there alterative uses of the cassava, which are more profitable? Work on improved financial analysis is required, both at the level of studies for MDBDP and training for its staff, as well as in training farmers on record-keeping and in the use of records to improve the management of their dairy operations.

Recommendation 9

The reestablishment of Government breeding farms to stock smallholder dairies is not the way to proceed. Animals can be acquired slowly from local estates or imported from neighboring countries. However, the main source of improved dairy animals should be through offspring resulting from AI promoted by the program.

Recommendation 10

A study should be commissioned of the market for milk vending, to establish how vending works, how prevalent it is, what opportunities it presents for farmers, what threat, if any, it represents to consumers, and the degree of competition it introduces into the milk market. The study should establish what the situation really is and abandon the legalistic approach of how it should be.

5. Lessons Learned

- Dairy development programs take longer because of the biological growth rate of cattle which is slow, nine months to calving, three years to sexual maturity, etc. Therefore, dairy development programs like this one should ideally be established as programs lasting at least five years. Such a time-frame makes it easier to focus on the elements likely to lead to successful long term development, improving the average level of breed by AI, improving management gradually, improving processing capability, etc. Shorter time frames require program managers to focus on "success" indicators that may or may not be those which really relate to the development of a viable dairy industry.

- The lack of competition at the processing industry level will retard dairy development. unless it is dealt with appropriately. Improving farmer milk prices has to be a major focus of dairy development for a program to be successful.

C. MUSCCO FINANCIAL AND FIELD SUPPORT ACTIVITY

1. Funding Levels and Project Goal, Purpose, and Objectives

The Malawi Union of Savings and Credit Cooperatives (MUSCCO) project no 612-0205 was initially funded at a level of $774,243 on 25 August 1980. Additional USAID funding is as follows:

TABLE 4
MUSCCO Support

Project Phase	Support Agency and/or Program	Amount in US$
1980 to 1985	WOCCU	726,871
1985 to 1991	WOCCU Cooperative Agreement *	1,633,580
1985 to 1988	READI Project	720,000
1989 to 1993	READI extension funds *	406,588
	READI sub-total	1,126,588
1991 to 1996	WOCCU/MUSCCO	3,510,000
1996 to 1998	(WOCCU)/MUSCCO with NASFAM: SSDP**	1,103,741
1999 to 2001	Barents Technical Assistance	625,114
1999 to 2002	MUSCCO Financial Assistance	549,934
1980 to 2002	**TOTAL USAID ASSISTANCE**	**US$ 10,402,416**

* Notes in the report mention some confusion in accounts and transfers of remaining funds from one project to the successor project.
** As of November 1997 SSDP funds had not been fully committed.

Source: Kevin Billings (PWC-Harare) and Charles Whyte (USAID/Washington), Final Report: Review of Rural Financial Services in Malawi with Special Reference to USAID Support to Malawi Union of Savings and Credit Cooperative (MUSCCO), March 1998.

Project Goal: To develop a national cooperative savings and credit society (credit union) financial system serving the savings and credit needs of low-income rural people in Malawi.

Project Purpose: To develop a strong, broad-based credit union movement, contribute to raising the rate of growth of domestic savings, loan capital, and eligible borrowers.

Objectives: For Barents Technical Assistance and MUSCCO Financial Assistance:

- Improve MUSCCO's financial management—a detailed review of the existing systems and an action plan to make improvements, development of user friendly financial reports for programmatic decision-making;
- Improve financial self-sufficiency for the Central Finance Facility (CFF) and MUSCCO operations—analyze CFF's administrative cost recovery, review asset reinvestment, review share capital policy, and prepare action plan for CFF's financial self-sufficiency;
- Expand and strengthen rural Savings and Credit Cooperative Societies (SACCOs)—develop tactics to alter the current perception that SACCOs are for savings and loan only, and introduce insurance products for member SACCOs; and

- Expand savings mobilization in rural areas by strengthening the existing rural SACCOs and help to establish new rural SACCOs by using awareness campaigns, radio messages, publications and promotional materials, and collaboration with other USAID activities under NASFAM.

2. Findings

a. The Early Years

The credit cooperative movement in Malawi was predominantly rural, having been started in the Mzuzu Diocese of northern Malawi by a Canadian priest (Father Roy). These first savings and credit cooperatives (SACCOs) were small (20 to 50 members). A private voluntary organization (PVO) called Promotion, Education Advisory Committee (PEAC) was set up in 1972 with the goal of promoting cooperative savings and credit societies in Malawi. With the assistance of the now defunct African Cooperative Savings and Credit Association (ACOSCA) and with private foundation support from Germany and Switzerland, PEAC began promoting cooperative credit and savings societies, particularly in the northern part of the country, doubling the number of societies to 18 and quintupling membership to over 6,000 members. At the end of 1979, collective savings of all members amounted close to $352,000, loans outstanding were $367,000 and assets $398,000. As part of the MUSCCO project, PEAC was to disappear and be replaced by the creation of MUSCCO, a second-level cooperative savings and credit society to provide financial and other services to the primary societies that owned it.

MUSCCO was in fact registered on September 15, 1980. At that time, membership had grown to 7,800 members, savings to $450,000 and loans to $442,000. The World Council of Credit Unions (WOCCU), the international arm of the US Credit Union National Association (CUNA), managed the project.

As the project started, 16 of the 18 societies were rural, as was 95 percent of the membership and almost 99 percent of the savings. The other two unions were made up of school employees, and of, employees of Malawi Railways, respectively. Most lending was also in rural areas, about half of it for agricultural purposes, followed by loans for small businesses and trading.

Information on the first five years of WOCCU support to the MUSCCO and the SACCOs is scant. Nevertheless, from 1980 to 1993, while the number of SACCOs grew from 18 to 130, many of them had woefully small memberships, assets, and member savings/shares. Total membership had risen to from under 2,000 to about 24,000 by 1994, but still constituted only 0.3 percent of Malawi's population. Participation by women was only 28 percent in 1993 and remains a problem today. Loan delinquency at the time averaged over 10 percent, and was worse among rural SACCOs, particularly those in the north. A large number of SACCOs were not active, and, in fact, many were moribund. At the beginning of 1994, forty-four dormant SACCOs had to be disaffiliated (and 14 more were under consideration for disaffiliation), leaving 86 SACCOs in operation.

A number of factors affected the growth of the movement. Cooperatives had failed in the early 1960s and had the same bad name in Malawi, as they were to acquire in most of eastern and southern Africa. Under President Banda, there was no support for the development of representative and democratic community organizations, which were viewed as a threat to the

Government's monopoly on political power. Furthermore, until the liberalization of the 1990s, rural people had little chance for financial advancement in an economy dominated by estate-sector agriculture. As dictated by the ideas of the founders of the movement, the major goal of most of those who joined cooperative savings and credit societies was to obtain low-interest loans. Attuned to the needs of borrowers, these SACCOs had little to offer potential savers. Despite dramatic changes in income and aspirations of members, in many SACCOs, attitudes remained unchanged; especially in the North, many SACCOs still refused to accept the fact that they had to run their operations in a businesslike way and that the SACCO is first and foremost a financial institution and not a benevolent or charitable institution. The movement had started in the North on the basis of donated funds, which does not provide members as strong an incentive for loan repayment as is the case when loans are made out of member savings. Interest rates had been kept low in keeping with the philosophy of cheap credit for borrowers espoused by the movement's founders. Leaders in many SACCOs were slow to understand the need for market rates of interest, in order to support the development of viable financial institutions to serve the needs of the masses. Relatively higher rates are necessary in SACCOs serving areas where transactions costs are higher because of greater distances to be covered to reach members. Furthermore, MUSCCO with the support of WOCCU set up SACCOs all over the country without any apparent strategy for concentrating efforts on those areas and those SACCOs with the greatest potential for development.

By 1994, SACCOs were paying share dividends of 10 percent, based on 1993 fiscal year results; these dividends were well below market rates of interest available from other institutions. With few exceptions, SACCOs did not offer their members the option of interest bearing deposit accounts. The societies were only authorized to take savings deposits in 1993. By 1997, nearly 30 percent of them still were not taking deposits, and for many of those that took them, deposits were symbolic rather than significant in relation to their total assets (perhaps because deposits did not count as do shares when determining the size of a loan that a member is eligible for). SACCOs were operating under the 1947 Cooperative Societies Act, which granted considerable powers to the Registrar of Cooperatives; these powers included the overall supervision of the system and the ability to restrict the dividend rate, normally limiting it to low levels. Additionally, the Act made no specific provision for savings and credit cooperatives, and it treats cooperatives as social welfare instruments rather than as business enterprises. This view, of course, runs counter to the new business-orientation of the SACCOs, which MUSCCO was trying to promote. Nevertheless, because of a lack of resources, the Registrar of Cooperatives could not, and still cannot, carry out its assigned responsibilities, nor can he provide the supervision that SACCOs require as institutions handling savings, particularly where SACCOs encounter problems with their management.

MUSCCO's role in assisting SACCOs was advisory rather than supervisory or regulatory. MUSCCO was not in a position to correct the anomalies that it encountered in working with member SACCOs. For example, in cases where board or committee members of the SACCOs were failing to pay their loans, this situation called for obligatory withdrawal from their posts until they were again current in their obligations, and MUSCCO could only remind leaders of their obligations. It could not force compliance with the rules under which the SACCOs operated. The Registrar could, in theory, have acted in such cases, but was impeded from doing so by the lack of sufficient resources.

The March 1998 Review of Rural Financial Services which concentrated most of its attention on MUSCCO, concluded that only 36 percent of funding over the 1985-1996 period (the 1980-85 period was not analyzed due to lack of data) actually reached MUSCCO, and that 64 percent went for technical assistance from WOCCU. It concluded that MUSCCO would have been much further along in its development, if a greater proportion of the $7.4 million in financial assistance provided by USAID had been channeled to the organization. There is some question as to the validity of this assessment, however. There is no denying that international technical assistance is expensive in local terms. However, it should be noted that, at the time, domestic technical capacity in financial services was woefully lacking, and it is not clear how this assistance could have been provided more cheaply in some other way. Much of the capacity that now exists both within MUSCCO and its member SACCOs was developed with the support of WOCCU. Furthermore, because of the mobility of staff trained by WOCCU and MUSCCO to other financial institutions, it is fair to say that the overall capacity to deliver financial services in Malawi has been improved, because of the assistance that USAID provided to the savings and credit movement through MUSCCO.

Membership in SACCOs affiliated with MUSCCO grew from 7,600 in 1980 to 50,000 in 1997, at an annual rate of over 11 percent, which is exceptional. However, most of this growth occurred at the end of the period during which MUSCCO received support from WOCCU. For example, between 1993 and 1997, membership grew at a 25 percent annual rate from 20,417 to nearly 50,000. This is compared to the 1980 to 1993 period, when growth had been at a much more modest 8 percent. Loan delinquency during the period that MUSCCO was receiving assistance from WOCCU was held to an acceptable 5 percent.

There were 109 SACCOs in 1997, 43 of which were rural community-based. These rural-based SACCOs accounted for 39 percent of the number of SACCOs and 37 percent (18,400 members) of membership. Membership in these SACCOs increased by 59 percent between 1993 and 1997, growing faster than the employee-based SACCOs. Rural, community-based SACCOS had a low percentage of system assets and member savings; the focus for many of the members joining was on getting a loan rather than on saving, and in fact lending in rural SACCOs rose dramatically (3.5 times) in the 1993-1997 period. Still, most of the inactive or dormant SACCOs were rural. Urban employee-based SACCOs still accounted for most of the assets (81 percent), shares and deposits (80 percent), and loans (81 percent) of the system. Women accounted for only 22 percent of members in 1997.

MUSCCO itself was not making a profit, nor were many of the member SACCOs (despite some exceptions, like the Reserve Bank of Malawi SACCO). To make MUSCCO viable, a 1993 survey concluded that SACCO financial management would need to be improved and their collective market share increased. The goal of the 1991-1996 Rural Economic Activity Development Initiative (READI) project was to assist MUSCCO to achieve both financial and technical self-sufficiency. However, the 1998 study of rural financial services correctly made the point that MUSCCO could become financially self-sufficient by following the same strategy that the commercial banks have followed: withdrawing from high-cost rural-based SACCOs and concentrating on more profitable urban areas. However, this approach would not be consistent with MUSCCO's own mission, nor with the support that USAID has been providing to increase rural incomes. USAID's support encouraged MUSCCO to expand rather than contract its services to dispersed rural SACCOs, and to focus lending on higher risk agricultural activities subject to the vagaries of nature, of markets, and of contradictory Government policies.

To summarize, MUSCCO received financial support from USAID and technical support from WOCCU from its inception in 1980 until 1996. For the period from 1985 to 1996 for which reasonably clear data exist, 64 percent of support went to WOCCU for technical assistance and only 36 percent to MUSCCO for all other purposes. The total amount of resources allocated (not including the SSDP program which effectively started after the end of WOCCU technical assistance) was $6.7 million. Over much of the period MUSCCOs efforts seem to lack focus, with all SACCOs receiving equal access to resources, including many small SACCOs that ultimately proved not to be viable and had to be disaffiliated, after considerable waste of effort, time, and other resources that failed to make them viable financial entities. Most of the growth in membership occurred in the last few years of this phase of MUSCCO's development. Because of USAID's commitment to supporting rural incomes, a higher proportion of MUSCCO's efforts went to developing rural SACCOs than might otherwise have been the case. This focus detracted from MUSCCO's own profitability and from the profitability of the system as a whole.

b. The Smallholder SACCO Development Program (SSDP)

The Smallholder SACCO Development Program (SSDP) was the only program of support available to MUSCCO at the time that its relationship with WOCCU was terminated. MUSCCO had not and still has not achieved financial sustainability and needed the resources that the program provided. The program proposed to target five community-based SACCOs in communities with a heavy concentration of smallholder farmers: one in the North, two in the Center and two in the South. This work was carried out in conjunction with NASFAM, whose clubs and members constituted the core of the targeted SACCOs. These SACCOs were assisted to employ qualified managers, provide training, and give commodity support (filing cabinets, furniture, safes, and computerization). DANIDA complemented USAID's assistance by paying for the construction of permanent buildings to house these SACCOs.

The total program amount was $550,000 and was channeled directly to MUSCCO for the first time between 1999 and December 2001 (later extended to February 2002). Technical assistance for specific improvements needed in MUSCCO systems was provided by Barents, based on short missions without the presence of a long-term advisor. Project components consisted of the following:

- SACCO training, governance, financial management, book-keeping, etc;
- Staff development: short courses and workshops for MUSCCO employees in-country and regionally;
- Radio programs on SACCOs and the importance of savings (In English and Chichewa);
- One vehicle; and,
- Office rent, salary and benefits, and operational support to implement the program.

An issue in this program has been NASFAM's insistence that members in newly created SACCOs be exclusively NASFAM members, thus guaranteeing the members control of the SACCO. MUSCCO and other consultants (Billings and Whyte) have pointed out that community-based SACCOs with a broader membership (teachers, other professionals, traders, etc.) are more likely to be able to have funds available when they are needed for loans. A SACCO which is composed solely of farmers who may demand loans all at the same time, which is precisely the time that none of them have any spare funds for savings (out of which loans

should be provided for). Despite these caveats, experience does show that NASFAM members indeed are less risky clients than scattered members (independent farmers, traders, etc), and are more easily monitored to assure loan payments. For example, in a SACCO visited in Ntcheu during fieldwork, all NASFAM members had paid their loans (because NASFAM deducts loan amounts and pays the SACCO before paying the farmer). On the other hand, up to 60 percent of non-member farmers and traders who have loans from this SACCO are delinquent: follow up has been weak, due to the initial lack of sufficient transport, failure to institute stop-orders on tobacco sales in the first year of the lending program, and due to the wait for a new manager to be hired, instead of taking immediate steps to force delinquent members to pay.

Discussions are underway with Land O'Lakes concerning the possible formation of SACCOs composed of dairy farmers in Mzuzu and Lilongwe, either alone or in concert with farmers associated with NASFAM. (NASFAM's reticence to have its farmers included with non-member farmers or those from other institutions has been noted earlier.)

Even in non-SSDP SACCOs, marketing efforts have been assisted by MUSCCO. In Dedza, for example, the Teacher's SACCO was able to attract 113 new members (a 19 percent increase) by providing short-term loans to non-member teachers to show them the benefits of SACCO affiliation. The Central Finance Facility provided the SACCO with MK 1.0 million to on-lend to non-members (maximum loan amount of MK 10,000). The SACCO changed bookkeepers in 1999 and since doing so has consistently been making profits. The members also decided to increase interest rates (from two to five percent monthly), and found no member resistance to the change, once it was voted in. There have been some discussions concerning including community members other than teachers, but the change is generally opposed by members, as reducing the common bond, as well as making loan collection more difficult -- since payroll deduction, which is the current loan recovery method, would not be possible. No action has been taken to increase the low percentage of women members (12 percent), and despite the success of the recent marketing campaign with CFF funds for loans to non-members, only about 10 percent of all teachers in the district are members of the SACCO.

MUSCCO also manages a life insurance fund based on an assessment of 0.25 percent of assets per month (3 percent per year). This program makes a profit every year, but auditors became concerned when MUSCCO used part of the net revenue of this fund one year to make severance payments to workers. The concern is that with the increased incidence of AIDS (which is excluded from benefits due under the program) and given the probability that death certificates will be falsified to exclude AIDS as a cause of death, payouts could rise dramatically, break the fund, and threaten the financial integrity of MUSCCO. A proposed British Aid program to finance the establishment of SACCOs for market vendors in Lilongwe and Blantyre is also being held up by these same fears. DFID is funding an actuarial study before committing its funds.

MUSCCO has been encouraging member SACCOs to improve their financial management. It has provided frequent training courses, and has also worked with officers and staff. In some cases, it found that staffs simply did not have the competency or education to take full advantage of the training that MUSCCO provided. In some cases, directors were reluctant to dismiss such staff, despite their inability to adapt and learn new systems -- because these staff members were more amenable to facilitating directors' access to loans or to favorable treatment with respect to their overdue loans.

c. Future Steps

The support received by MUSCCO under the SSDP program has been effective and has improved the efficiency of many of the rural SACCOs formed. The delay in starting did cause problems with one of the SACCOs when funding was not available at the time that operations were scheduled to start. In general, however, the SSDP program has been effective in establishing and strengthening community based SACCOs in some rural areas. NASFAM farmers have responded appropriately and in some SACCOs have combined well with teachers and other members to form a well-functioning organization. In SACCOs formed around a core of NASFAM members, mechanisms still have not been put into place to handle the higher risk associated with non-NASFAM members.

The financial viability of new SACCOs is the focus from the start, with minimum membership for a new SACCO set at 500 members and minimum share capital per member set in the MK 500 to 1000 range. SACCOs that meet these requirements can hope to reach financial viability and the ability to hire qualified, professional managers within a short period. MUSCCO is providing the training and on-site supervision which these newly established SACCOs and those being revived, need in order to progress satisfactorily and to adopt newly installed systems and procedures.

USAID's support ended in early 2002, having achieved the objectives set out in the agreement of expanding and strengthening rural SACCOs. MUSCCO itself is a much stronger organization technically and financially, as a result of the support received over the 1999-2002 period. However, MUSCCO will need additional support in the future for it to continue to support the expansion of savings and credit societies, particularly in rural areas, and in order to be able to meet potential demand for the services they need. Marketing efforts, in particular, need to be supported to increase membership and to make societies financially viable in the long term.

3. Conclusions

The SSDP has achieved its objectives of improving MUSCCO's financial management; it has helped to increase its financial self-sufficiency through the appropriate use of the Central Finance Facility; the numbers of rural SACCOs have been increased (in partnership with NASFAM) and some existing SACCOs have been strengthened; and there is a heightened awareness of the importance of savings and the ability to do so through rural SACCOs, as a result of a media campaign carried out as part of the support provided by SSDP.

Some common bond SACCOs have yet to seriously consider the possibility of opening up their membership to a broader spectrum of the community, so as to increase their membership and, to potentially provide more and better services to existing and new members.

Marketing efforts in some SACCOs, despite assistance from MUSCCO to enlarge membership through special loan funds from the CFF, are insufficient and only a small fraction of possible members are joining. DANIDA had planned to provide assistance in marketing, but unfortunately did not do so before leaving Malawi. MUSCCO needs to do more to market the kinds of services SACCOs can provide in both urban and rural areas.

As part of these efforts, a better understanding is needed of the potential market, for which marketing studies could contribute. SACCOs do not have the resources either human or financial to carry out such studies on their own. MUSCCO's own resources are inadequate to finance the kind of a media campaign that would be required to make a meaningful contribution to public awareness of SACCOs, including the services that they can provide, and their benefit to members.

At this point, the use of manual systems virtually guarantees the development of serious management and financial accountability problems: confusion in accounts, lost revenues, misappropriation, and failure of a SACCO to operate as an efficient business organization. Many SACCOs have failed to computerize, due to lack of resources to do so; some are still operating in rented facilities (such as the Dedza teachers SACCO) where electricity supplies are undependable or entirely lacking for months on end (because the owner, in this case the municipal council, does not pay its electric bill).

Supervision of savings and credit cooperative societies is insufficient. Though MUSCCO does a good job of providing advice, this advice is often ignored. Where members' savings are put in jeopardy by improper management or operation of a SACCO, outside supervision and the imposition of sanctions are necessary.

4. Recommendations

Recommendation 1

Additional support is required to allow MUSCCO to expand and provide services through SACCOs to a higher proportion of the population, particularly for those living in rural areas.

Recommendation 2

Resources should be concentrated on SACCOs with the highest likelihood of success, regardless of their location. Malawi is a rural country, and the linkages between urban segments of the population and agriculture are extremely close. Therefore, even the development of urban SACCOs favors the rural population.

Recommendation 3

Collaboration with NASFAM in establishing SACCOs in conjunction with its members should be encouraged and supported by USAID and MUSCCO; however, such collaboration should include opening of these SACCOs to a broad spectrum of the communities they serve, while recognizing and dealing with the higher risks associated with members who are not associated with NASFAM by differential procedures, loan levels and guarantees. (Collaboration with LOL for SACCOs for its dairy farmers should also be considered.)

Recommendation 4

Marketing campaigns should be a major focus of future work with MUSCCO to increase and broaden membership in existing SACCOs. Special efforts are needed to encourage membership

by women, who are still underrepresented. USAID should support MUSCCO's efforts to improve the marketing of SACCOs and the services they offer.

Recommendation 5

Loan collection efforts need to be more vigorous and need to start immediate after a single payment becomes overdue. This may require additional resources (motorcycles, laptop computers, etc.), which USAID should consider providing, in view of the encouragement it has provided for SACCOs to form in hard-to-serve rural areas.

Recommendation 6

The actuarial study being proposed of the loan life insurance fund should be carried out, as is proposed by British Aid. However, in view of past experience in fund operation, which is highly positive, no programs should be deferred, held in abeyance pending study, or unless these programs are cancelled as a result of fears of the impact of AIDS on the program.

Recommendation 7

As rural, community-based SACCOs develop, better communications will be needed. MUSCCO should have the resources to provide an initial grant to such SACCOs of a sufficient number of motorcycles to insure adequate supervision of delinquent members. A radio system, such as that already being used effectively by NASFAM, should be considered as well.

Recommendation 8

Weekly radio programs are needed to promote membership in SACCOs, as one part of the more general media campaign to promote recognition of SACCOs and to market their services.

Recommendation 9

Accounting systems at all new SACCOs and retrofitting of systems at existing SACCOs need to be computerized. If the operation is too small to justify the cost of computerization, consideration should be given to closing them, or merging them with other SACCOs that are financially viable. Where power interruptions or voltage fluctuations are problematic, consideration should be given to using laptop computers whose batteries make operations possible, in spite of these problems. SACCOs operating in premises not having electricity should be helped to move to locations that do.

Recommendation 10

Supervision of the system needs to be upgraded, either by transferring this responsibility to MUSCCO itself or by supporting the development of such capability within the Registry of Cooperatives. In view of the importance of supervision to the safe operation of a savings based system and in view of the long-term support of the savings and credit cooperative movement, USAID should consider providing some of the resources needed to introduce effective supervision into the system.

Recommendation 11

If any dispute remains over the disposition of SSDP funds, a local audit should be commissioned to clarify outstanding issues and provide a full accounting and complete accountability for these funds. There are reliable, internationally affiliated, Malawian audit firms with competent national and international staff. These firms are well versed in auditing donor-provided funds.

5. *Lessons Learned*

- Correcting misconceptions of the role of savings and credit cooperative societies takes a long time and a concerted effort. When a program has started initially with the wrong approach -- using donor grants instead of savings for loan capital and providing low interest loans to the poorest-of-the-poor instead of market rate loans to those able and willing to repay them -- it is hard to convince members to put their SACCOs on a sound financial basis and to run them in a businesslike way.
- Future similar programs should be based right from the start on sound business principles and should pay market rates of interest to attract savers, and should charge borrowers what it costs to obtain funds from savers, or by institutional borrowing plus the transactions costs of doing business. (This approach was adopted by NASFAM from the start for its affiliated clubs and associations and should be emulated by MUSCCO and by similar institutions for their member SACCOs.)
- Savings rather than donated loan capital should be the basis for most lending in savings and credit cooperatives. However, where most members are farmers requiring loans all at the same time, to finance planting and other crop operations, access to external sources of funds may be necessary. In the longer term, a broader spectrum of membership may be necessary for the internal generation of savings combined with bulk borrowing of funds (possibly with guarantees such as that which could be provided by USAID's Development Credit Authority) needed for lending to finance members' farm operations.

D. CENTRAL REGIONAL SECURITY LIVELIHOOD PROGRAM

1. Funding Levels and Project Goals and Objectives

The Central Regional Livelihood Security Program (CRLSP) Project No. 690-G-00-99-00234 was funded by USAID at $1,277,375. CARE International managed the project over the period September 16, 1999 through September 30, 2002.

Program Goal: Improve the livelihood and food security of 10,000 rural households.

Objectives:

- Strengthening community institutional decision-making and outreach capacity through the formulation of community based organizations (CBOs), i.e., training community facilitators, leadership development, etc.;
- Raising agricultural productivity through farmer access to improved seed varieties, promotion of organic fertilizers and green manure, crop diversification into legumes, roots and tubers and soil and water conservation;
- Improving water availability and utilization by increasing cultivation in the *dambo* (wetlands) areas and constructing water harvesting structures; and
- Increasing income opportunities and earnings through the promotion of savings and loan groups, linking village groups to markets and the promotion of non-agricultural income generating activities.

2. Findings

The CARE CRLSP target group is subsistence level farm households in three Traditional Authority (TA) areas in Lilongwe District. A similar program funded by Australian AID, and also being implemented by CARE, was recently extended through September 2005. It operates in three out of the nine TAs in Dowa District. The project goal is to improve the living standards of the target population by expanding their home food supply and growing a surplus for sale. At the same time, most of the target households for these projects have limited experience at producing and selling a marketable surplus.

CARE used as an implementation strategy the formation of viable community-based organizations (CBOs), that are formed at sub-village, village, and group village head (GVH) levels, as the institutional framework within which the program objectives are achieved. These CBOs are provided training to manage the distribution of seeds and planting materials, natural resource and environmental protection activities, savings and loan groups and product marketing. It is important to note that the CBO organizational structure is deliberately formed by the grouping of villages that are already organized within the TA jurisdiction. While the CARE-formulated Group Village Head (GVH) community based organizations (CBOs) parallel the traditional governance structure at the Village Development Committee (VDC) level, the CBOs are organized and operate as completely separate structures. Since the VDC is the lowest TA representational level, the sub-village and village level CBOs do not have parallel TA representational structures. They therefore form the only institutions through which the needs of local villages can be articulated to VDC level leadership in an organized manner.

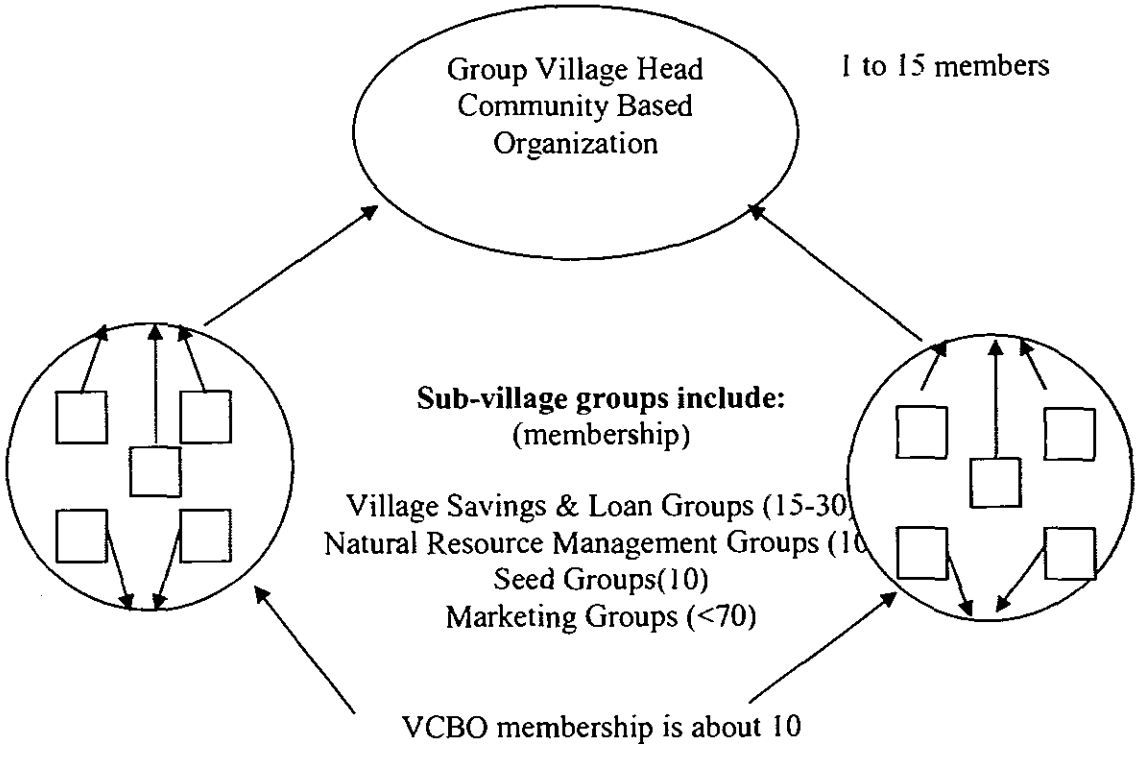
CARE had four field coordinators (FCs) and 15 field technicians (FTs) that supported the field activities associated with the four project objectives. Since September 2002, CARE is no longer providing support to these communities.

Objective a: Strengthening community institutional decision-making and outreach capacity through formulation of community based organizations (CBOs), i.e., training community facilitators, leadership development, etc.

First level CBO groups are organized at either sub-village or village levels to meet specific technical or business needs. To improve the realization of individual goals through group action, village level groups are further organized into federations leading up to an organizational structure that operates parallel to the Village Development Committee (VDC), which is the lowest level of the functioning traditional governance structure. Figure 1 illustrates the CBO structure implemented by the project.

Figure 1 CRLSP Hierarchy of Community Based Organizations

Sub-village groups include:



Prior to forming a CBO network, the CARE technical assistance team carried out a needs assessment to determine the number and type of groups to be formed. The formation of sub-village groups builds on already functioning community support groups that organize local level borehole, forestry, and funeral activities. Although the sub-village and village groups are organized to carry out specific technical or economic activities, they also serve as a conduit through which other individual and village concerns can be brought up to the VDC leadership, as there is no other village level group representation below the VDC.

Village residents are organized into four separate types of organizations, with each having a specific technical or economic purpose. CARE staff provided initial training in forming organizations and in identifying members for each group. Once organized, CARE provided further training to facilitate group realization of individual goals through their development into viable community action groups.

Seed groups were organized at the sub-village level, and generally consist of 10 members. Natural resource management (NRM) and village savings and loan groups (VS&L) were also organized at the sub-village level. NRMs, like seed groups, have about 10 members and coordinate resource management activities at village and federated village levels, including cash for work (CfW) activities. VS&Ls have from 15 to 30 members and operate primarily at the sub-village level. Marketing associations are organized initially at the village level to support the marketing of household farm products.

During the first year of Project operation the emphasis was on organizing technical groups at the sub-village level and linking them to village CBOs (VCBOs). These organizations represent all sub-village groups, except marketing groups, and generally have a membership of 10 people, who are appointed by the village level groups.

In the second year, the emphasis was on organizing the VCBOs into federations that included all villages represented in the traditional VDC. These groups are called GVH or group village head level organizations. The GVH usually has 15 members. Since there are often more than 15 villages that make up the VDC jurisdiction, not all VCBOs have direct representation on the GVH CBO.

In the second year, marketing associations were also formed. The lowest level association in this case was at the village level. The goal was the formation of one association in each village. In the third year, GVH level marketing associations were formed that were separate from the GVH CBO and from the traditional VDC structures. These federated marketing associations operated for the first time in the 2001/02 season.

Two CARE field technicians (FTs) were responsible for institutional capacity building activities. They identified local residents to work as Community Facilitators (CFs) who served as the link between the CARE FTs and the VCBOs and later the GVH CBOs. These community volunteers were trained by CARE FTs and other specialist staff and in turn, provided training to village and sub-village CBOs. Their primary role was to handle the many logistical issues associated with the day-to-day operation of the village and with the federated CBO system. At project closure, CARE had trained 100 CFs, of which half were women.

The end of project (EOP) evaluation report[7] indicated that, while the CFs provided important support services to the CBOs, members of the GVH CBO generally felt that the CFs were operating outside the jurisdiction of the GVH CBO, rather than as staff that were responsible to the GVH CBO. As a result, CARE is now redefining the CF as responsible to the GVH CBO, and is providing additional training to these CBO members to improve the implementation of their responsibilities.

[7] Jane Iredale, Central Region Livelihood Security Program (CRLSP) EPR Evaluation, draft September 2002.

To foster further development, CARE worked with partner organizations that used the GVH CBOs as conduits though which program support and training was channeled. As part of the CRLSP, CARE provided training to staff of some of these organizations to improve their service delivery mechanisms. These partner groups included: primary education advisors from the Ministry of Education, community development assistants from the Ministry of Youth. Gender and Community Services, field assistants from the Ministry of Agriculture and Irrigation. and selected staff from the Department of Forestry. CARE also worked with staff from the St Gabriel Hospital on sensitizing CBOs on HIV/AIDs and reproductive health.

It can be seen from the above discussion that the job of organizing, training and supporting a CBO structure is a time consuming and complex undertaking requiring a great deal of training and understanding of how to manage and direct interpersonal and inter-group dynamics. At the same time, most participants in these groups have had limited previous experience in working through democratic group structures that are designed to articulate the needs of the individuals represented. As a result, a continued program of training and support is most likely needed to ensure the long-term success of CBOs at the GVH level. Another factor to be considered when evaluating CBO functioning is that their existence can create tensions with VDC and other local authority leadership. At the same time, it must be recognized that many VDCs exist in name only and in reality are not able to effectively represent the people within their jurisdiction. In these areas, the CBOs are filling an important gap. They effectively serve as institutional building blocks to provide a network through which village members can articulate their needs, in addition to gaining direct social and economic benefits from the participant sub-village and village groups.

Over the course of the project:

- One hundred CFs were identified and received training in leadership, seed production, savings and credit, and marketing, of which 50 percent were women (against a target of 100 community facilitators identified and trained).
- Two hundred and eighty two VCBOs were organized and trained with 40 percent women members (against a target of 350);
- Three hundred and seventten activities were planned, implemented, and monitored by some 350 CBOs that included digging and maintaining shallow wells and boreholes, road rehabilitation, school blocks construction, wetland cultivation of crops, agro-forestry projects, dissemination of HIV/AIDs messages, adult literacy programs, seed multiplication and management, bridge construction, pit latrine construction, village security, and market place construction.
- Eight GVH CBOs were organized and trained (against a target of 20);
- Seventy one partner staff were trained (against a target of 60):
- Thirteen trained partner staff are providing support to activity groups and CBOs (against a target of 60).
- More than 300 activities were implemented by 60 VCBOs (against a target of 300 activities).

Objective b: Raising agricultural productivity through farmer access to improved seed varieties, promotion of organic fertilizers and green manure, crop diversification into legumes, roots and tubers, and soil and water conservation.

CARE provided starter planting material for cassava, sweet potato, groundnuts, dry beans and Irish potatoes, but did not provide other inputs such as fertilizer. They did encourage farm households to maintain compost pits and to use the materials as organic fertilizers. Planting materials are distributed through the seed groups, and each beneficiary agrees to return a specified amount of seed or planting material to the VCBO the following year for further distribution to other farmers. Five CARE FTs provided technical support for this objective.

Cassava planting materials were provided to farmers for all three years of the project duration. An estimated 1,005 farmers received these materials. An amount sufficient to plant about .01 ha,. (a 10m x 10m plot) was provided through the village CBO. Only sweet cassava planting material (Manyokola variety) is supplied, as it is non-toxic and can be eaten or sold fresh or with minimal processing. Planting materials are purchased by conducting an annual tender among several suppliers. Suppliers include the research stations, private farmers, and the Ntendere Catholic Parish farm in Dedza[8]. Generally, the research stations are the highest cost suppliers. As a result, planting material is usually purchased from the Ntendere Parish farm or from private farmers.

CARE reports that farmers are interested in growing cassava and will usually harvest from 10 to 18 months after planting (from October through May following the planting year). This suggests that the impact on dietary intake is lagged by one year. To pay for the received planting materials, an amount sufficient to grow a 5m x 10m plot is provided to the VCBO the next year for further distribution to another farm household through a different cassava group. CARE did not provide bitter cassava planting material to project members, as the product requires further processing to remove its natural toxicity. Because of anecdotal evidence of persons dying from consuming unprocessed bitter cassava, CARE decided against supplying planting material for these varieties, until such time as training could be provided in the proper processing of the raw product.

Most cassava is consumed at home with the surplus being sold in local markets. Generally, significant sales do not begin until the second year and then primarily if the original area planted increases. With the serious hunger problems of the current year, farmers reported a higher than normal rate of theft from their plots than in past years. Some farmers developed cassava nurseries during the winter season, but this requires the availability of *dambo* wetlands.

Sweet potato vines were provided to farmers for all three years of the project duration. Some 1,189 farmers participated in the program. Like cassava, sufficient vines are provided to cover a .01 ha. area with the same payback procedures as for cassava. Generally, households planting cassava also plant sweet potatoes. Sweet potatoes are generally planted in December, with harvest from early April to June. Planting material is generally obtained from the Ntendere Parish farm seed multiplication plots. Sweet potato is generally not sold, but kept for home consumption.

Groundnut seeds were provided to farmers during all three years of the project. This was the largest of all the planting material distribution programs, with some 20,700 farmers participating. Four kg of improved CG7 seed was provided, which is sufficient to grow a.05 ha. (10m x 50m plot). In payment for the seed, the beneficiaries provide 8 kg to the VCBO at harvest for

[8] The Church engages in seed multiplication and sells the planting material to support their educational program.

redistribution the next year to members of another seed group. CG 7 is a high yielding variety that produces a small to medium sized kernel used for home consumption or sold primarily for processing. Farmers who expand the area planted the second year often sell most of the product produced from the expanded area.

CRLSP beneficiaries sold only a small amount of groundnuts to local buyers. A significant marketing problem occurred in selling the 2001 crop, as marketing association leadership was unable to make timely decisions on selling the available surplus, and consequently received very low prices for their product. (Marketing issues are discussed in greater detail under Objective 4). Groundnut production is increasing rapidly among project farmers and is one of the major crops whose seeds are being distributed in the current famine relief "Starter Pack" program. CARE staff indicated that about three more years are required until farmers are able to establish sufficient basic[9] and certified seed nurseries to meet expected demand. Until that time, the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) will remain the largest provider of basic seed.

Dry bean seeds were provided to farmers for all three years of the project. Some 11,100 farmers participated in the program. Six varieties were provided (one is red and the others are speckled white or off white varieties). Three kg of seed was provided to grow .03 ha (a 10m x 30m plot), and farmers repay 6 kg to the seed group the following year to be distributed to other members. Seed is purchased from ICRISAT, which currently has a monopoly on the production of basic seed. Like groundnuts, a marketable surplus generally does not become available until after the first year.

Irish potato sets were introduced into the program for the first time in 2000/01. An estimated 484 farmers participated in the program. A 20 liter pail of seed potatoes is provided to grow a 10m x 10m plot. Farmers return the same amount to the VCBO for distribution to other individuals the following year. The initial potato sets are generally purchased by CARE from the Ntendere Parish. Irish potatoes can be harvested before the maize crop is ready, so that it provides additional food security during the summer hunger season. Surplus produce is generally sold locally.

Maize seed was not distributed through the CRLSP. As maize is the primary traditional food crop, farmers are encouraged to use their normal supply sources for obtaining maize seeds. As a strategy, CARE supports the planting of open pollinated maize varieties, as farmer seeds can be saved and reused for several years -- thereby reducing their annual cash outlay for purchasing seed. However, there is a limited available supply of higher producing open pollinated varieties, and there is no current program in Malawi to carry out such research. Private sector seed suppliers are only interested in providing hybrid seeds. In addition, CARE does not provide fertilizers in its starter packs. Instead, they promote the formation of compost materials for use as crop fertilizers.

Productivity changes over the project life, as measured by yield per hectare, are summarized in the following table:

[9] "Basic" seed is known as "foundation" seed in the US, is one stage higher in genetic purity than "certified" seed.

TABLE 5
Yield Changes for Selected Crops, 2000 though 2002

Year	Groundnuts (kg/ha)	Beans (kg/ha)	Cassava (kg/ha)	Sweet Potato (kg/ha)
Baseline (2000)	845	379	3705	2522
2001	2042	862	7310	21068
2002	262	217	n.a.	2656

Significant yield increases were recorded from the baseline year to 2001: groundnuts – plus 140 percent; beans – plus 127 percent; cassava – plus 97 percent; and sweet potato – plus 735 percent. These yield increases are exceptionally high, but were not maintained in 2002. In all cases where data are available, yields were considerably lower than in the baseline. Project staff indicates that the poor results are related to the severe hunger experienced during the period where crops were harvested prematurely, or stolen from the field prior to harvest.

At the same time, the following table illustrates that plantings of groundnuts, cassava, and sweet potatoes declined from 2001 to 2002, and that the sweet potato area planted during both years was below the baseline.

TABLE 6
Changes In Area Planted For Selected Crops, 2001 Though 2002

Year	Groundnuts (ha)	Beans (ha)	Cassava (ha)	Sweet Potato (ha)	Total (ha)
Baseline (2000)	131	120	15	48	314
2001	737	121	17	14.5	889.5
2002	524	141	9	4	678

The area planted table suggests that farmers prefer to grow groundnuts and beans instead of cassava and sweet potato. The reduction in planted area to these crops during the 2001/02 season does not suggest that these farmers view these two crops as maize substitutes, or as major income generating crops. After the large increase in the area planted to groundnuts from 2000 to 2001, the decline in area planted in 2002 may be attributed to poor marketing results, but there may well be other reasons as well.
Other results of the crop promotion program include:

- Formation of 3,351 seed groups;
- Seed repayment rate of 90 percent in the first year and 50 percent in the second year, due to drought.

Objective c: Improving water availability and utilization by increasing cultivation in the *dambo* (wetlands) areas and by constructing water-harvesting structures.

This component was concerned with increasing cultivation in the *dambo* wetland areas. Activities carried out under this objective included construction of water harvesting structures,

including dams and weirs, and the introduction of soil conserving, sustainable land use practices. Water harvesting structures were designed to increase water availability during the fall and winter dry season, in order to support an expanded range of crop production. Construction work for these activities was performed by project beneficiaries that were located in the areas where the work was taking place. Projects were identified at the GVH CBO level and local Natural Resource Management (NRM) committees identified workers and handled worker payroll and task supervision, under the Cash for Work (CfW) program. Under the program, workers were hired for a 120-day period, receiving 23 KW per day, or about 2,800 KW in total compensation. While construction was on going, CARE FTs were usually on site at least two days per week. Three CARE FT staff provided technical support in the NRM and CfW work, and was present to monitor payroll procedures.

In the course of the CfW activities GVH CBOs would also identify additional construction activities such as roads and bridges. These projects were also completed using CfW workers. The end of project report rated the overall quality of the water harvesting structures as sound, and the systems are providing ample water to the communities and people that they serve. Twelve water-harvesting structures were completed and are providing water to more than 1,100 people. In addition, two weirs, 10 road rehabilitations in 6 sites and two gully reclamation sites were completed. These results exceeded project targets. In several cases, dams were stocked with fish (tilapia) and ticketing systems were established to regulate their use. Where established, local NRM committees manage the funds collected.

The EOP report noted that NRM committees were formed at a slower rate than for other project activities. The evaluator concluded that this reluctance stemmed from previous attempts by the government to form similar committees, when the promised inputs such as training and materials were not provided. In contrast to the past experiences, one of the project success stories involved making formerly unavailable hillside land suitable for irrigated fall and winter farming by 50 families who averaged about .6 ha (1.5 acres) each. The NRM Committee sets up and manages water use rules to govern irrigation, and fishing is permitted twice a week at the rate of MK 20 per hour. People in this community also have planted some 2,000 indigenous trees in the catchment areas.

Other achievements under this objective include:

- One thousand and four hundred and eight farmers (43 percent women) adopted sustainable farming practices, including contour marker ridges, ridge realignment, agro-forestry trees, vetiver grass and composting (against a target of 1,000 farmers);
- Five hundred hectares placed under sustainable practices (against a target of 15 hectares);
- Ten water harvesting structure management committees formed and trained (exceeded target);
- Water was available for two to four extra months (exceeded target of two months) where water harvesting structures were built;
- The area cultivated in *dambos* increased by 33 percent (27 hectares); and
- NRM committees organized and trained in 25 communities (against a target of 13);

The EOP evaluation noted that problems with money occurred in several areas, where ticketing systems were formed to earn money for conducting future community projects and towards maintaining water-harvesting structures. As a result, concerns exist about the future

sustainability of these projects. This evaluation also noted that women tended to be more concerned about water and environmental issues than were men, and would consequently do a better job of managing these projects.

Objective d: Increasing income opportunities and earnings through the promotion of savings and loan groups, linking village groups to markets, and the promotion of non-agricultural income generating activities.

This section addresses two CRLSP activities: the formation and operation of S&L groups and the formation and operation of marketing associations. It also identifies the earned income achievements of the CfW program activities that were discussed in the previous section.

Village Savings and Loan (VS&L) groups were organized at sub-village levels with membership ranging from 15 to 30 persons. Members pledge to contribute a regular weekly or monthly amount to the association, which is recorded on an individual ledger card. The cards and ledger books are provided by CARE staff, which also provides training and guidance for the local associations. Individuals can borrow from the local association with normal repayment required within one month. An interest charge, usually ranging from 15 to 25 percent, is levied for the period and is established and collected at the local association level. The amount of funds that an individual can borrow from the fund is not related to the level of his/her savings in the association, but is approved as a group consensus decision based on the assessment of the borrower's repayment ability. There is no fixed interest rate paid on deposits, but members can vote themselves a dividend at the end of the year, in line with earnings received from interest payments received. However, many groups do not declare annual dividends, but prefer to retain the earnings in the association fund to further credit availability. In March 2000, the CRLSP produced a VS&L Training guide that is provided to all groups. The guide was based on a successful program managed by CARE in Niger and adapted to the Malawian situation.

One of the more successful groups started in July 2000 with a set individual savings rate of MK 23 per person. After first expanding to 95 members (on the rumor that CARE was going to provide credit funds), it dropped to eight members when it became clear that this would not happen. After this initial decline, membership rose to 23. In September 2002, the account balance had increased to MK 103,980 and members regularly borrowed money to cover production expenses, including those associated with growing tobacco and maize. (Some borrowed up to MK 8,000). As a result, most families in this group were self-sufficient during the recent hunger period and, in addition, managed to upgrade their houses and to save additional funds.

The EOP report noted that groups comprised only of women have proven more effective in managing VS&L funds than were mixed gender groups, or groups comprised of men only -- 92 percent of all VS&L members were women. Men tended to seek larger credit institutions and often felt that the amount of money associated with the VS&L groups was too small for their needs. CARE personnel also noted that the most effective groups maintained tight secrecy regarding the identity of their treasurer, and did not disclose where the moneys associated with the local group were stored. In this way, they guarded against theft and protected their assets from outsiders. The EOP report further noted that this activity was concentrated very heavily among the women of poorer households, than in those from the more well off households who often considered the sums of money involved to be too small. Extension Service staff also

appreciated the results of these groups and their popularity in the poorer communities and have begun to promote them in other areas. This popularity rests, in part, on the fact that they do not require external resources for their success. It does seem important, however, that the groups have a written constitution and that members all adhere to this constitution.

The project target was the formation of 40 integrated VS&L groups at the GVH level; however only 10 such groups were formed. This result further supports the notion that the savings groups are most effective when membership consists of a small number of people having a strong trust relationship between them.

Village or integrated VS&Ls can, in theory, access credit from the Malawi Rural Finance Corporation (MRFC), but generally do not choose to do so. Interest rates charged are reportedly from 48 to 52 percent per annum, which is above what the target population can usually gain from the use of the credit. Moreover, loan officers do not have a good reputation with the rural population and reportedly the documentation provided for loans does not clearly state all terms and conditions that apply to the loan in a way that is readily understood by the borrower. Apart from the MRFC, there is no other formal sector credit source available to the CRSLP beneficiaries. A summary of the VS&L results includes:

- One hundred and ten VS&L groups formed with total savings of MK 1,124,641, and with internal loans totaling MK 1,541,669;
- Two thousand four hundred and seventy three participants in VS&L groups, with 92 percent women (against a target of 1,750 participants with 90 percent women);
- MK 709 average savings per participant (against a target of MK 500);
- MK 972 average loan per participant (against a target of MK 1,000); and,
- Ten functioning integrated savings groups (against a target of 40 groups).

Cash for Work activities have contributed significantly to the economic welfare of many low-income families in the target area. As noted in the previous section, CARE managed this program to support the construction of water harvesting structures, including weirs and dams and other local infrastructure such as roads. Income earning achievements from the programs included the following:

- Three thousand nine hundred and sixteen participants with 67 percent women (against a target of 4,000 participants with 60 percent women); and,
- MK 2,800 earnings per participant (against a target of MK 2,000 per participant).

While anecdotal evidence clearly indicates that members saved a portion of their earnings from this program, project staff were not able to develop a firm estimate of the actual percentage that was saved against an initial savings target of 25 percent.

Marketing associations have a different organizational structure than the other village based CBOs. The lowest level marketing associations were organized at the village level with a maximum size of 70 members. However, in practice membership never reached these numbers. The operating concept was that village associations would appoint one or two members to a federated association formed at the group village head level. This GVH level marketing association was separate from the general GVH CBO. Produce from individual farmers would

be collected by the village level association, and up through the GVH level association which would take responsibility for managing sales.

CARE provided training and general capacity building support to both village and federated level marketing associations. In addition to coordinating farmer product marketing, the marketing associations were also to gather and disseminate market information. In total, 27 village and GVH level marketing associations were formed and trained with a reported membership of 328. About 51 percent of the members were women.

Few group marketing activities were carried out during the 1999/00 season. To strengthen the GVH level marketing capacity, CARE brought in a NASFAM consultant at the beginning of the 2001/02 season to provide a one week training session on "Development of Smallholder Farmer Associations". Further business management training was provided that year by the Malawi Enterprise Development Institute. After these training sessions, additional group sensitization sessions were held. CARE further facilitated linkages of these organizations to various government partners and to NASFAM.

Although four trading companies buy from small growers in the area (Rab, Transglobe, NASFAM and Kanonga Estates), only a small amount of produce from the project area was marketed through the marketing association structure during the 2000/01 season. Product quality was generally low and many farmers sold their product at prices as low as MK 7–11 per kg. A contributing factor was the inability of marketing association leadership to make timely business decisions, with the result that many sales took place in September after prices had peaked. However, individual farmers who sold early and who graded and shelled their groundnuts before selling them, realized from MK 28-30 per kg[10].

A separate CARE evaluation document[11] notes that five GVH level marketing associations sold 6,142 mt of groundnuts to McPherson at an average price of MK 18 per kg during the 2001/02 season. Prices for produce sold in July ranged from MK 21-23, but went as low as MK 7 later in the year. Poor quality also affected prices paid. These results suggest that the ability of marketing associations to make business decisions is improving, but that significant problems remain.

3. Conclusions

The CRLSP met or exceeded most of the targets related to community based organization (CBO) formation and their use in achieving social, educational, health and environmental improvements. However, results for crop productivity and marketing related goals were mixed. Significant increases in area planted to groundnuts and beans occurred during the first year, (as against the baseline) but area planted to groundnuts declined the second year. Area planted to

[10] Discussions with buyers indicated that each has an export quota that they must meet. Once this quota is met, prices they are willing to pay drop rapidly. Generally, quotas are filled by the end of August or by mid September. After these dates, local market prices prevail. However, MOAI monthly market information indicates that retail prices at local markets maintained price levels for unshelled peanuts at 38-42 MK per kg for unshelled groundnuts for the period September through December 2001. This was somewhat higher than prices recorded during the May through July period.

[11] CARE, Documentation of Best Practices, Lessons Learned from Implementation of the Smallholder Marketing Program in Lilongwe, Dedza and Dowa Districts, November 2002.

cassava increased slightly over the baseline the first year, but was lower than the baseline the second year, while sweet potato plantings declined each year. Very significant yield increases were recorded for all four crops over the baseline during the first year, but results were very disappointing for the second year. At least in part, the yield reductions were related to crops being harvested early or stolen from the fields, due to the severe hunger experienced during the 2001/02 hunger period. Moreover, the experience of marketing produce (primarily groundnuts) through GVH CBO marketing associations was not very successful. Farmers operating as individuals or through smaller village structures usually fared better than farmers selling through the group village head marketing associations.

The general success of the socially oriented CBO based activities, when compared with the mixed results of the economic activities, suggests that perhaps the CARE or MOAI Extension staff could have provided additional technical support during the 2001-2002 season to consolidate some of the positive area planted and yield results of the first year.

In addition:

- Village seed groups provided the structure for distributing improved seeds and other planting materials for either initial or expanded plantings to approximately 35,000 farmers. Distribution of groundnuts (20,706 farmers) was the largest program with 11,100 farmers receiving bean seed, 1,005 receiving cassava cuttings, 1,189 receiving sweet potato vines and 484 receiving Irish potato sets.
- Formation or reactivation of 375 CBOs provided the organizational base for implementing more than 300 village level activities that addressed:
  a) village development (road construction, shallow well and borehole construction and maintenance, road rehabilitation, and village security);
  b) social and health improvement (adult literacy training, dissemination of HIV/AIDs messages, and school block construction);
  c) environmental protection (construction of dams, weirs, gully protection structures, and hillside reforestation); and
  d) increased household economic well-being (seed groups, marketing associations, and wetland crop cultivation).
- Almost 2,500 residents became members of functioning village savings and loan groups, with average savings of MK 709 per participant and loans averaging MK 972 per participant. Some 92 percent of the VS&L members were women. The VS&L membership was more popular with poorer households than with those who were economically better off. At the same time, VS&L members did not feel that the existing formal credit institutions, especially the Malawi Rural Finance Corporation, were able to meet their credit needs.
- Cash for Work activities provided an important source of cash income to almost 2,500 individuals (67 percent women) and in the process, contributed to the strengthening of fragile wetland environments, expanding winter crop production, and improving road infrastructure.

4. Recommendations

The following recommendations may improve future project results in expanding disposable income for poor rural households.

Recommendation 1

A pilot crop marketing program should be built around the more successful VS&Ls, as a base for building successful village farmer marketing organizations. Many of these small associations (usually comprised of about 15 to 30 members) have developed a strong trust relationship among the group members, and have demonstrated their ability to handle members' financial affairs in a responsible manner.

Recommendation 2

Poor rural households with minimal experience in trading commercial products should receive in depth training, which emphasizes the importance of meeting product quality standards and of having their crop available when commodity prices are the highest. These two factors were largely responsible for determining whether CRLSP farmers realized profits or losses from their product sales.

Recommendation 3

Accurate and targeted market information needs to be available at regular intervals to small-scale farmers engaged in commercial product sales. Effective delivery mechanisms are needed to meet the special needs of small farmers that are normally outside the reach of normal dissemination media such as radio, television and newspapers, which are usually not available or too expensive for many of the target households.

Recommendation 4

Future credit programs for CARE and similar small farmer target populations should be formed on a savings-based finance rather than on a credit-based finance. Increased emphasis should be placed on facilitating the formation and growth of female based VS&Ls, as the primary organization for future small farmer rural credit programs targeted at the smallholder rural population.

Recommendation 5

Farmers with a demonstrated ability to produce a commercial surplus should be encouraged to participate in commercial seed and planting material multiplication, with technical support from ICRISAT and the Southern Africa Regional Crops Research Network (SARRNET). Donor funding is needed to initially support technology transfer training and monitoring to facilitate the production of basic and certified seed and planting materials by CARE and similar target farmer groups, within the existing standards that are administered by the MOAI/DARTS.

Recommendation 6

Successful natural resource management (NRM) groups should be encouraged to expand their involvement with the construction of effective natural resource and environmental protection structures that can improve or maintain the natural resource base needed for the long term sustainability of the agricultural land and water resource base. Future donor project activities to

support development of these structures should seek out these successful organizations to manage new activities.

Recommendation 7

Future CfW activities should be linked to VS&L activities, in order to improve the savings rates of disadvantaged families in rural areas. It is further suggested that areas where successful VS&L groups are operating should receive priority consideration for location of future CfW activities.

5. Lessons Learned

Lessons learned from the CRLSP experiences include:

- Groups comprised only of women were more effective in managing VS&L funds than mixed gender groups, or groups comprised of men only -- and were an important mechanism for empowering women living in poorer households. The VS&L groups were the most effective CRLSP component for increasing the disposable income of target group project beneficiaries. They formed the nucleus for significantly expanding household income and the business confidence of their members through regular savings and though issuance of credit from an accumulated savings base. The ability to honestly and effectively handle financial transactions associated with savings and credit further suggest that they can effectively serve as the basis for the commercial marketing of group produce as well. Members of the successful groups have developed a strong trust relationship, have learned how to make business decisions, and to resolve disputes over money matters, that are necessary to enjoy the confidence and trust of their members. These three factors are essential for the successful operation of marketing associations and are the attributes that were lacking in many of the GVH marketing associations that attempted to meet project group marketing functions. Moreover, experience suggests that other village residents view the financial success of these associations as a result to be emulated.

- GVH marketing associations have not been particularly successful in marketing farmers' products. Most GVH marketing associations do not have appropriate marketing skills, nor do they enjoy sufficient trust of the membership needed to take commercial decisions. This leads to the CRLSP experiences where the GVH marketing associations delayed making decisions about selling of member's produce, and consequently, were unable to effectively carry out their responsibilities. Moreover, these organizations do not have sufficient funds to hire staff that can effectively market their members' produce. Effective marketing structures need to be organized on business principles and to have financial audit and monitoring controls. In addition, they need to have a sufficient business volume, so that employees receive an adequate income for taking decisions that make money for the membership. It will be very difficult for GVH marketing associations to meet these criteria.

- CBOs as representative organizations are not well suited for facilitating market based individual or household economic development issues. Village community based organizations (VCBOs) and GVH CBOs are broadly based community representative

structures that have been shown to be effective in addressing common group goals, such as adult literacy and education, improving community health standards, including reduction of HIV/AIDs, improving community security, coordinating natural resource management, and addressing common environmental concerns. However, the very reasons that they are successful in addressing community issues, e.g. they represent the broader interests of the village or group of villages, may make them quite unsuitable for addressing market based individual and household economic development associated with the creation of savings, credit management, or commodity marketing. This is because market based economic development tends to differentiate the more successful from those who are less successful and relies on effective acquisition and management of individual financial resources. At the extreme, CBOs designed to enhance village and community goals may actually operate to maintain an equality of poverty in poorer communities, by impeding the natural process of income differentiation that takes place as individuals and households learn how to better manage financial resources needed to improve their overall level of food security and living standards.

- Farmers lack understanding of the market realities associated with selling their surplus products. The two-year CRLSP experience with marketing groundnuts and beans indicates that there are at least four private sector trading companies that bid for farmer's products. Farmers who met quality standards and had the product available during the appropriate market window, realized adequate profits from their sales. Those who did not meet these requirements did not do very well. A sustained program of market training supplemented by effective dissemination of relevant market information on a frequent and timely basis, is needed to improve farmer understanding of marketing their surplus produce. Farmers need to clearly understand that market based product prices will vary over the season, and if they are unable to meet quality standards and have their crop ready when prices are favorable, it may be better not to grow the crop for commercial sale.

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

1. Funding Levels and Project Goal and Objectives

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

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

Project Objectives:

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

2. Findings

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

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

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

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

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

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

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

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

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

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

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

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

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

[12] ITAD Ltd. Crops Assessment Study. European Commission, May 31, 1999 and M.O. Akoroda, Study of the Contribution of Cassava and Sweet Potato to Total Food Availability in Malawi, USAID, May 1999.
[13] Rapid Assessment on Root and Tuber Crops From 9th to 16th June, 2002, MOAI October 2002

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

3. Conclusions

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

Summary conclusions include:

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

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

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

4. Recommendations

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

Recommendation 1

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

Recommendation 2

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

Recommendation 3

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

Recommendation 4

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

Recommendation 5

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

5. Lessons Learned

Lessons learned from the FEWS NET experience include:

- FEWS NET has filled an important niche in providing food security information and analysis to the GOM and the donor community. The reports are timely and generally contain data and analysis useful for assessing food security, agricultural production and marketing developments, and trends in leading agricultural indicators. Yet, it appears that the data and analysis have not been fully utilized by policy makers or by the donor community. During 2000 and 2001 when the food balance sheet was showing a maize deficit, a review of FEWS NET special reports suggested that households in certain regions were experiencing higher than normal food shortages. At the same time, FEWS NET monthly reports revealed unusually high seasonal maize price increases, as households began depleting their own supplies of maize. During the same period, groundnut prices were also reaching levels not previously attained. Identified food shortages and price increases of this magnitude occurring at a time when the known maize supply was low, could have provided clues that a food deficit situation was developing.

- The weakness of the National Crop Estimates Survey are well known and cannot be easily rectified, as long as individuals responsible for collecting and aggregating the data also have responsibility for implementing agricultural programs whose success or failure is at least partially determined by the data collected in the National Crop Estimate Survey (NCES). It is well recognized that national surveys of this type are best implemented by a dedicated national statistics organization. At the same time, the National Statistics Office (NSO) in Malawi is under-funded and cannot assume the responsibility for mounting an effective national crop estimates survey, without a substantial increase in its budget. The estimated first year cost for conducting an objective NCES using independent field enumerators, is more than double the current annual NSO budget. However, after first year startup costs have been met, estimated annual survey costs might be reduced to about 75 percent of the current annual NSO budget. While it may be reasonable for donors to fund the initial startup program, a long-term commitment by the GOM is needed to ensure the continuation of the program after donor support is withdrawn.

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

F. GROUNDNUT AND PIGEON PEA MULTIPLICATION PROJECT[14]

1. Funding Levels and Project Goal and Objectives

The Groundnut and Pigeon Pea Multiplication (GPM) Project No.: 612-G-00-99-00221 was funded by USAID at $677,350. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) managed the Project over the period August 1, 1999 through January 31, 2002.

Project Goal: To enhance groundnut and pigeon pea productivity for household food security, nutritional improvement, and poverty alleviation.

Objectives:

- Providing high quality breeder seed and basic seed of high yielding, disease resistant groundnut and pigeon pea varieties to various stakeholders in Malawi;
- Increasing awareness of the value of improved varieties in enhancing the production of groundnut and pigeon pea among smallholder and commercial farmers through on-farm demonstrations;
- Strengthening the capacity of the Department of Agricultural Research and Technical Services (DARTS), the Department of Extension and relevant NGOs, in transferring groundnut and pigeon pea production technologies through short-term training courses; and
- Establishing a sustainable Revolving Fund from sales of basic seeds.

2. Findings

The Project can be viewed as a response to a lack of improved groundnut and pigeon pea seeds to fill the need for expanding the area planted to these crops by small farmers. Both crops provide needed protein supplements to maize and cassava, which form the staple food crops for many rural families. Moreover, groundnuts and pigeon peas provide a major source of farm family cash income, especially for women. Prior to the start of the Groundnut/Pigeon Pea Multiplication Project (GPM), the MOAI and various NGOs had initiated community based seed and planting material multiplication programs for food crops. These programs reportedly "improved the availability of cassava and sweet potatoes, while on the other hand the situation for the other major crops had not changed much"[15]. Private sector suppliers had not shown an interest in producing improved varieties, in large part because of the inability of small farmers to pay the commercial cost of improved seeds and planting material.

Both pigeon peas and groundnuts are leguminous crops and fit in well in a rotation with maize. Their high protein content can provide an important protein source for rural farm family diets. Groundnuts also provide a partial substitute for cooking oil. While food security considerations are important criteria for planting groundnuts and pigeon peas -- the availability of formal and

[14] The full project name is: "Rural Prosperity is Nation's Economic Stability" A Partnership Approach to Attain Sustainable Production of Groundnut and Pigeon pea in Smallholder Agriculture for Quality Diet, Household Food Security, and Poverty Alleviation. In this report the shorter title, "Groundnut and Pigeon pea Multiplication" is used for convenience.

[15] Seed Strategy Report, CARE, May 1999, p 10

informal market infrastructure to support commercial sales, availability of improved seed supplies, and susceptibility to pests (primarily pigeon peas) and diseases (primarily groundnuts) are arguably the basis on which farmers make decisions to grow these crops.

Groundnuts are susceptible to groundnut rosette virus, which can severely reduce yields and thereby increase growing risks. Pigeon peas are generally disease free in Malawi, but poor production management practices can make them susceptible to insect and pest damage. Continual cropping of pigeon peas in the same plot (lack of rotation) can also lead to a high incidence of fusarium wilt. Moreover, improper post harvest handling can introduce aflatoxin, making the product unfit for human and animal consumption.

A rapid expansion in area planted occurred in recent years for both of these crops. Nationally, the area planted to groundnuts expanded from some 103,000 ha. in 1996/97 to 207,000 in 2001/02. National pigeon pea area planted increased over the same period from some 113,000 ha. to 140,000 ha. Total groundnut production increased over the period, from 71,000 mt to 158,000 mt, while for pigeon peas the increase was from 73,000 mt to 105,000 mt[16].

Nationally, the area planted to groundnuts is about 14 percent of the area planted to maize, but the central and southern Agricultural Development Divisions (ADDs) of Kasungu, Lilongwe, Machinga and Blantyre account for more than 75 percent of the total area planted. Almost 80 percent of the increased area planted from 1996/97 through 2001/02 occurred in the Kasungu, Lilongwe, and Machinga ADDs. In Kasungu, area planted to groundnuts is about 22 percent of the maize area, while in Lilongwe it is about 17 percent. At the other extreme, groundnut area planted in the Shire Valley is less than four percent of the area planted to maize. Average yields increased from 687 kg per ha in 1997 to 820 kg per ha. in 2001, dropping back again to 760kg per ha. in 2002. Highest average yields of groundnuts occurred in Salima, with 1,017 kg per ha.

Pigeon pea, with a planted area of about nine percent of the area planted to maize is heavily concentrated in the Blantyre, Machinga, and Shire Valley ADDs (96 percent of total area planted). Area planted in Blantyre is about 36 percent of the area planted to maize in that ADD, while in Machinga it is 13 percent, and in Shire Valley, about 9 percent. These three ADDs accounted for approximately 86 percent of the expanded area planted, with Karonga and Salima accounting for an additional 10 percent of the increase. At the other extreme, pigeon peas are not grown in any reportable quantity in Kasungu ADD. Average yield over the period increased from 643 kg. per ha in 1997 to 753 kg per ha. in 2002. Machinga reported the highest yields, with 869 kg per ha.

Market development for pigeon peas is quite advanced in the three above cited districts, where an export industry is developing for processing the crop into mashed pigeon peas, or dhall, to be exported for the Indian market. One of the reasons cited for the limited area planted to pigeon peas in the central and northern regions is the lack of marketing infrastructure. However, pigeon peas are not common in the diet of families outside of the south. This lack of consumer demand may be one of the principal factors explaining the lack of market development.

At least one commercial producer in the Lilongwe area has recently installed new groundnut processing machinery, and is reportedly developing a European export market for the improved

[16] The figures are based on MOAI crop production and yield estimates.

CG 7 variety being promoted by ICRISAT, that could well exceed the current export markets for the Chalimbana variety. This plant was reportedly operating at about 20 percent of capacity in 2002.

Objective a: Providing high quality breeder seed and basic seed of high yielding, disease resistant groundnut and pigeon pea varieties to various stakeholders in Malawi:

The GPM Project produced 26.3 mt of groundnut seeds and 13.5 mt of pigeon pea breeder seed over its two-year lifespan. (Groundnut varieties included CG 7, JL 24, ICGV-SM 90704 and ICG 12991; pigeon pea varieties included ICP 9145, ICEAP 00020 and ICEAP-B00040). This material was used to produce basic (foundation) seed yielding a two-year total of 289.76 mt of groundnuts and 52.84mt of pigeon peas. In the first year of the project, only CG 7 groundnut seed was produced and in the second year, CG 7, ICGV-SM 90704[17] (Nsinjiro) and JL 24 (Kakoma) was produced. ICG 12991 (Baka) was released in 2001.

Pigeon pea varieties produced in both years included ICP 9145 (Sauma) and ICEAP 00040 Kachanju). ACEAP 00020 was not approved for commercial distribution by the MOAI/DARTS seed certification unit, as it was much more susceptible to fusarium wilt than other available varieties, and its other characteristics were almost identical to those of ICEAP 00040.

Chitala Research Station near Salima and Chitedze Research Station near Lilongwe produced breeder seed, under supervision of ICRISAT Project scientists. The groundnut and pigeon pea seed was purchased by the project and provided to 25 and 15 growers, respectively. These growers were contracted over the life of the project to produce basic groundnut and pigeon pea seed, which was purchased again by the project and prepared for further distribution to growers and NGOs. Growers producing breeder and basic seed were selected by ICRISAT specialists and were required to follow production management practices that met quality standards set up and monitored by the MOAI /DARTS. Project staff coordinated closely with DARTS staff, and provided technical skills training and used Project funds to support field travel by government inspectors. Project staff felt that this coordination between DARTS and ICRISAT staff was an important project component, as DARTS did not have sufficient funding or staff to fully implement their required inspection activities. Moreover, the in-service skills training served to improve the performance of DARTS personnel, especially the younger staff.

As noted in the table below, breeder and basic seed production exceeded targets set for groundnuts; it exceeded the breeder seed target for pigeon peas, but did not meet the basic seed targets for pigeon peas. Pigeon pea yields of basic seeds were low in both years, due to the late arrival of rains, a cold spell during the flowering stage and pod infestation by insects. Groundnut breeder seed yields were also lower than anticipated during the first year, due to the presence of groundnut rosette virus. At planting rates of 80 kg/ha for groundnuts and 10 kg/ha for pigeon peas, the seed material produced by the project was sufficient to plant approximately 3,625 ha. of groundnuts and 5,300 ha of pigeon peas.

[17] This variety reportedly has some of the outward characteristics of the Chalimbana variety and some buyers believe that it can be sold into niche markets for which Chalimbana is now being supplied. However, researchers note that while appearances may be similar to Chalimbana, the Nsinjiro variety has a completely different genetic makeup than Chalimbana. While recognizing the positive aspects of Nsinjiro other buyers indicated that the major weakness of this new variety is that is more difficult to shell than the CG 7 or the other varieties.

TABLE 7
GPM Project Breeder and Basic Seed Production, 1999/00 and 2000/01

Type of Seed	Planned Target (mt)	Actual Achieved (mt)	Difference (percent)
Groundnut			
Breeder Seed	18	26	+44
Basic Seed	150	290	+93
Pigeon Pea			
Breeder Seed	4	14	+250
Basic Seed	100	53	-47

As of the Project completion date, over 40 percent of the basic seed produced by the project had been sold, primarily to NGOs, other donor projects and to GOM small-farmer development programs (See table below). It is noted that some 10 percent of the basic seed produced by the project was sold to NGOs and others in Zambia and Mozambique in order to partially meet their lack of improved seed. Typically, NGOs would distribute the purchased seed to their beneficiaries on loan, with the requirement that each beneficiary provide double the amount of seed that they received to another farmer the following season. Farm family beneficiaries would usually be provided with sufficient seed to plant about .05 ha. After harvest they would keep sufficient seed for themselves and sufficient to enable two other farm families to plant .05 ha. each in the following year[18].

TABLE 8
GPM Project Sales of Improved Seeds 2001

Purchaser	**Groundnuts Purchased (mt)**	**Groundnuts Purchased (percent)**	**Pigeon peas Purchased (mt)**	**Pigeon peas Purchased (percent)**
NGOs, Donor Projects GOM Small-Farmer Projects	51.2	70.6	24.5	80.7
Farmers and other Private Sector Buyers	21.4	29.4	5.9	19.3
Total	72,6	100	30,4	100

Discussions with donor projects using the seeds provided by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) indicated that the prices charged for basic seed were higher than for seed available from other sources. At the same time, they noted that CG 7, while a high yielding variety, is not as easily marketable as fresh product as is the traditional Chalimbana variety. They would, as a result, like to have available either, improved Chalimbana seed or a more direct substitute available for use by their growers. One donor also indicated that

[18] .05 ha of groundnuts requires 4 kg of seed while .5 kg seed is sufficient for planting .05 ha. of pigeon peas.

ICRISAT should begin working with a broader base of small-scale farmers in expanding its seed multiplication activities.

In response to the above statements it is noted that seed purchased from ICRISAT is of the higher purity "basic" standard, while seed purchased from other sources is the lower standard "certified" seed.[19]. In addition, one buyer noted that CG 7 with an average of 40–45 kernels per ounce, while on average not as large as the "ideal" Chalimbana (28–32 kernels per ounce), provides a more marketable product for processing than does Chalimbana. Moreover, with the continued loss of varietal purity, it is possible that only about 10 to 20 percent of the current Chalimbana crop now falls into the "ideal" size range[20].

The loan approach to basic seed distribution used by NGOs is an effective way for farm families with limited cash resources to pay for improved seed, but two points of caution must be raised. First, the approach will not work with hybrid varieties, which require the purchase of new seeds each year. Pigeon pea seed from a farmer's crop also should not be carried over for use the next season. Second, although farmers can use their own seed for open pollinated varieties, including groundnuts, new seed should be purchased after several years of replanting of farmer seeds. For groundnut, carry over seed should not be planted for more than three successive cropping seasons.

Objective b: Increasing awareness of the value of improved varieties in enhancing the production of groundnut and pigeon pea among smallholder and commercial farmers through on-farm demonstrations:

Project staff developed close working relations with the various NGOs and other donor stakeholders. The stated targets for this objective were exceeded in most cases. The results are a good indicator of the high degree of commitment of the donor community to expanding the production of these two crops. The need to train farmers in proper groundnut cultural practices is especially important, as poor cultural practices result in a high incidence of aflatoxin contamination, which seriously affects the commercial quality of groundnuts.

Project technology transfer activities included the use of farm field demonstrations and field days to increase the awareness of farmers of the advantages in the use of improved groundnut and pigeon pea varieties. A target of 2,000 total field demonstrations was exceeded by 185, with the completion of 1,186 groundnut and 999 pigeon pea demonstrations. The demonstrations for the six improved varieties were conducted by the Extension Service and NGO and donor project personnel from CARE, Land O' Lakes, NASFAM, Plan International, World Vision International (WVI), OXFAM, Catholic Relief Services (CRS) and the Integrated Food Security Project (IFSP) managed by the German Technical Assistance Agency (GTZ).

The same NGOs and donor groups held 130 field days with some 13,000 farmers participating. Ninety-eight were held for groundnuts and 32 for pigeon peas. A total of 6,840 men and 6,476 women attended. Three thousand posters, printed in English, Chechewa, and Tumbuku, highlighting the important groundnut varieties and cultural practices needed to increase production, were produced and distributed to support the technology transfer activities.

[19] In November 2002 the approximate value of breeder seed was 160 MK/kg; with basic seed at 80MK/kg; and certified seed at 40 MK/kg. The exchange rate at the time was approximately 80MK /US $1.

[20] Based on discussions with Douglas Mc Pherson, co-owner of Kanonga Estates.

Objective c: Strengthening the capacity of the Department of Research and Technical Services (DARTS) the Department of Extension and the relevant NGOs in transferring groundnut and pigeon pea production technologies through short-term training courses.

DARTS technicians are responsible for administering the seed certification program, with the Extension Service and NGOs sharing responsibilities for carrying out field level farm demonstrations and field days. GPM staff provided four production-oriented training courses – two for groundnuts and two for pigeon pea. In total, 85 men and 109 women attended these training sessions, with almost 70 percent of all trainees from the MOAI. Courses held in 2000 included topics on varietal development, general crop management practices, and disease and pest management strategies. Participants also visited pigeon pea processing plants in Blantyre and observed farmer field production sites at the GTZ Integrated Food Security Project (IFSP) and OXFAM impact areas.

Objective d: Establishing a sustainable Revolving Fund from sales of basic seeds.

Basic seed contract growers were provided with breeder seed on loan at the start of the season, and its value was then deducted from the net amount of seed delivered to the ICRISAT site. The project paid growers $787 per mt for basic groundnut seed delivered to the Chitedze Research Station and $500 per mt for pigeon peas. Prices were based on international price levels and sufficiently covered the seed producers' production costs. A revolving fund was set up by ICRISAT, in which moneys received from the sale of basic seeds were deposited for use in further seed multiplication after the end of project completion date.

Basic seed was sold by the Project to NGOs and others at $1,000 per mt for groundnuts and $750 per mt for pigeon peas. The increase over prices paid to growers covered handling and packaging costs. As of the project completion date (January 31, 2002), 140 mt of groundnut seeds and 34 mt of pigeon pea seeds had been sold with a return of $164,240. At Project closure, the Revolving Fund contained $162,484.

Remaining in storage was 150 mt of groundnut seed (valued at $150,000) and 19 mt of pigeon pea seed (valued at $14,240). Money generated from previous seed sales were used to plant an additional 45 ha of groundnut and 10 ha of pigeon pea for basic seed production for harvest in 2002. These plantings yielded 42.6 mt of new basic groundnut and 16 mt of pigeon pea seed. The carryover seed from the 2000/01 season, plus the new seed available from the 2001/02 season (150 mt of groundnut and 89 mt of pigeon pea seed) have all been sold for the upcoming 2002/03 planting season. With the addition of money from the current sales, the revolving fund balance will be approximately $300,000.

3. Conclusions

The GPM Project was designed to meet the expanding need for improved quality groundnut and pigeon pea seed for use by small farmers to supplement dietary protein intake and to increase cash income. It marked the initial effort by the MOAI and the donor community to systematically support the use of improved seeds to increase the production of these two crops. Conclusions from this two-year project are summarized as follows:

- The area planted to groundnuts and pigeon peas has increased significantly in recent years (area planted to groundnuts doubled between 1997 and 2002 and increased by about 24 percent for pigeon peas);
- The improved basic seed provided by the project was sufficient to plant some 3,650 ha. of groundnuts and some 5,300 ha. of pigeon peas;
- Ninety five percent of Malawi's pigeon pea production is concentrated in the three southern ADDs of Machinga, Blantyre, and Shire Valley, where this product is consumed in the local diet and where the food industry is processing pigeon peas into dhall for export markets;
- Seventy five percent of Malawi's groundnut production is concentrated in the central and southern ADDs of Kasungu, Lilongwe, Machinga, and Blantyre;
- Seventy one percent of the groundnut seed produced by the project was purchased by NGOs to support their small farmer food security and income generation activities;
- Eighty one percent of the pigeon pea seed produced by the project was purchased by NGOs to support their small farmer food security and income generation activities;
- The project exceeded its production of groundnut basic seed by 97 percent, but met only 53 percent of targeted pigeon pea basic seed production;
- About 10 percent of the basic seed produced by the project was sold to NGOs and donors in the neighboring states of Zambia and Mozambique, in order to meet pressing shortages for improved seed in those countries;
- The project effectively provided technology transfer activities to more than 13,000 farmers, by holding 100 field days and 2,185 on-farm demonstrations in collaboration with the Extension Department and with eight NGO or donor projects. Almost one half of the field day attendees were women;
- Four training courses were provided for some 200 MOAI (DARTS, Extension Service) and NGO staff to update and augment the technical skills for conducting seed production quality inspections and to provide training to farmers in groundnut and pigeon peas cultivation; and,
- USAID received a direct and indirect return on their investment in the expanded multiplication of groundnut and pigeon pea seed production of approximately 1:1.3 over the three-year project period. That is, for each dollar spent by USAID on this project, the returns from sales of basic seed and from increased yields obtained by farmers who planted these seeds were about $1.31. This figure does not include the added value from future production of basic seed from the revolving fund, nor the added value from the use of own groundnut seed by farmers for the next three years.

4. Recommendations

The GPM Project successfully filled an existing void in the production of improved groundnut and pigeon pea seed for use by small-scale growers. Further USAID and other donor support for this type of work is warranted.

Recommendation 1

ICRISAT should carefully project the expected increased need for improved groundnut and pigeon pea seed over the next three years, for both food security and commercial sales, providing a margin of error of at least 15 percent on the high side. USAID should consider providing additional funds for topping up the Revolving Fund to meet this level of seed production.

Recommendation 2

ICRISAT and other donor funding to meet salary and basic operating needs of research and seed multiplication staff should be continued into the future. The costs of maintaining the existing qualified and effective team of specialists is a minimal expense by most donor funding standards, but provides the institutional framework necessary to lead the effort to provide farmers with improved seeds.

Recommendation 3

Small farmer marketing organizations, such as NASFAM, along with NGOs that facilitate the development of rural savings and loan associations, should be provided with initial funding to further promote the commercial expansion of groundnuts. Cooperative marketing of groundnuts and groundnut products and marketing of groundnuts through village level female-managed savings and loan associations should be promoted, using appropriate education and awareness programs that introduce cultural practices to improve yields and reduce aflatoxin contamination that can seriously affect the commercial quality and product value.

Recommendation 4

Small-scale farmers that work with NGO supported development projects and have demonstrated capability for commercial production should be given priority to participate in the ICRISAT basic seed production program.

Recommendation 5

NGOs promoting the development of groundnuts for improving food security and for expanding marketable surplus should consider using commercial small-scale farmers for the production of "certified" seed for further distribution to their beneficiaries. This could almost cut in half the NGO cost of buying new planting materials, as the price of certified seed is about one half the price of basic seed.

5. Lessons Learned

The recent rapid increase in groundnut and pigeon pea production in selected areas of Malawi indicates that farmers see value in producing these crops for both sale and for home consumption.

- The use of groundnut and pigeon pea as part of household diets varies across Malawi. This is especially true for pigeon pea for which there is little history of home consumption outside of the southern ADDs of Machinga, Blantyre, and Shire Valley. These local demand characteristics, along with realistic estimates for meeting expanded commercial demand, should govern GOM, donor, and NGO decisions, when providing technical and financial support for the expansion of these crops.

- This project has demonstrated the need for a continued and expanded source of high quality seeds for use by farmers. Although a relatively large amount of basic seed was undistributed after the 2001/02 season, demand for the upcoming 2002/03 season has

completely depleted carryover seed stocks, plus the new seeds that were produced using Revolving Fund moneys in 2002. Since unused seeds can be safely stored for use in the next season, the existence of a surplus in any given year should not be the basis for reducing GOM or donor support for the continued production of basic seed.

- Maintaining a quality breeder and basic seed multiplication capability, such as that developed by the GPM Project, requires the long-term employment of a small number of highly trained and qualified employees who compete for jobs in the international marketplace. Given the budgetary constraints of the GOM, it is imperative that this core group of trained and experienced staff be maintained by the donor community at competitive salaries to ensure the continued availability of a high quality seed supply.

G. CASSAVA AND SWEET POTATO MULTIPLICATION[21]

1. Funding Levels and Project Goals and Objectives

The Cassava and Sweet Potato Multiplication (CSPM) Project No.: 690-G-00-98-00234 was obligated by USAID at $382,334. The Southern Africa Regional Crops Research Network (SARRNET) managed the project over the period December 1, 1998 through May 16, 2001.

Project Goal: To improve food security and nutrition both at the national and household levels.

Project Purpose: To increase the supply of improved, pathogen free cassava and sweet potato planting materials and to make them more readily and widely available to smallholders.

Objectives:

- To carry out on-farm testing of elite cassava and sweet potato clones;
- To maintain the existing three selected multiplication sites and to expand to about 30 secondary sites;
- To introduce prototype cassava processing machines and to train local artisans to fabricate machines locally – 10 focal processing centers in all three regions;
- To disseminate the processing technologies and to foster rural entrepreneurship; and
- To provide training for 400 farm assistants and technical support to 800 farmers in the cassava and sweet potato traditional and non-traditional areas.

2. Findings

The International Institute of Tropical Agriculture (IITA) is responsible for coordinating SARRNET activities; and the International Potato Center (CIP) through its regional headquarters in Nairobi, Kenya provides backstopping activities on sweet potatoes and collaborates with IITA on various economic studies of the network. Thirteen countries of the Southern Africa Development Community (SADC) are members of SARRNET[22], which also works under the umbrella of the Southern Africa Center for Cooperation in Agricultural Research and Natural Resources (SACCAR) Board.

The major goal of SARRNET Phase I (1994-1999) was to "increase income and improve household food security of resource poor farmers in Southern Africa," with a focus on expanding the cultivation of cassava and sweet potato to provide food security and cash income for small farmers. SARRNET Phase II strategy (from 1999 onwards) was planned within a "results framework" developed jointly by representatives of member countries, IITA, CIP, and by USAID's Regional Center for Southern Africa (RCSA) under its Strategic Objective 4, that refers to the "expanded commercial markets for improved agricultural technologies and commodities in the SADC region."

[21] The full title of this Project is The Accelerated Multiplication and Distribution of Improved Cassava and Sweet Potato Planting Materials and Dissemination of Post-harvest Technologies in Malawi. The shorter title Cassava and Sweet Potato Multiplication is used here for convenience.

[22] SARRNET is funded as regional USAID activity. Member countries include Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe.

The Government of Malawi (GOM) fully supports the new SARRNET initiative to expand the production, consumption and commercial use of cassava and sweet potato, by declaring in 1994 that:

"Production of maize in areas that are not suited to its production, largely as a result of low rainfall, will be discontinued to give room for more drought resistant crops such as cassava and sweet potato to improve household food security." (MOALD, 1995)

This policy was reinforced in 1999 with the following statement:

"Government should continue to promote cassava and sweet potato production through distribution of virus free planting materials. Root crops now play a much more significant role in national and household level food security. Root crops are also more drought tolerant than maize and therefore reduce vulnerability to drought." (Republic of Malawi, 1999)

The SARRNET principal focus is on demand-driven research and development in cassava and sweet potato crops, with a strong bias on income generation, private sector participation, and food security. In Malawi, cassava and sweet potatoes suffered from an image problem of being considered as "poor mans crops", and thus relegated to the category of "minor crops", with negligible support for research and development. Although cassava is widely grown in South America and its cultivation has become widespread in Nigeria and in other West African countries, it was not widely promoted as a source of nutrition and cash income in Eastern and Southern Africa prior to the formation of SARRNET.

Both cassava and sweet potato are environmentally friendly crops. An established cassava stand will protect against wind erosion during the dry season, and both crops protect against water erosion during the rainy season, especially when intercropped. An additional attribute of both cassava and sweet potato is their ability to thrive on marginal soils with minimal use of purchased fertilizer inputs. However, cassava also responds well to increased fertilization and irrigation. A further advantage of cassava as a food security crop is that it can be harvested over a period of four to six months, and can thus be available during the hunger season as needed. Sweet potato, when planted in mid November at the start of the spring rains, can be harvested in mid February through March at the peak of the hunger season.

Objective a: Carrying out on-farm testing of elite cassava and sweet potato clones.

Traditional cassava varieties, grown under small farmer conditions, typically yielded from 5 to 9 metric tons (mt) per hectare. Improved varieties yielded from 15 to 25 mt per hectare, and cassava grown under commercial conditions with irrigation and optimal fertilizer applications, has produced yields of 60 to 80 mt per hectare. Of major importance is the fact that improved varieties achieve these higher yields over an 11 to 14 month period, while traditional varieties do not reach maturity until they have been in the ground for 20 to 24 months.

There are two types of cassava, sweet and bitter. Sweet cassava (such as the Mbundumali, alternatively called Manyokola) is non-toxic and can be eaten raw or unprocessed. A large market for sweet cassava has developed for this product in recent years in the Lilongwe area. On the other hand, during digestion as a raw product, the leaves and tubers of bitter cassava varieties release toxic hydrogen cyanide (HCN). Unless specially processed, human and animal

consumption of bitter cassava can lead to cyanide poisoning. Bitter varieties must be initially processed to remove toxicity and then be further processed for industrial use as animal and poultry feed, starch and wheat, or maize flour substitutes.

CSPM Project staff worked through MOAI research and extension departments and through the Bunda College to carry out some 20 on-farm trials of high yielding and African Cassava Mosaic Virus (ACMV) resistant cassava clones, in each of the eight Agricultural Development Divisions (ADDs). These on-farm trials were carried out within the broader SARRNET regional research and development program.

The on-farm trials included some 10 varieties developed through tissue culture research, and included local varieties and some that were imported from outside Malawi. Direct participation by farmers through the on-farm trials enabled them to directly observe the differences between traditional varieties and the various improved Malawian varieties, and those introduced from outside Malawi. "Winner" varieties selected for accelerated multiplication in Malawi are listed in the table below.

TABLE 9
Improved Cassava Varieties Selected for Accelerated Multiplication

Variety	Yield Range MT/Ha.	Comments
Mbundumali (Manyokola)	15-25	Local selection, high yielding, broad adaptation, sweet, highly popular for the fresh market
Gomani	12-25	Local selection, susceptible to diseases, bitter, suitable for processing into *nsima* and for starch production
Mkondezi	25-40	Locally improved variety, bitter and must be processed. Resistant/tolerant to cassava mosaic and cassava mealy bug.
Maunjili	29-36	Improved bitter variety, introduced from IITA (TMS 91934) in tissue culture form. Tolerant to cassava mosaic, green mite, and mealy bug.
Silira	15-30	Improved variety, introduced from IITA (TMS 60142) in tissue culture form. Semi-sweet, resistant to cassava mosaic and tolerant to mealy bug.

Existing sweet potato varieties did not have the desirable yield and resistance to disease that were displayed by some of the local cassava varieties. Consequently, sweet potato tissue culture clones were imported and further developed into varieties for further on-farm field testing. Some 12 varieties were included in the on-farm testing program, from which the four varieties included in the table below were selected for accelerated multiplication by the project. The on-farm sweet potato trials were carried out in conjunction with the cassava trials. Again, working through MOAI research and extension departments, on-farm sweet potato trials took place in eight ADDS.

TABLE 10
Improved Sweet Potato Varieties Selected for Accelerated Multiplication

Variety	Yield Range MT/Ha	Comments
Kenya	15-30	Improved variety, locally bred in Tanzania, high dry matter content with wide adaptation and consumer acceptance.
Semusa	16-40	Improved variety, introduced by CIP, with high dry matter content and wide adaptation and consumer acceptance.
Mugamba	13-40	Improved variety, introduced by CIP, with high dry matter content and wide adaptation and consumer acceptance.
Tainoni	11-35	Improved variety, introduced by CIP, with medium dry matter content. Has orange flesh which is a good source of vitamin A.

The International Institute of Tropical Agriculture (IITA) through the Southern Africa Regional Crops Research Network (SARNET) has been working with a number of partners since the inception of the regional program in the early 1990s. The USAID grant provided the basis for expanding and deepening these relationships. As noted above, the GOM and the MOAI provided strong policy support for the expansion of improved planting materials for both cassava and sweet potatoes. Several of the NGOs and religious organizations listed below achieved notable farm level success from their activities.

Save the Children Federation (US), through their Community Based Options for Protection and Empowerment (COPE) program, trained some 206 men and 98 women in planting material multiplication, sweet potato and cassava agronomy, processing and utilization and HIV/AIDS prevention. Working through three District AIDS Coordinating Committees, (Nkhotakota, Mangochi and Dedza) farmer sweet potato and cassava average yields increased from 9 mt to 16 mt per ha. and 9 mt per ha. to 14 mt per ha. respectively. Sweet potato and cassava nurseries of 18.8 ha. and 11 ha. respectively, were established. As a result, some 6,000 vulnerable households benefited from the planting material, growing an average of .06 ha. of cassava and .04 ha. of sweet potato. One community received a cassava grater to improve processing, with the result of reducing the processing period from 7 to 2 days. The Project provided MK 948,505 ($17,250) to support this work.

CARE International distributed cassava and sweet potato cuttings to resource poor households in Lilongwe District (Khongoni, Kalolo and Chitukula in Lilongwe West Rural Development Project). SARRNET, and other suppliers provided initial planting materials to some 1,100 farmers. SARRNET staff provided training in the proper use of materials. One cassava variety (Manykola) and two sweet potato varieties (Semusa and Mugamba) were distributed to these farmers. Manykola is a sweet variety that is well suited to home consumption and commercial fresh sales. It is non-toxic and can be eaten without the special processing required for the bitter varieties. CARE officials noted that they did not want to provide bitter cassava planting material to their beneficiaries, until they were able to conduct an adequate training program in processing these varieties, in order to remove the toxicity present in the fresh product.

The Evangelical Lutheran Development Program (ELDP) operated in several districts, in areas where refugees from Mozambique were accommodated (Nkhata Bay, Dowa, Dedza, Zomba, and Chikwawa). SARRNET provided training and technical backstopping training to some 325 farmers in growing cassava and sweet potatoes, and in setting up and managing nurseries. An estimated 3,500 farm families received improved planting materials. The Project provided 379,300 MK ($7,000) to support this activity.

Christian Service Committee (CSC) worked in the southern region in association with OXFAM. SARRNET provided 550,000 MK ($10,000) to support the procurement and transportation of planting material, the establishment of nurseries and the training of 24 staff and 30 farmers. Over 30 ha. of cassava nurseries were established with planting material distributed to more than 10,000 farm families -- and initial work was undertaken to introduce processing equipment suitable for processing cassava for industrial use. In the north, the Christian Service Committee developed 30 ha. of tertiary nurseries in six sites in the Mzuzu and Karonga ADDs.

World Vision International (WVI) established 12 communal cassava nurseries and six sweet potato nurseries. SARRNET provided initial planting material and technical backstopping in the Chata, Chingale, and Mzimba area development programs.

Objective b: Maintaining the existing three selected multiplication sites and expanding to about 30 secondary sites.

Project resources and activities were heavily concentrated on work carried out under this objective. Formal partner relationships were created with 17 governmental and non-governmental organizations, including those whose activities were discussed above, that were involved with the accelerated multiplication and distribution of cassava and sweet potato planting materials. These partners, as of the Project completion date, managed approximately 196 hectares of primary, secondary, and tertiary nursery sites.

Planting Material Multiplication Sites: The three regional research stations at Chitedze, Lunyangwa, and Bvumbe managed four primary nursery multiplication sites, with a total of 8.5 hectares. The Department of Agricultural Research and Technical Services (DARTS), working through the ADDs in Lilongwe, Salima, Kasungu, Machinga, Blantyre, and Shire Valley, managed 15 secondary nursery sites. These sites covered 53.4 hectares. SARRNET provided 2,809,625 MK ($51,084) to DARTS, to the regional research stations, and to the ADDs, to support the development of the primary and secondary nurseries.

Sixteen tertiary nursery sites were managed by nine NGOs, including one farmers' group, and one private sector business organization. These tertiary nurseries covered an area of 134.5 hectares. These NGO partners included: the Christian Service Committee, (CSC), Evangelical Lutheran Development Project (ELDP), Save the Children Federation US (SCF), CARE International, World Vision International (WVI), Sustainable Livelihood Project (SLP), the Ntendere Catholic Parish in Dedza, the Lutheran Mobile Clinic, the German Technical Assistance Agency (GTZ), and the Chilaza Farmers Group. Universal Industries Limited also operated a small tertiary nursery of 1.5 hectares.

All project supported planting material multiplication sites provided both cassava and sweet potato planting material. Cassava planting material consists of stems, which are cut from the

cassava stalk into one-meter pieces. The stems are further cut into planting sizes of 12 to 15cm long. Multiplication rates are quite low, ranging from a ratio of 1:7 to 1:11. Sweet potato multiplication is also done through the cutting and replanting of fresh stems. Multiplication ratios for this crop at 1:15 to 1:20 are somewhat higher than for cassava. The Project Terminal Report summarized the planting materials distributed from Project supported nurseries, as shown in the following table.

TABLE 11
Clean Cassava and Sweet Potato Planting Materials Distributed from Project Nurseries and Estimated Area Planted 1997 – 2001

Season/Year	Stems Distributed (Meters)	Area Planted (Hectares)	% Increase from Previous Year
Cassava			
1997/98	487,940	161	----
1998/99	1,133,736	375	233
1999/00	3,537,734	1,170	312
2000/01	8,131,200	2,688	230
Sweet Potato			
1997/98	82,460	9	----
1998/99	434,422	47	817
1999/00	998,715	108	230
2000/01	3,816,000	413	382

Multiplication of Cassava Planting Materials: Cassava planting materials were primarily distributed to farmers from the 16 tertiary nurseries operated by the organizations listed above. These nurseries managed approximately 135 hectares as of 2001. From the above table, it can be seen that Project supported cassava multiplication activities provided cleaned and improved planting materials sufficient to plant 161 ha. in 1997/98. By the project completion date, 35 nurseries managing 196 ha. of primary, secondary and tertiary nurseries provided farmers with planting material sufficient to plant approximately 2,688 ha.. CSPM staff estimated that the improved varieties provided average yield increases of about five mt. per ha.

In addition to the tertiary nurseries operated by the direct project partners, project staff estimate that private farmers operated more than 300 ha. of additional tertiary nurseries. These farmer-managed nurseries, which were often operated as community nurseries, distributed an additional 13.9 million stems in 2001, which is sufficient to plant 4,600 ha.

An important characteristic of cassava is that it can yield both planting materials and provide a food crop at the same time. When the root is harvested, the stems can also be cut and used for planting material. As a result, all fields managed by farmers can be considered as tertiary nurseries that are able to: a) provide planting materials for own use and for sale to others; and, b) provide tubers and leaves for human and animal consumption purposes.

In contrast to the tertiary nurseries, secondary nurseries operated by MOAI District Extension Officers, provide planting material year after year, without harvesting the root materials. Fertilizer is added annually to maintain soil fertility and plant vigor[23].

In summary, over the four years of the Project life, distribution of improved cassava varieties increased from materials sufficient to plant 161 ha. to providing materials sufficient to plant some 7,200 ha.. Estimated area planted to cassava in 2001 was 202,338 ha., compared with 102,938 ha. in 2002. This indicates that project supplied planting materials were sufficient to meet from 3.7 to 7.1 percent of the total area planted to cassava.[24].

Multiplication of Sweet Potato Planting Materials: As shown in the table above, sweet potato planting material made available to farmers by project partners, was sufficient to plant some 413 ha. in 2000/01. This compares to an estimated 192,457 ha. planted to sweet potatoes in that period. The estimated area planted to sweet potato in 2001/02 was 86,780[25].

In addition to direct project supported nurseries, private farmers managed an additional 240 ha. of sweet potato nurseries. These nurseries produced planting material in 2000/01 sufficient for 3,600 ha.. Thus, the Project directly and indirectly, supported the distribution of improved sweet potato planting material for 4,013 ha. in the 2000/01 season, compared with an initial starting point of 9 ha. of improved planting materials. This constituted some 2.5 percent of all available sweet potato planting materials. CSPM staff estimated that the improved varieties provided average yield increases of about three mt per ha.

Cost of Managing Cassava and Sweet Potato Nurseries: Primary and secondary nurseries were managed by state research and technical organizations, including the National Agricultural Research System (NARS) and the DARTS. Primary nurseries were located in Kandiyani, Chitedze, Zombwe, and Kasinthula. Project supported secondary nurseries were located in all but the two northern most ADDs.

Akoroda and Mwabumba in their 2000 study[26] of cassava development in Lilongwe east RDP, provide an indication of costs and returns for nurseries maintained by the project and for those managed by farmers. Reporting on records maintained by a community farmers group in the Kolonga village of Chitsime EPA, the one-year cost of managing a .4 ha (1 acre) tertiary nursery was 6,350 MK ($115 at the prevailing 2000 exchange rate of 55 MK to $1). Four hundred fifty bundles (50 stems per bundle) of planting materials were obtained, which is sufficient to plant about 7.5 ha..

The authors report that a Cassava and Sweet Potato Multiplication Project (CSPM) supported nursery in the area (Nathenje) sold planting material at 50 MK per bundle, while farmers sold

[23]The secondary nursery at the Nathenje District Office has provided high quality planting material from its original planting in 1991 through to 2001. Unfortunately, this nursery was vandalized during the 2001-2002 hunger season and the plants were uprooted. The area has subsequently been replanted with new material and will provide planting material for the 2002/03 season.

[24]Area planted data is from the MOAI annual crop production survey. It is noted that problems with field survey sampling procedures led to a systematic over estimation of area planted to both cassava and sweet potato from the early 1990s through to 2000/01. This was corrected for the 2001/02 agricultural season leading to the lower estimates of area planted.

[25]See previous footnote.

[26]M.O. Akoroda and M.L. Mwabumba, Sweet Success: Cassava in Lilongwe East RDP, SARRNET, August 2000.

material from their nurseries at 60 MK to 75 MK per bundle. This suggests that a farmer was able to net from 20,650 MK to 27,400 MK ($375 to $498) or 32 MK to 47 MK per bundle. from the sale of cassava planting material from .4 ha. of land.

The same study also provides cost of production data for the Nathenje tertiary nursery. This nursery was started under SARRNET, prior to the start of the CSPM Project and then was brought within the CSPM Project scope. Under full costing (including salaries for government staff, motorbike fuel, fertilizer, etc, which were not incurred by the community farmer nursery). total expenses for 1 acre were 32,461 MK. Because of the higher planting density and the use of fertilizer, the estimated yield was 1,957 bundles, assuming that the same sales price range per bundle yields a net income per bundle of 27 MK to 42 MK. It must be pointed out that in addition to the inclusion of production related wage and salary costs in the Project nursery, these nurseries had an extra cost for security services and for security fencing, which were not needed for the community nurseries.

Objective c: Introducing prototype cassava processing machines and training local artisans to fabricate machines locally – 10 focal processing centers in all three regions.

The Project imported prototype post harvest processing equipment and carried out a testing program on four pilot centers, identified potential local manufacturers, and provided training to the general public on the use of the equipment to improve post harvest processing. The equipment was imported from the International Institute of Tropical Agriculture in Uganda. Equipment that was found most suitable for use in Malawi was power chippers, graters, and starch graters using small gasoline powered engines. Manual chippers and presses were also found useful. (Pressers are used with graters to compress the mash overnight to remove toxicity and speed up fermentation.) However, this equipment is not suitable for processing bitter cassava into a form suitable for many of the potential industrial uses.

The project objective to provide 10 focal processing centers distributed among the three regions, was not met, but at least one center was set up in each region and supplied with appropriate post harvest and processing equipment technology. The equipment did not arrive in Malawi until the second year of the project, thereby reducing the results gained under this objective. However, the centers served effectively as sites for training DARTS, Extension and NGO staff in all phases of cassava and sweet potato planting material multiplication, and in production, harvest, post harvest and processing techniques.

Four pilot processing centers were set up: Milonde (Mulanje RDP), Chintheche (Nkhata Bay RDP), Zidyana EPA (Nkhotakota RDP), and Nsambo (Lilongwe East RDP), and prototype machines were set up for use by farmers. Project staff estimated that some 14,000 individuals, including government policy makers, private sector, NGO, and members of the farming community were introduced to the use of the equipment.

Objective d: Disseminating the processing technologies and fostering rural entrepreneurship.

Specific capacity building training in the use of equipment to process and store cassava and sweet potato were provided to almost 1,000 persons, with emphasis on extension and NGO

technical staff. These staff introduced the concepts and practices to their own beneficiaries. In addition to this training, 10,500 people participated in SARRNET sponsored field days in 11 different sites around Malawi. At these field days, SARRNET staff and persons trained in the above mentioned capacity building sessions, demonstrated cassava seed multiplication techniques, cultivation practices, household processing, storage and utilization, and product development.

SARRNET staff reported that several local industries took advantage of increased cassava production to introduce processed cassava products as a substitute for imported processed maize and wheat products, mostly on a trial basis. Properly processed cassava of the right type can provide lower cost substitutes for maize starch used in textile processing and for wheat flour used as an adhesive material in wood processing activities. Cassava leaves and root material can also be converted into animal feeds, chips as a snack food, and can be substituted for maize in producing *nsima.*

Industry leaders interviewed by the team generally expressed caution regarding the short-term expansion potential of bitter cassava for industrial processing, especially starch. For example, local starch import substitution requirements can be met from about 500 ha. of cassava planting, suggesting that the development of this industry beyond one major processor requires ready access to export markets.

At the same time, at least one company is substituting a portion of the flour made from sweet cassava in the production of cookies (biscuits) and is using small amounts in animal and poultry feeds. They are also in contact with a South American company that has developed technology for processing bitter cassava into animal feed, and they currently grow some 20 ha. of cassava on their own land. Outsourcing of product through small growers was attempted by this company but abandoned, as the small growers consumed most of the product themselves and preferred to sell the remainder in the higher priced fresh market. It is noted that this respondent indicated that the currently available bitter cassava varieties have taste characteristics that do not support their use in producing products for human consumption, but that the taste characteristics of the sweet variety, Manyokola, is suitable for this purpose.

SARRNET staff are currently undertaking trials of animal feeds that use cassava, in cooperation with the USAID funded Dairy Business Development Program that is managed by Land O' Lakes Inc. Some other potential users of processed cassava for human food production indicated that they would be interested in continuing product trials, if outside funding were available.

SARRNET staff is also working with the Najewa estate near Lilongwe in field testing new varieties. Some 60 ha. of Manyokola cassava is planted on this farm and is ready for harvest starting in December 2002. The owner originally had intended to install starch-producing equipment, but is now planning to sell planting material and fresh roots in the Lilongwe area and to use additional product for producing animal and poultry feed.

In summary, several textile, timber, food processing, and animal feed companies have introduced processed cassava products on a pilot basis, as a substitute for wheat and maize products, but to-date there has not been any successful large-scale cassava industrial application.

Objective e: Providing training for 400 farm assistants, and technical support to 800 farmers in the cassava and sweet potato traditional and non-traditional areas.

Training provided to extension and NGO personnel in the use of improved post harvest equipment and techniques, addressed cassava and sweet potato planting material multiplication, and appropriate cultural practices, in addition to post harvest and farmer processing technologies, and product development and utilization activities. As noted above, almost 1,000 extension, DARTS, and NGO technical personnel participated in this formal capacity building training. Through the direct and indirect distribution of planting material to farmers and their training in proper cultivation practices, the Project directly impacted some 105,000 farm families. The indirect impact from the distribution of improved and cleaned cassava planting material added an additional 176,000 farm families, resulting in a total project impact in 2001 of some 281,000 farm families[27].

3. Conclusions

The CSPM Project has made a major contribution toward increasing production and consumption of cassava and sweet potato in the diet of rural Malawians. The inauguration of the USAID funded regional SARRNET research and development system in the early 1990s, provided the initial impetus for small grower expansion of cassava and sweet potato. From the early 1990s through 1998, new varietal improvement was undertaken for both crops. Some 10 cassava varieties and 12 sweet potato varieties had been improved and distributed in all ADDs for on-farm testing, prior to the start of the current project. From this work, four cassava and four sweet potato varieties were introduced for rapid multiplication.

Early projections, based on survey data collected by the MOAI, that cassava and sweet potatoes have become highly significant consumption items in the diets of rural Malawians -- have proven to be overly optimistic. Similarly, leaders of most private sector companies that would utilize cassava for industrial processing remain skeptical that bitter cassava can rapidly become a major new cash crop for smallholder rural households.

These initial results suggest that the further introduction of processed cassava in human food products, for animal and poultry feeds and for starch substitutes are possible. However, the lack of raw material supply for industrial application, limited direct consumer demand in Malawi, and the lack of readily availability export markets, continue to hamper the short-term expansion in the industrial use of cassava.

At the same time, the impact of the project on the introduction of cassava and sweet potato into the diet of rural households as commodities that can provide needed caloric intake during the November to March hunger season, is significant. Operating within the SARRNET umbrella the CSPM project:

[27] The estimated project impact was calculated by using the average plot size of .026 ha. per farm family that was reported by Akoroda and Mwabumba for the Lilongwe East RDP and multiplying this by the volume of Project calculated improved planting materials that were distributed by Project supported nurseries and from private farmer multiplication sites.

- Increased awareness of government, private sector leaders and farmers to the positive nutritional qualities of cassava and sweet potato, when appropriately processed;
- Strengthened GOM policy support for continued expansion of cassava and sweet potato as a source of rural household nutrition and cash income;
- Provided multiplication of the new varieties to almost 300,000 farm families by expanding primary, secondary and tertiary nursery sites;
- Expanded the existing three secondary multiplication sites to 15 sites comprising some 46.4 ha. of planted nursery, and formed 16 secondary nurseries with 135 ha.;
- Distributed some 8,131,200 meters of cassava stems and 3,816,000 of sweet potato stems to farm families;
- Trained more than 1,000 government, NGO and private sector technical staff in production and processing techniques of cassava and sweet potato for food and commercial use;
- Increased the use of cassava and sweet potato by rural households to augment rural nutrition during the annual hunger periods;
- Introduced low cost hand and power driven farm level processing equipment to expand the food and processing uses of cassava;
- NGO, DARTS, and Extension staff held field days in 11 sites, where some 14,000 persons were provided with an understanding of using the new processing equipment.
- Increased farmer and private sector entrepreneurial awareness of industrial uses for cassava as a source of household income.

While the project successfully maintained the three existing primary cassava and sweet potato nurseries and added one more, it did not meet the stated objective of forming 30 secondary sites. This was largely because a greater emphasis was placed on the formation of tertiary nurseries able to directly provide farmers with new planting materials.

Cost comparisons for producing planting material in farmer managed community nurseries and in tertiary nurseries maintained by project and government staff, show that farmer nurseries were more cost effective producers, earning from 12 to 18 percent greater net income from sales of planting materials grown on similar sized plots. However, it is noted that the government managed secondary nurseries produced a greater amount of planting material per ha. and did return a significant surplus over production costs.

The CSPM spent about $1.36 for each farmer directly or indirectly impacted by the improved cassava planting materials for all project activities. The ratio of USAID Project funds that were allocated to increased total crop value resulting from increased yields from direct and indirect farmer plantings of improved cassava and sweet potato varieties is 1:6.7. That is to say, for each dollar of USAID project funds provided to the project, directly and indirectly impacted farmers gained an additional $6.70 in added value from the harvest of improved cassava and sweet potato varieties.

4. Recommendations

Several aspects of the CSPM Project should be carried forward or expanded as part of future cassava and sweet potato multiplication activities. They include:

Recommendation 1

The formation of additional secondary nurseries operated by DARTS and ADDs in areas targeted for expanding planting material to new small-scale farmers. This can provide a direct initial approach to implement government policy in areas where cassava and sweet potato production has not yet been taken up by the private sector. Donor funding should be made available for the first year to cover startup costs, with MOAI providing all subsequent nursery maintenance funds out of earnings coming from the sales of planting materials.

Recommendation 2

Continued NGO support for the introduction of tertiary nurseries in areas where private farmers have not yet established a sufficient supply of planting materials. Donor funding should be used to support SARRNET, MOAI, and NGO training and technology transfer activities to support expanding the amount of farmer produced planting materials.

Recommendation 3

Continuation of the current GOM program to promote the increased use of cassava and sweet potato to supplement caloric intake during the severe hunger months. Although the expanded use of these crops has not approached the previously reported high adaptation levels, the usefulness of cassava and sweet potato to overcome seasonal caloric deficiencies is clear, and its further use in the diet of rural residents should be pursued.

Recommendation 4

Active participation by SARRNET, MOAI district staff, and NGOs to train rural households in the proper preparation of bitter cassava for home consumption. Households should be encouraged to utilize appropriate technology equipment produced in Malawi to support this training.

Recommendation 5

Set a reasonable target for the optimum level of cassava and sweet potato in the national food balance sheet. Cassava and sweet potato can provide an important nutritional dietary input, but because of their high starch and low protein content, their use as a primary staple food should be approached with some caution.

Recommendation 6

Carry out an economic analysis to determine the long-term feasibility of processing and marketing cassava for industrial use under Malawian conditions, and develop a concerted strategy to achieve this objective, if it proves to be viable.

5. Lessons Learned

Implications from the successful CSPM project leads to several important lessons for future consideration:

- It seems feasible that ADDs should continue to take primary responsibility for introducing and managing secondary cassava and sweet potato nurseries. Secondary nurseries, managed by District Extension Officers have provided, in the past, the major source of planting materials in areas where cassava and sweet potato production has not yet been introduced. As a result, they appear to be an effective way for government to implement a proactive strategy to expand the supply of cassava and sweet potatoes for household consumption in areas not previously exposed to these crops. Moreover, available information suggests that these nurseries can be financially self-supporting. However, a system of private sector secondary nurseries requires formalization of quality standards and means of enforcing them. Development of such standards and enforcement modalities can well be included as part of a new follow-on project activity.

- Once cassava and sweet potato crops are established in a given area, private farmers can efficiently provide planting materials for themselves and for other farmers. Cost analysis of farmer operated tertiary nurseries indicates that sufficient incentives exist for future tertiary nursery establishment to take place completely in the private sector. A major factor leading to this positive outcome is that these crops provide both planting materials (from stems) and food (from root materials) at roughly the same time. Therefore, it is not necessary to establish a large number of dedicated farmer or community owned sweet potato and cassava nurseries that provide only planting materials. However, ADDs and SARRNET should, accordingly, expand their training and technology transfer support to provide the educational base for further expansion of sweet potato and cassava among rural households, to provide both food and planting material.

- Discussion with private sector industry leaders suggest that there is currently only a limited potential for large scale commercial processing of cassava for industrial uses. Cassava products can partially substitute for wheat and maize flour in food processing for human consumption, for producing animal and poultry feed, and as a general starch substitute. However, at this time, a large local demand for these cassava products is not apparent in Malawi. Similarly, the current supply of bitter cassava does not appear to be sufficient to warrant the introduction of large-scale industrial processing equipment. Additional economic analysis is needed to assess the conditions under which the industrial processing of cassava becomes profitable. Cassava is a bulky product and therefore needs to be processed close to production sites, in order to reduce transportation costs. Moreover, as a bulky product that is needed in large quantities for industrial processing, it would appear that small-scale producers would be at a cost disadvantage over estate producers, where yields could be higher and costs of collecting into quantities for shipment to processors would be lower.

H. FERTILIZER FOR WORK PROGRAM

1. Funding Levels and Project Goal, Purpose, and Objectives

The Machinga and Balaka Fertilizer and Seed for Work Program no. 690-G-00-01-00141-00 was funded by USAID at $744,900. The Evangelical Baptist Church of Malawi (EBCM) has managed the project, since its inception in May 17, 2001; it is scheduled to end on May 16, 2003.

Project Goal: To reduce acute food insecurity among the vulnerable families in Machinga and Balaka District.

Project Purpose: To assist program beneficiaries in achieving better food security for their families, to improve the understanding of the efficient farming practices, and to improve access to development services and markets for participating communities.

Objectives:

- To assist vulnerable households to increase food production without creating dependency or sacrificing dignity;
- To train committee members on the management of a self-help project, i.e. correct methods of road construction and maintenance, record-keeping, etc.;
- To increase knowledge related to the proper application of fertilizers, alternative fertilization, agro-forestry, nutrition, gender sensitization, and AIDS education;
- To improve access to health facilities resulting in improved services provided to and by the center; and,
- To reduce in part, the time energy, and expense of transporting local products to trade centers, as a direct result of up-graded road conditions.

2. Findings

a. Program Implementer

The program implementer is the Evangelical Baptist Church of Malawi (EBCM) in conjunction with its Canadian partner Emmanuel International. This NGO has been involved in relief and development projects in the Machinga and Balaka districts since 1988. As a result of the rapport it has developed with the communities in the district, and as a result of its past success in rehabilitating 63 kilometers of roads under a food-for-work modality (with CIDA funding), the EBCM was awarded $744,900 in funding in May 2001, nine months after the start of negotiations with USAID, including the contracting office in Gaborone. As a result of these extended discussions, the project which had been agreed to be a one-year project, had to be done in two years instead.

Additional external funding was received to replicate the program. Tearfund, a British NGO, provided a further expansion of this year's program (2002), using funds collected by the Disasters Emergency Committee (DEC) consortium of UK NGOs. This funding made it possible to reach an additional 8,000 direct beneficiaries during the 2002 season and made possible the rehabilitation of 100 km of road. Thus, because of USAID's support of this

innovative approach, external funding has been found to expand the program in the 2002 season by about 50 percent.

b. Pre-Program Situation in the Targeted Area

The two districts are dominated by subsistence farming, as farm size is falling in the face of rapid population growth, with 40 percent of the farmers in Balaka owning less than two hectares each. With little land available, few assets, and little income with which to buy inputs, harvests are scant. Unlike many other parts of southern Africa, Malawi has only one set of rains, and the dry season lasts approximately eight months. Yet the worst hunger comes in the months of January to March after the rains have come, and after the new crop has been planted, but before it has matured and is ready to harvest. In Malawi, this period is called the hungry season. Fully 78 percent of the farmers surveyed in the two targeted communities reported in 1999, prior to program inception, that their crops kept in on-farm storage from the previous year would be completely depleted before the new harvest came in.

The situation is worse for female-headed households, or 27 percent of all households in the targeted communities. The baseline survey showed that their harvest was 22 percent lower than the overall average for the population sampled. For the female-headed households, the hungry season lasted 12 weeks, five weeks longer than the average of seven weeks for the population represented by this survey.

The EBCM has addressed these annual food shortages first by straight relief operations, and from 1998 and 1999, by participating in the Starter Pack initiative. The EBCM was also involved in food-for-work programs during that same period.

Soils in both Machinga and Balaka district are deficient in nitrogen. Extension efforts are going toward encouraging the use of biomass from suitable agro-forestry trees, compost manure techniques, and nitrogen fixing through planting crops like groundnuts. While encouraging, the results are insufficient to dramatically improve the food security of the populace. While the Starter Pack initiative has improved maize yields, it is encouraging a continuation of the hand-out mentality which permeates rural areas of the country, and only provides enough inputs for a 0.1ha plot, which is insufficient to provide the yield increase necessary to achieve food security in any given year.

In these two districts, many communities suffered from precarious road access, with some of the communities being accessible only by foot and bicycle paths. Trucks were unable to enter many of the areas to buy products after the harvest. Even emergency vehicles were unable to enter many areas. Road construction was planned to a standard allowing year-round access, wide enough for two vehicles to pass (4.5 meters), sloped to allow rain to drain, and ditched to channel run-off away from the road. Low grass was allowed to grow along road-edges to protect berms from erosion.

c. Program Methodology

The EBCM developed its program in accordance with its past experience with the community and in accordance with the community's own understanding of production technologies for the principal food crop (maize), in an innovative program of providing a high-yielding package of

hybrid MH18 seed and fertilizer in exchange for work on community road rehabilitation projects. The program proposed to cover 250 kms of road broken up into 40 subprojects, so that the participants worked on stretches of road within walking distance of their villages. There was no tie-in between the program and church activities, except for the fact that recipients were aware that EBCM was carrying out the program.

Targeted beneficiaries included female-headed households and families with landholdings insufficient in relation to the number of family members. The original estimate was that the program would benefit 20,000 people directly and 100,000 indirectly through improved family nutrition.

The program also included aged and infirm beneficiaries who did not participate in the road construction and rehabilitation activities. Field committees in each village selected the non-participant beneficiaries. Drawn from the community, they were in a better position to identify those in need than was the EBCM. The committees understood not only what the individual's vulnerabilities were (who was really disabled and who was not), but also as to who were the individual's existing support mechanisms - for example, those who had relatively well-off relatives in an urban area who were supporting them, and those who did not. Selected non-participants received the same input voucher in exchange for a fixed number of days' labor as did regular participants. There have been no reports of non-participant beneficiaries being unable to find someone (family member, friend, etc.) to plant and tend the crops for them.

Nevertheless, the program is largely self-targeting, with individuals volunteering to participate. The poorer sections of the community tend to be willing to do this work for inputs. Communities were selected, starting with those where EBCM had already been serving with its long-term development programs. After the first year, traditional authorities and local government officials expressed their communities' interest in being included in the program.

Tools were purchased by the project and were loaned to the communities. Since the road rehabilitation schedule was staggered, tools were taken from a completed site for use on a site where the work started later. This system reduced the number of tools that needed to be purchased. Farmers brought their own hand hoes to supplement tools provided by the program. Before the program started, the rehabilitation of one kilometer of road was expected to take between 22 to 24 person-days.

d. Program Impacts

Participants are given a voucher redeemable with seed and fertilizer that suppliers provided in compensation for their work on the program. The voucher entitles them to 10 kg of hybrid seed and 50 kg of fertilizer, sufficient to plant half a hectare. With the use of urea, an average production of 800 kg of maize (yield 1,600 kg/ha) can be expected; this represents four times the yield obtainable without fertilizer. Initial discussions revealed that a small percentage of the farmers preferred CAN (calcium ammonium nitrate) to urea; with CAN, maize production averaging 600 kg (yield 1,200 kg/ha) could be expected, still double the abysmally low output that farmers obtained without fertilizer 300 kg (yield 600 kg/ha). Since the average family consumed just under11 kg of maize per week, this addition to the family larder would be enough to see most families through the hungry season, with a small cushion remaining when the new harvest came in.

Based on the value of the input package at retail level, where10 kg of hybrid seed is worth approximately MK600 and 50 kg of urea is around MK1,350, the value of the voucher is approximately MK 1,950. Participants work for approximately one month -- usually half a day for two months, sometimes a third of a day for three months, depending on the community consensus decision on how to arrange the work. Sundays are not work days, meaning that beneficiaries work approximately 26 days a month, for which they receive a voucher whose equivalent as a daily wage, is approximately MK75 per day. This rate compares very favorably with the daily wage that averages between MK 20 and MK 40 a day. In fact, during the dry season when most of the work is done, agricultural employment is not available at all. Thus, the opportunity to work on road construction is an attractive alterative for the poorer members of program communities, as it allows them to turn their unemployed labor into inputs, whose value they are well aware of. Experience shows that once people become convinced that EBCM will actually provide the vouchers and redeem them for inputs in time to use them for planting, interest on the part of the community is tremendous.

e. Program Organization

Initially scheduled to start in September 2000, the program actually got underway in May 2001, when funds were obligated. The first steps were hiring staff, approaching communities to ascertain interest, conducting the community survey, and training field committees. Work on the first roads began during the first quarter of the program's operation. Work on individual roads was scheduled for completion before the beginning of the rainy season, when planting takes place. Vouchers were issued to participants and to non-participant beneficiaries, once the roadwork was completed. Hybrid maize seed and fertilizer was scheduled for distribution in November. (Project staff has carried out monitoring and evaluation, but further work particularly to assess the impact on traffic is required and is scheduled. See the M&E section below.)

f. Program Management

Individuals were hired based on their qualifications, and were trained not only in direct program-related activities, but also in the overall approach of EBCM and the various messages it wished to transmit with respect to: fertilizer use, alternative fertilizers, agro-forestry, gender, and health. Government officers still on salary from the Banda-era District Road Improvement Program (DRIMP), were brought in for technical aspects of training in road rehabilitation.

There was one committee of six people for each kilometer of road improvement work. Each committee received two days of training covering managerial, technical, and sector issues. There was equal gender representation.

g. Results: Targets Reached and Surpassed

Maize yields that had been targeted to increase by 50 percent, actually increased by 300 percent -- in comparing beneficiaries' yields using hybrid seed and urea, to those achieved by non-participating farmers using local seed and no fertilizer. Yields were established from a post-harvest survey of both beneficiaries and non-beneficiaries. Farmers reported the numbers of bags of maize that they harvested and the inputs they used, and the field staff assessed the size of the plots. The yield figures for the 2002 harvest were generally lower than anticipated for both

beneficiaries and non-beneficiaries. Yields were adversely affected by weather and by the severity of last year's hungry season resulting in a lack of energy for farming (especially weeding), in crop theft, and in the consumption of pre-harvest green maize.

During the first year 2001, 12,784 participant beneficiaries were active in roadwork and 816 non-participating direct beneficiaries (aged and infirm) received input vouchers, and road rehabilitation reached the170 kilometers targeted. In the 2002 season: 100 kilometers of roads were built or rehabilitated through the efforts of 7,466 participant beneficiaries and of 534 non-participant beneficiaries, who received employment opportunities and fertilizer/seed vouchers from the program. The original goal for the second year was 80 kilometers, but an additional 20 kilometers were made possible by cost-savings, including favorable input purchase contracts that EBCM succeeded in negotiating with suppliers. USAID agreed to a no-cost extension for this additional work. By the end of the second year of the program, the number of beneficiaries stood at 20,250, with an additional 1,350 non-participant beneficiaries having been served, and with 270 kilometers of road having been built or rehabilitated.

Eighty-seven percent of the beneficiaries surveyed during the first year used all of the inputs received on their farms. Thus, only 13 percent of beneficiaries sold any of the inputs provided. None the beneficiaries sold all of their inputs. As a result of this finding, the target has been adjusted downwards to 85 percent for the use of all the inputs, from the initial goal of 100 percent, which was unrealistic.

The original estimate was that to construct a kilometer of road would take an average of 23 person-days. In fact, it has been found that it takes closer to 30 person-days per kilometer. In some areas it takes more where rocks are encountered which have to be dealt with using manual methods. The physical weakness of many participants is also a factor; because many of the program activities occur during times when family food reserves are low and their productivity in physically demanding work is reduced.

Over 22,600 people received some training in agro-forestry, agriculture, AIDS education, gender, and health; this was more than the number originally targeted. This sensitization set the groundwork for any future in-depth interventions and promoted greater awareness of the concepts introduced by this program.

In view of the perceived success and popularity of the program with participating communities and in view of the interest in participation by those not already served -- a proposal is to be prepared and submitted to USAID for a two-year extension. The target for such an extension would be to reach 12,000 direct beneficiaries per year (60,000 indirect beneficiaries), with a total budget of just under $1 million.

h. Monitoring and Evaluation

Baseline focus group surveys were carried out in participating communities at the start of the program. Not all the data collected have been collated, due to the shortage of staff for a good period of time in the monitoring section. EBCM has just recruited a Senior Monitoring and Evaluation Officer to help with the workload, which should improve its monitoring and evaluation of program activities, including the production of an in-house evaluation at the end of the program.

A post-harvest survey of a representative sample of beneficiaries, as well as a control sample of non-beneficiaries, was carried out in May 2002. The survey focused on maize yields, inputs used, sizes of plots, use or sale of the project inputs, and the nature of any particular difficulties encountered due to last year's severe food shortages.

3. Conclusions

Building on the credibility and years of experience that EBCM has had in the area, this program has succeeded in its dual objectives of rehabilitating a significant extension of roads in rural Balaka and Machinga districts and in improving food security dramatically. In all, around 270 kilometers of roads were improved in the USAID project and a further 100 km of roads were improved with Tearfund/DEC funds. In addition to road rehabilitation carried out with hand-tools -- water-crossings, which frequently interrupted road transit during the rainy season, were also addressed. Additionally, more than 220 culvert crossings were built and 15 small bridges were rehabilitated.

Food security increased dramatically, as increased production of maize was sufficient to cover more than three months of additional family needs for food. For many families, this meant the difference between covering their food needs year-round or depending on handouts of food aid. Indeed some of the participants working on the project were so short of food that they were barely able to do the roadwork that required considerable physical exertion.

The use of urea (rather than Calcium Ammonium Nitrate fertilizer (CAN) minimizes the leakage of fertilizer to cash crops, since CAN is commonly used on tobacco while urea generally is not.

This program provides a model for resolving Malawi's chronic and recurrent food security crises. Most of the country's population is rural and must provide for the bulk of its food requirements for the main staple, by producing the maize itself. To produce an adequate supply of maize in order to cover family food requirements on the limited land which people have in this densely populated country, and with the limited area that they can care for with hand-labor alone -- farm families have to increase yield by using a package composed of improved seed and fertilizer. Farmers understand the value of this package through the extension efforts and experience of the past, but have been unable to purchase these inputs in recent years. Credit is not the solution, because hardly any of the increased production will be sold (being used for family consumption in most years) and therefore, funds will not be available for the repayment of loans. The model of seed-and-fertilizer-for-work pioneered by EBCM with the help of USAID, is valid. This model will work nationwide to meet chronic maize deficits for poor families willing to participate in the program -- if supported by USAID's lead and with the collaboration of the World Bank and other donors. Unlike the Starter-Pack program that is inadequate in amount and wasteful of resources, the seed-and-fertilizer-for-work program is self-targeting for the poor and directly addresses and resolves their chronic food security problem.

4. Recommendations

Such programs break the hand-out mentality, contribute to farmers' dignity by allowing them to satisfy their food needs out of their own production, reinforce the message that appropriate technology works, and build infrastructure which in its own right contributes to higher farmer incomes, through increased competition in marketing and improved access to services.

Recommendation 1

The Seed-and-Fertilizer-for-Work model has been validated by EBCM's experience, and should be expanded on a massive scale in collaboration with other donors, to replace the untargeted Starter Pack program and its monumental waste of resources on people who could afford to buy these inputs commercially. USAID should include a program of this type in their planning for future years and begin work, in conjunction with other donors, on putting it into place nationwide, in time for the next planting season (November 2003).

Recommendation 2

USAID should market this approach to road rehabilitation programs that it is implementing in other parts of Malawi and in the region. Other donors should also be made aware of the successes of this approach (in addition to the one British NGO which has already adopted the approach with EBCM).

Recommendation 3

The input package approach is a major improvement over straight food-for-work programs. Its use should be expanded in other road-building programs.

Recommendation 4

The approach has broader application and can be used on projects other than road building. Its use should be tested with financing by USAID, as part of its contribution to introducing innovations in the development process.

Recommendation 5

Future projects should include as participants some of the infirm and aged who are physically not able to participate in road building activities; they might be used to do traffic counts sitting by the road which are being improved by the project. The work is important and dignifies the work of those who do it, without requiring the physical effort called for in road building. Careful counting should be an improvement over focus group estimates and will provide better estimates of the benefits of such programs.

Recommendation 6

Although soil acidification does not appear to be a problem, the EBCM should carry out a number of soil tests to rule out this possible problem.

5. Lessons Learned

- The seed-and-fertilizer-for-work program is without doubt one of the most innovative projects upon which USAID has embarked in recent years. It points the way to address Malawi's chronic food deficits, in a way that accurately targets the rural poor and empowers them to take charge of providing for their families' food security. At the same time, the program improves access by their communities to the commercial trading

network and to the social and developmental services which have been denied to them by non-existent or impassable roads and, this program, thereby, further contributes to increasing family incomes and hence food security.

- Given the value of the vouchers which are based on the number of days worked to obtain the input package, and where the value of a day's work is significantly higher than the agricultural daily wage -- seed-and-fertilizer-for-work programs may be more attractive than food-for-work programs and may convey a greater sense of pride, dignity and ownership to people who then go on to use them to produce their own food.

- A well-established NGO with a long history of experience in similar projects involving Food For Work road rehabilitation, is well suited to run such a project..

- Successful pilot project such as this one can be expanded by the same implementing agency able to obtain additional funding, as a result of initial success with the project. Copycat projects of other donors and other implementers are also likely. In both cases, USAID's resources might be used to leverage funding from other donors.

IV. NON-PROJECT ASSISTANCE COMPONENTS OF ASAP

A. INTRODUCTION

A major component of USAID's Agricultural Sector Assistance Program (ASAP) in Malawi has been non-project assistance (NPA). This pattern has reflected the recognition, both locally and among the country's international partners, that policy and institutional issues, at least in theory, have been among the most serious constraints to broadly based improvements in productivity and incomes, especially among the country's smallholder farmers. In these circumstances, conventional projects or investments, even if they are well designed and funded, may be far less significant for smallholder incomes and development than in directly addressing these policy issues and instituting the necessary reforms.

The intention of the NPA program has been to provide a mechanism for collaboration between USAID/Malawi and the Government of Malawi to identify and address the above constraints. The idea was to jointly design a series of policy and institutional reforms as "Conditions Precedent" (CPs). The NPA approach is that, once the specified CPs are verifiably implemented by the relevant GOM or parastatal agency, substantial budgetary transfers are made to the country's treasury. In cost benefit terms, if policy and institutional issues are significant constraints to improved efficiency and to the growth of incomes and jobs in the sector, the economy-wide benefits accruing from reforms in these areas are potentially far higher, and far more broadly distributed than the returns from conventional investment projects undertaken without the reforms. It is also thought that conventional projects, such as the development of the institutional and physical infrastructure to sustain and support greater farm productivity, have very much more attractive returns once the reforms are in place.

The procedure for implementing NPA is conceptually straightforward. In each case, a given tranche includes a series of CPs. Once these are met, and the verification is complete, a Project Implementation Letter (PIL) is sent to the GOM by USAID/M, to be signed by the relevant Treasury official on behalf of the GOM. USAID/M then transfers the specified grant into the Treasury account.

The NPA component spanned both ASAP I and II, and as of June 2002, had disbursed six tranches totaling US$ 42.0 million. ($1.0 million remains as an unearmarked balance.) The following table presents the dates and amounts of the six tranches to date. The specific CPs related to each tranche can be found in Annex A, Project Implementation Letter Matrix.

TABLE 12
NPA Tranches by Date and Amount

Tranche	Date	Amount (US$ Millions)
1	3/92	4.0
2	8/93	6.0
3	10/94	10.0
4	3/95	5.0
5	11/95	10.0
6	6/02	7.0
Total		42.0

This part of the Agricultural Sector Assistance Program (ASAP) evaluation focuses on the above NPA components of the program. In essence, the task is to:

- Review the PILs and other documents identifying the policy reforms and other actions agreed upon between USAID/M and the GOM, and to clarify where possible, the (potentially conflicting) motivations and intentions of the USAID/M and GOM officials who formulated and designed them;
- Identify and attempt to make contact with the agencies responsible for implementing the agreed upon actions; and to then follow up on the extent to which this implementation was effective and the extent to which it may have been reversed. If a policy was reversed or not effectively implemented, the analysis attempts to focus on the reasons why this happened;
- Focus on the agencies, businesses, and a selection of individuals affected by, or involved in implementing the various changes and new tasks implied by each of the NPA components -- and inquire as to what actually happened, what problems and opposition may have been encountered, and how they were handled, and
- Assess the final effects of each action or change, in terms of meeting the specified objectives and in benefiting (or otherwise) the intended beneficiaries and, more broadly, the local and national economy.

It should be noted that with twenty-one CPs as a part of ASAP I, and fifty-two as part of ASAP II, there are a total of seventy-three conditions to be met. While some of these CPs are of a purely administrative nature, others are programmatic and often mutually reinforcing or additive in terms of their effects. A set of CPs in the early years of the program aimed, for example, at removing the longstanding restrictions on smallholder participation and trading rights in the tobacco market. These changes, among others, now allow smallholder producers and traders access to whichever markets they deem to be most adequate to their needs.

A further set of conditions addresses the liberalization of prices and the opening up of market participation to private sector traders and operatives, and doing so without discrimination based on gender, religion, ethnicity, or race. Across a range of different commodities, these measures were designed to change the tradition of control by a pervasive series of state or parastatal authorities, and to reduce the extreme dualism, favoritism, and elitism that had earlier characterized Malawi's agricultural production and marketing system. They were also aimed at improving the competitiveness and performance of these markets. The explicit intention was to broaden both the access to existing income sources and markets, and to enhance both the level and the distribution of incomes and welfare among producers. In such cases where the beneficiaries may be from the same population, with the benefits mutually reinforcing, it is difficult to distinguish the separate effects of each reform component. In these circumstances, the effects of interacting reforms have been grouped together for purposes of the evaluation.

ASAP I (September 1991 to September 1994)

The 1993 Mid-Term Evaluation of ASAP I concluded that while much had been accomplished, especially in opening up the tobacco sector to smallholders, a number of serious policy and institutional constraints and distortions remained and were continuing to undermine the efficiency and the distributional equity under which the agricultural sector as a whole was developing. Four "Themes" were recommended in that exercise. These were:

- To remove the restrictions on smallholder rights to grow the cash crops of their choice and to use the marketing intermediaries and channels of their choice;
- To remove the constraints to private involvement in the supply and distribution of agricultural inputs;
- To improve the land rights and security of smallholder tenants and farm laborers: and,
- To facilitate crop choices and farm diversification by removing both administrative and technical restrictions on smallholder producers.

These reforms had highly significant effects on the production of tobacco, and on the distribution of the income generated by its export. Tobacco production and marketing had earlier been restricted to estates, resulting in the virtual exclusion of smallholders from the earnings of the country's pre-eminent cash and export crop. The restrictions had also resulted in a very large expansion in the number of "estates," as substantial numbers of farmers, some of them fairly small, defined themselves into this category. The reforms recognized the inefficiency and the inequity of the restrictions. They not only led to an explosion of smallholder production and a far broader distribution of export earnings, they also started the process of undermining the market power of the Agricultural Development and Marketing Corporation (ADMARC), discussed in detail below, in both the input and product markets of farmers.

ASAP II (October 1994 to Present)

Under ASAP II, while the same efficiency and equity objectives were maintained, the earlier themes were collapsed into two. These are:

- Increasing market competitiveness and efficiency by removing subsidies and by opening up markets to full private sector participation; and,
- A range of institutional and legal changes aimed at removing official market impediments and entrenching reforms; these reforms included:

    1. Eliminating ADMARC's exclusive marketing rights for smallholder crops, especially tobacco;
    2. Removing the remaining restrictions on private trading in smallholder products;
    3. Radically reforming the GOM's parastatal agencies and, in particular, eliminating their exclusive trading rights or monopoly/monopsony powers; and,
    4. Developing information systems, technical and extension services, roads and other infrastructural support measures to facilitate the growth of a commercially based production and trading system in the rural areas.

These reforms recognized the critical link between explicit and implicit subsidies on the one hand, and the official monopolization of input and product markets on the other. Implicit subsidies (or taxes) are not overt budgetary transfers intended to change the prices of producers or consumers, rather, they use the market power of official institutions, trade, exchange restrictions and the like, to control or alter relative price levels in the economy. It should be noted that in a number of these cases, the hidden budgetary problems resurfaced as the accumulated debt of the official institutions. This is typically the case where such official marketing agencies face competition from lower cost private operators. As their deficits mount,

the inability of these agencies to cover their costs can have very large implications for the national budget.

This latter set of reforms addressed the above restrictions, and institutional mechanisms for controlling prices and markets. It also addresses (item iv above) a number of ways of improving both small farmer productivity and the performance of the marketing and trading system.

In the above ASAP II areas, the basic questions for evaluation are whether the reforms implied by the CPs have been implemented as agreed, and whether they have had the intended results. The more fundamental task, whether the answer to the above questions is positive or negative, is to discover how it happened (or did not happen), whether and how the reforms have been incorporated into the thinking and practice of Government, and to determine what lessons can be drawn from the experience.

Lastly, as can be seen from the above table, the Non Project Assistance Program (NPA) progressed well for its first four years, and then stagnated with only one tranche having been disbursed in the past seven years. While many of the reasons for this are discussed in detail in the pages that follow, there is a general thread providing an explanation for this situation. It begins with popular pressures building in the early 1990s and especially gathering strength with the advent of multi-party rule in 1994. Democracy was being tested and livelihoods had to improve. Political leaders and donors decided that a 'liberization' of the lucrative, export tobacco sector would be the most efficient way to do this. With insufficient opposition from the 'Estate' tobacco sector, tobacco became a smallholder's crop. In the early NPA tranches, the principal focus of the CPs was almost entirely directed at ways to assist this process, as GOM goals were in direct agreement with those of the donors, and especially USAID. By 1995, however, the tone and targets of the CPs became more general in their scope, in liberalizing the seed, fertilizer, and agricultural trade sectors and in doing away with parastatals involved in agricultural services. While more NPA funding was disbursed in 1995 than in any other year of the program, many of the CPs achieved had been in process for some time. What is clear is that from approximately tranche four onward, the policy agenda of the Mission began to diverge from that of the GOM, or at least from the government's ability to fully implement the accepted CPs. There has also been some 'backsliding' as certain CPs were initially met, funds were disbursed by the Mission, and then the policy(ies) reversed. The following list of factors is an attempt to set forth a partial reasoning as to why "what didn't work, didn't work".

- The vast majority of NPA CPs are oriented towards reforms in the economic sector. As such, they do not take into consideration current or past political realities, nor the socio-cultural ramifications of their implementation.
- While both expatriate and national advisors, planners, and technicians can agree as to what are the necessary economic reforms to be undertaken, it is not until they are implemented and their impact is known by the intended beneficiaries and by their elected representatives, that any reform can be thought to be permanent.
- External shocks, beyond the control of GOM planners and officials, be they climatic (droughts and floods), economic (declines in the world prices of tobacco, coffee, cotton, etc.), and financial (devaluations and inflation) can all separately or individually negate any progress towards the desired reforms.
- With approximately 65 percent of Malawi's population living below the poverty level, defined as US$ 30 per person per year, and essentially representing a segment of the

population outside of the monetary economy, it is unrealistic to expect that this population, or the economy as a whole, will respond to stimuli in ways that economic theory would predict. This is particularly important, given the significant amount of GOM and donor support being provided as humanitarian aid, be it in the form of subsidies or outright grants.

B. DEREGULATION OF SMALLHOLDER TOBACCO PRICES AND ENSURING THAT SMALLHOLDERS HAVE DIRECT ACCESS TO ALL LEGAL MARKETING CHANNELS

1. Findings

The CPs related to smallholder tobacco production and marketing appear to have been met, despite the opposition of the Tobacco Association of Malawi (TAMA), primarily reflecting the views of the larger estates. These agents foresaw the likelihood of quality declines, and also foresaw the complete undermining of the system by which inputs would be provided on credit to smallholders, to be recovered when the smallholder tobacco was delivered to the estates. When Independent Buyers (IBs) came into the market, smallholder producers could sell their tobacco to them, bypassing the estates. Many of these IBs were not knowledgeable about tobacco grading, and in some cases the average tobacco quality did deteriorate. Market penalization of low quality tobacco, which faces much lower prices on either the auction, or under the various other possible contracting arrangements, rapidly provided incentives for improved grading right through the system. In a number of cases, estates became IBs, sometimes providing considerable technical and other assistance to smallholders, and selling the tobacco under their own registration number.

Despite some of the problems that arose, there can little doubt that smaller producers benefited enormously from the removal of the price and market restrictions that had earlier governed their activities, and that the change resulted in major improvements in income distribution. The immediate result was a rapid increase, to an estimated 315,000 to 330,000, in the number of smallholder growers. Between 1994 and 2000, estimated production by smallholders grew from 11,000 to 94,000 tons, falling back, along with the size of the total crop, to 88,000 in 2001. During the same 1994-2001 period, the smallholder share of aggregate production rose from 16 to 70 percent and the shares of small, medium, and large estates fell from 84 to 30 percent[28]. Tobacco incomes in the hands of smallholders generated major changes in rural welfare, in other on-farm investments such as housing and a variety of small business enterprises and, not least, in additional education.

In terms of tobacco marketing, stories abound of traders with cash in hand visiting farmers early in the season, when they are particularly short of cash, and offering them substantially less than the future market price for their crop. Despite these cases, and some residual pressures to revert to the old systems, particularly from those involved in running them, it is now widely recognized that such problems are better resolved by improving the information available to farmers than by restricting the market channels available to them.

In the face of a predominantly smallholder production system in Malawi, a multifaceted smallholder support and development strategy, the policy corollary to the structure of the sector, is either not in place, or not in good order. The Agricultural Research and Training Trust (ARET), the research and advisory service for tobacco, has no functioning mechanism to reach even a portion of the smallholder producer population, and the efforts to work with the Ministry to create such a capability have essentially foundered for lack of resources.

[28] S. Jaffee, World Bank, 2002.

No doubt as a result of some combination of the above difficulties, affordability difficulties with input supplies, and the more general declines in fertility associated with poor agronomic practices, Malawi has experienced a decline in burley productivity, from 1,150 kg/ha in 1990 to 922 kg/ha in 2001. Yields are substantially less than half those of the US or Zimbabwe (in the year 2000) and, by a large margin, the lowest of any of any of the significant producers with which it competes.

An unfortunate setback, occurring in recent years, has been the sharp decline in world prices for tobacco, and particularly burley, the prime smallholder crop. Producers expressed their anger with vigorous demonstrations, and in some cases blamed the new intermediaries, including the estates, with whom they were dealing. In general, however, it was evident that the various market intermediaries, along with producers, were joint victims of the decline.

An additional reform in the domestic trade and price regime was also introduced by way of a major devaluation. While this devaluation provided an essential and welcome increase in the MK prices of the country's exported products, it also increased the domestic prices of imports, including farm inputs and vehicle transportation services, thereby particularly hurting those in more distant locations.

2. Conclusions

There were a number of short-term penalties associated with the reforms in smallholder tobacco marketing and pricing. In particularly these involved quality problems, generally associated with inexperienced Intermediate Buyers (IBs), as large numbers of inexperienced people – virtually any Malawian with money available – entered the trade in search of rapid returns. Despite such problems, there is no question that farmers received a substantially larger share of tobacco export earning as a result of the reforms. Since this new population of smallholders includes many of the poorest people in the country, it is also probable that the reforms resulted in a significant improvement in Malawi's income distribution.

3. Recommendation

Despite some residual pressures to return to the pre-reform marketing and trading regime, the distributional benefits of the reforms should, and undoubtedly will counter any such reversion, maintaining an open system. In the face of poor market performance or non-competitive behavior, there is a strong tendency to respond by official interventions that further impede open competition and the drive to maintain efficiency. It is important for domestic reformers, with the support of their international partners, to resist such a tendency.

4. Lessons Learned

- One of the useful things about an open, competitive system and market-determined prices is that, unlike a system of official or regulated prices, the entire process is relatively transparent, and is open to new entrants. The result is that it tends to be removed from the domestic political arena, minimizing the pressures for fixed or politicized prices, and for the budgetary demands that almost inevitably arise to sustain them.

- Farmers and their families, groups of farmers and entire farming communities are developing an increasingly sophisticated understanding of market prices, quality differences and their determinants. Within the limits of their technical and financial capabilities, they then respond to relative input and output prices, quality distinctions, and the like, in a fashion that maximizes their net earnings. Rather than restricting farmers' access to what they see as the most attractive marketing systems available to them, the key development strategy is to improve both the technical information and the price and market information available to producers and traders, disseminating it widely, by radio and other means. It is also to facilitate the competitiveness and the efficiency of the delivery systems and supplies available to them.

C. THE ROLE OF ADMARC AND THE LIBERALIZATION OF AGRICULTURAL TRADE

1. Findings

A general finding that should be noted in looking at the process of formulating the conditions associated with the various tranches, is the recurrence of certain themes in the CPs. In a number of these cases, despite the formal agreement between USAID/M and senior MOAI officials, the substance of the reform process was not really implemented in a way that internalized a commitment within the GOM to a more market-oriented approach, and that a number of key components of the reform ran counter to the preferred policy and practice of the Ministry. An example, analyzed in more detail below, is the recurrence of ADMARC as an object for repeated efforts at radical restructuring and reform. Even now, ADMARC is admittedly making losses in almost every activity it manages, and currently presides over a chain of stores that are generally empty, and which GOM has agreed should be put on the market and liquidated. Despite the above, a new General Manager has been appointed; he sees his mandate as restoring ADMARC to its former role and status as a subsidized buyer and seller of farmers' needs.

Seasonal and territorial price uniformity still appears to be an implicit or explicit policy for maize, hybrid seed, and for virtually any goods handled by the Government or by the parastatals or other agencies. The reasons for this policy are some combination of political, administrative, and humanitarian imperatives. Politically, the same government agency charging (or paying) different prices in different areas tend to result in strong opposition from those who feel themselves discriminated against by a less favorable price. The result is strong political pressure for a uniform price. Unless they handle major brand-name products with significant market power and profit margins, commercial traders must maintain their competitiveness and cover their costs in their various market operations. Conversely, it is hard for government or parastatal officials to know what transport or storage cost differences are between different areas and seasons, let alone to administer a price system that reflects those differences.

In the above circumstances, traders make it their business to be knowledgeable about present and future prices, and the market estimations of local, regional and external surpluses, or about deficits that determine them. A well-functioning market system, using the best current information and the best future estimates available, provides farmers and traders with the most likely prices that they will experience when their crop reaches the market in a particular area. Using these future price and supply estimates, producers and the various transport, storage and other market agents, including consumer households, will respond, e.g. by increasing their transport, storage or other trading activities. The effect of such activities right through the market system is to mitigate the extreme price rises or declines that might otherwise occur.

ADMARC's uniform (pan-territorial and pan-seasonal) price approach runs directly counter to that of the market. It dates from the period when it had exclusive market rights with no competition from traders. At a uniform price, it made high profits in the nearby locations where transport costs were low, and this occurred shortly after harvest, before storage costs could accumulate. It then used these profits for an internal cross-subsidization to the long-haul markets, where transport costs are high, and late-season consumption when high storage costs had accumulated. On the other hand, it has been suggested by some that the issue of pan-territorial and pan-seasonal pricing is a bogus one, or at least one of little significance. Indeed,

companies like Coca Cola, and Monsanto, the country's largest wholesaler of fertilizer, practice pan-territorial and pan-seasonal pricing. As the argument goes, reviewers should be more concerned with the overall profitability of ADMARC, rather than with its pricing policies. Lastly, since Malawi will always require a rural safety net, why not establish ADMARC as such, to be operated on a break-even basis.

Nevertheless, with the arrival of private sector transporters and storage agents, these traders successfully took away business from the parastatal where the costs were low relative to the uniform price, leaving ADMARC to incur the high costs of serving the rest of the market. The result was that ADMARC was left with the obligation to cover those locations and time periods where the transport and/or storage costs were high, without generating the profits necessary for its traditional internal cross-subsidization. The direct result of being left with the high cost segments of the market, and a pricing system that did not allow it to cover those costs, has been the rapidly mounting losses and budgetary deficits that ADMARC has experienced. There is also evidence that, perhaps for reasons of management, vehicle maintenance and the like, ADMARC's transport and other operating costs are substantially higher than those of a number of the private sector firms.

A further, and potentially more serious effect of the uniform pricing systems used by ADMARC, and by other agencies in which the GOM has some role, is that they systematically undermine the commercial system, and most importantly, its incentives to provide the transport and storage necessary to moderate prices in more distant areas and in late "hungry season" periods.

The mechanisms for transmitting information to producers, traders, other market intermediaries, and to consumers, are prices. Anticipated surpluses are signaled by price declines, and deficits by price increases. Market agents, such as ADMARC, which for political or bureaucratic reasons ignore price signals or, more seriously, transmit erroneous price signals -- distort the most pervasive and well-understood indicators and warning signs in the economy. They inform the entire production system, for example, that additional supplies are not worth producing, or that storage or transportation activities are not worth undertaking, when the opposite may be the case.

There is a reason why recurrent market-related CPs have reappeared in different guises in various tranches and in key areas. As is true in a number of countries, the reason is that the pervasive and continuing Malawian tradition is that it is the right, even the duty of the government to intervene, at will, in the most politically sensitive markets. Almost by definition, these markets have included the market for maize, the principal (and preferred) food crop, and a variety of the input and supply markets associated with it.

a. The Special Case of Entrepreneurs and Traders

In liberalizing markets and removing the monopoly powers of either private or state agencies, a key question arises: has the process resulted in the emergence of vigorous and capable domestic entrepreneurs in the marketing and trading arena, and how are these agents performing? As in most of the countries of the region, immigrant groups, particularly Asians, came into the country, often as laborers or craftsmen, in the colonial period. Gradually they moved into the business of trading and shop keeping, frequently operating isolated shops and trading posts, throughout the rural areas. Partly because they were willing to live cheaply in remote rural environments, far

from extended family obligations, they often became the major suppliers of goods to rural people and, in many cases, the purchasers of both locally consumed and exportable products. Before long, this group provided the core of the country's commercial agents and market entrepreneurs. Along with a selection of other non-indigenous groups and families, they had the commercial and trading skills, the accumulated capital and business credibility, and the supply and other connections outside the area, which allowed them to offer a better range of goods, and better prices than most ethnic Malawian traders and entrepreneurs.

Malawi has strong educational and administrative traditions that have, in a number of cases, resulted in competent government agencies. There is also a longstanding tradition of trading in the country, along with traditions of dexterity, skill, and industriousness among the workforce. These attributes represent critical resources for business and commercial development. They are not, however, a good substitute for entrepreneurship, for savings accumulation and investment in, or the competent management of, commercial business operations.

Dating primarily from the Hastings Banda period, a series of discriminatory regulations were introduced to exclude Asian trading establishments in the rural areas. Some three quarters of these people left the country, while virtually all of the others migrated to the country's urban areas. For the most part, these people have done very well, generally making more money than they did in the rural areas. The laws and regulations that excluded them from rural area trading have now been reversed but, for the most part, they are not interested in going back.

One of the main imperatives for establishing state or parastatal marketing and trading agencies, such as ADMARC, was to provide a substitute for these private traders. The familiar problem with such official agencies is that they lack the independence and the flexibility of individual traders. They are also subject to a variety of pressures and objectives, often conflicting, on such key issues as pricing and coverage of the rural areas. They may also be pressured into taking over or making investments in projects where there may be some kind of political or other interest. Such pressures tend to be in direct conflict with the objective of maintaining business viability and covering the costs of these agencies.

In the case of ADMARC, the above problems have occurred in full measure, as analyzed above. Its operations and its pricing structure are politicized; it enters the market in an unpredictable fashion, and it is not required to cover its costs. Its vehicles also tend to be unreliable, are often lacking in critical spares, and suffer from chronic maintenance problems. The implication for private traders is that they may face competition from subsidized parastatal operations at any time, making it very hard to make rational business predictions and decisions. The ironic result is that ADMARC has become one of the principal impediments to the development of a viable and self-sustaining network of private traders, as it wrestles with its dual role of safety net provider.

A small number of relatively large businesses now dominate rural markets. While NASFAM has been fairly aggressive in developing its commercial operations, some of this activity has been assisted by external management and other assistance that is unlikely to continue. Most of the commercial trading operations that reach deeply into the rural areas depend on smaller individual traders. These agents often operate with pickups and other smaller commercial vehicles, and sometimes out of local shops and other rural trading operations.

In addition to the ADMARC-related unpredictability problems mentioned above, these small traders face the familiar financial, technical and security problems of small operators with inadequate capital resources, in dicey vehicles on bad roads. There can be little doubt that the condition of the road network in a number of the rural areas imposes serious costs on trade and transport activities, and thus on the prices that rural producers pay for their purchases or receive for their products. While road investment is typically justified by a high traffic load, it is also true that road improvements lead to declining transport costs and can generate both the expansion of traffic and the development of local productive activities that benefit from the decline.

Having experimented with pre-payments, loans, and other contractual arrangements with these traders, most larger firms maintain a "strictly cash" relationship with them. There are some longer-term relationships that develop between the larger firms and these smaller traders. There is also normal competitive activity that may play both traders and larger firms off against each other.

b. The Special Case of Exchange Rates

A final point that should be mentioned is that "real exchange rates," the relative price of tradable and non-tradable goods, can be far more significant for agricultural product prices, and for the incentives of farmers, than explicit taxes or subsidies. A potential problem in this regard is that large inflows of foreign assistance, despite donors' good intentions, can result in the appreciation of the MKwacha (a familiar "Dutch disease" phenomenon) by flooding the economy with cash or free goods. Any such lowering of the price of foreign exchange lowers the domestic value of tradable goods relative to non-tradables. Since agricultural products fall directly into the category of tradable goods, such currency appreciations can significantly hurt the producers of these products.

More important, however, is the case where a declining exchange rate increases the prices of imported commodities, especially those commodities that are used as inputs to agricultural production. In recent years for example, the nominal price of fertilizer has increased by 200 to 400 percent per year (which is the price that farmers must pay), while the current real price is 30 percent lower than it was in 1996. Other than in the case of tobacco, which is exported, this increase in the nominal price of inputs has not been matched by an increase in the production of other marketable commodities. Consequently, farmers are using far less fertilizer than they used in the past, with predictable declines in crop yields. Ironically, increases in competition in the fertilizer trade has led to the predictable declines in real prices, but these declines have been grossly negated by increases in the nominal price of fertilizer, due to devaluation.

2. Conclusions

Market prices, in Malawi as elsewhere, theoretically arise as a consensus of the complete range of market participants, including producers, traders, other intermediaries and consumers. They can be completely flexible and move rapidly in response to changes in information relating to the supplies available, and to the expected level of demand in the various locations and over time. These prices, in turn, the theory goes, provide a pervasive and fast-moving mechanism to inform all market participants about the current and the expected situation, and to provide them with clear economic incentives to act accordingly.

Market mechanisms and prices are well understood in Malawi. At the official GOM level, however, partly arising from the earlier days of the country's independence when Government virtually monopolized trading and marketing activities, there appears to be a residual preference for fixed and uniform prices, and for the politically controllable operations of official marketing agencies, especially when emergencies arise. This preference implies mistrust for open markets, and the perception that prices, unless they are controlled, may be dangerous or damaging to the economy, and to the welfare of the population. Alternatively, this preference may imply the desire to exert price controls for political reasons. There is also the possibility that the former may serve as the rhetorical rationale for the latter.

The approach to agricultural prices, markets, and trade epitomized by ADMARC, has been the subject of recurrent CPs in USAID's interaction with the GOM. There is clearly an implementation problem, however, perhaps relating to the GOM's perception and preferences as to how markets can or should work, and as to the appropriate role of Government in this area. The real issue is not ADMARC *per se;* it is the perceived legitimacy of an open and competitive marketing and trading system, and of the prices emerging from it vis-à-vis agrological famine in rural areas, followed closely by almost total economic collapse.

It should be noted that in the presence of parallel prices, a virtually inevitable consequence of official price controls or attempts to monopolize markets, the non-official (open market) price tends to reflect unsatisfied demand and, as such, may rise extremely high. Investigations into who pays which price in these circumstances can be disturbing. The typical findings are that the very poorest people are not the beneficiaries of the controlled prices, and are frequently subject to high parallel market prices, which may significantly diminish their welfare. Successful measures to unify these markets and prices by removing the artificial controls may, depending on the aggregate supplies available, raise the price above former official levels. The universal experience, however, is that those who are relegated to paying the higher parallel market prices typically include the less well-connected groups.

Fixed and uniform prices, embodying substantial hidden subsidies, are at complete variance with the operations of commercial markets. By ignoring its various transport, storage, and other marketing costs, the ADMARC approach not only generates large, and totally unjustifiable budgetary problems, it also makes it difficult for a self-sustaining and self-financing marketing system to develop, or for unsubsidized traders and other agents to compete. However, by ignoring the social role of ADMARC, one runs the risk of eliminating the safety net function that it plays in remote rural areas.

3. Recommendations

Recommendation 1

Official marketing agencies such as ADMARC, should have their entire commercial operations directed at the provision of a safety net managed on a break-even basis. This is particularly true in all areas of their marketing and trading activities. Current activities make no useful contribution to the development of a self-sustaining and self-financing system of marketing and trade. By introducing uniform prices and subsidized operations, they undermine the development of a private network of competitive traders and of other market agents, whose costs tend to be lower and whose efficiency is higher.

Recommendation 2

Reverse the policy of market controls and fixed prices, and move to a policy of even-handed support for the development of an open and competitive market for agricultural products and inputs. This implies ignoring all pressures for favoritism and special subsidies, or other arrangements from individual firms or agents. It also implies reviewing and monitoring the various regulations and other potential impediments to the functioning of such a market, and making adjustments where necessary.

Recommendation 3

Avoid all efforts, such as currency or exchange controls, to suppress the price of foreign exchange. It must also be recognized that financial inflows from foreign donors can have the same effects on the exchange rate, that is, in appreciating the currency. Currency depreciations raise the prices of tradable goods and their substitutes. Farmers are quintessential producers of such goods. Conversely, appreciations of the Mkwacha (e.g. by large financial inflows) have the exact opposite effects. While they reduce the prices of imported goods, including farm inputs, they suppress the prices of what farmers produce. It must be recognized that such "indirect" effects on the prices of agricultural products, while they are less well understood, can be quantitatively more important than direct taxes and subsidies.

4. Lessons Learned

- Government institutions and policies that attempt to undertake or control marketing and trading activities in the agricultural sector tend to come under powerful political pressures to fix, and typically to suppress such prices. The result is almost inevitably a pricing and marketing system that ignores market factors and worsens producer prices. Most seriously, such a system destroys or distorts the incentives for the successful development of a self-sustaining system of competitive private traders and other market intermediaries.

- Rather than undermining the development of an open, competitive marketing system, the role of Government should be to ensure that such a market is functioning well. It should also analyze and remove any impediments that may arise to impair the performance of such a market.

- In a situation where, for whatever reasons, large numbers of people are without food, and without the incomes or resources to buy food, the free distribution of food to those people is the only tenable option. The dilemma is that large quantities of free food coming onto the market, sends a clear signal to farmers that it is not worth incurring the costs of producing marketable surpluses. In subsequent years, inadequate food may then be produced, creating the need for additional food aid. Without resolving the dilemma of food aid requirements on the one hand, and the need to maintain adequate producer/trader incentives to expand local food production on the other, the danger is that a cycle of dependency is created, and the productive capacity of the country is systematically undermined.

D. THE SETTING OF MAIZE PRICES.

1. Findings

As in a number of countries, the preferred staple food-crop, in Malawi's case, maize, is a major object of Government concern. There is a long history of official control and political intervention in maize markets, with prices typically fixed at levels that are commercially unsustainable, and that typically generate severe budgetary problems.

Unfortunately, maize yields, besides being highly dependent on the varieties planted and on the level of inputs used, are extremely dependent on the weather. Unlike some of the traditional legumes, and certainly unlike cassava, the crop has little ability to withstand periods of drought.

As a consequence of these characteristics, in a bad rainfall year, harvests are subject to very large declines, with rapidly escalating implications for prices. In addition, traditional storage systems are subject to severe problems with insect infestation and mold, and successful maize storage requires sophisticated and expensive facilities, out of the reach of most local producers or intermediaries.

As a result of the above, local market variations in the availability and the price of maize, can be severe. These variations are typically aggravated by the probability that weather patterns may affect the entire region, implying that regional trade may not be a reliable mechanism for stabilizing local prices. Overseas price movements have their own patterns and determinants. They are strongly influenced by the panoply of politicized subsidies, interventions, and surpluses in a number of the richer European, Asian, and North American countries.

2. Conclusions

Fixed official prices fly in the face of functional markets. They deny or remove the ability of the market to respond to the complete range of information to which markets and prices typically adjust. In addition, such fixed prices may be very difficult and expensive to defend, characteristically leading to dual prices and the strong tendency to engender corruption, favoritism and rent seeking. It must be recognized that politicians, officials, or economists, regardless of the information and analysis available to them, are rarely capable of selecting or advising on appropriate fixed prices over the long-term.

It should be noted that the export parity price (net of transport costs) provides the natural floor price to domestic markets. In situations of chronic surplus, (not a current problem for Malawi), this floor price can be defended by exporting. The CP related to maize prices makes sense in implying that the domestic price should never sink below the export parity price, but market prices in an importing country such as is the case with Malawi at present, would normally be expected to rise significantly above the export parity level.

In the event of a good year, and surplus supplies across the region, the export parity price in Malawi is so low that it sends the signal to farmers and to their suppliers that the price of additional output will not cover its production costs - therefore plantings to produce for the market should be cut back or not undertaken. In a situation of recurrent maize deficits in Malawi, the market price can be expected to rise above the export parity price and, depending on

the judgments of intermediaries, and the response of local producers --it will move up toward the import parity price. This latter price then provides a ceiling to local prices, in that imports can be expected at that price.

The problem with the use of these prices in place of market prices is that the export parity prices are typically so low that production deficits result, necessitating imports. Conversely, import parity prices are normally so high that supplies exceed domestic requirements, necessitating exports. In either case, not only are the budgetary implications severe, but also the crucial adjusting and balancing role of functioning markets is completely undermined.

The basic conclusion is that export possibilities serve to defend the export parity prices in the event of domestic surpluses. In the case of chronic deficits, domestic prices can be expected to rise as high as import parity levels, but no higher. With good information right through the commercial community of producers and traders, including transport and storage agents, market consensus prices typically emerge, and constantly adjust, as new information becomes available.

3. Recommendations

Recommendation 1

USAID/M should make clear to the GOM that maize prices should be determined by the consensus of an open, well-functioning market. Ensuring that such a market exists, and identifying and removing impediments and distortions that impair its performance, is a legitimate task of government. Fixing artificial prices for such a commodity is not the task of government. Nevertheless, in times of severe shortages, subsidized maize prices, which essentially establish a price floor, can be an effective tool.

Recommendation 2

In addition to ensuring adequate food aid in the event of a crisis, it can be extremely helpful for donors to enter into a countrywide dialogue relating to food shortages and as to the reasons for these. This dialogue should include proposals for specific interventions, targeted to support the incomes, welfare, and nutrition of the country's very poorest people. It must be recognized, however, that the longer run recovery issues must focus on increasing farm productivity, and that this is unlikely to be successfully addressed, without credible market incentives to producers, and to the multiple agents that provide crucial supply and marketing services to them, thereby allowing them to maintain and increase their productivity.

Recommendation 3

Providing adequate food aid without destroying the incentives for the recovery of production, is a familiar dilemma. Its resolution certainly includes potentially massive short-term food assistance in the event of food emergencies. It also must be seen to include a credible strategy, mentioned above, to re-establish commercially sustainable increases in production.

4. Lessons Learned

- Given its dependence on unpredictable factors such as the weather and regional and international variations in prices and supplies, there is a basic error in setting, or in recommending a particular price for a commodity such as maize. That error is that no such correct price exists.

- Open and competitive markets typically determine prices, which normally vary quite widely between locations and seasons, depending on familiar market factors. The essential task in these circumstances is to ensure the functioning of such a market, and also that structural or regulatory problems do not distort the price signals emerging from it. This is a very different approach from trying to adjust or correct a fixed price to be imposed on such markets.

- Well-functioning, well informed markets, by instigating multiple adjustments among the full range of market participants, as described above, will tend to minimize the domestic deficits and surpluses that require entry onto external markets. Ironically, fixing domestic prices in a fashion that deters those adjustments is more likely to result in chronically continuing domestic crises, and the recurrent necessity to rely on those external markets.

E. LIBERALIZATION OF THE SEED AND FERTILIZER TRADE

1. Findings

A longstanding and consistent component of USAID/M's project and non-project assistance to the GOM has been support for the supply of, and delivery system for, the improved bio-technical inputs and materials needed to raise the productivity of smallholder farmers -- specifically improved seed and planting materials, and to a lesser extent, fertilizer. Initial issues involved the imports of seed, and its breeding, multiplication, and distribution. They also covered the availability, price and distribution of fertilizer, and the extension and information measures necessary to reach the smallholder producers.

In line with the above concerns, the perception grew that a range of import restrictions, taxes and subsidies was inhibiting the development of a commercially self-sustaining system for trading, producing, managing and distributing these supplies. The traditional approach of restricting trade and monopolizing the distribution system with cumbersome (and inevitably politicized) official agencies, operating at fixed prices, was seen as undermining the development of efficient trading and marketing arrangements. This approach was also seen as working to the detriment of smallholder farmers, denying them access to the varieties, supplies, and technologies of their choice.

The relevant CPs, in essence, specified the removal of all import restrictions, taxes or subsidies on seeds and fertilizer, allowing the importation and distribution of whatever such inputs could find a domestic market. They also called for private importers or traders to buy or replace the GOM buffer stocks of fertilizer.

There is no doubt that the liberalization of the farm inputs market increased the potential availability of these products in the country. In terms of prices to the farmer, however, the benefit of this increased openness was more than offset by the gradual devaluations of the MK, so that instead of falling, the prices of imported inputs rose quite significantly in nominal terms. (This occurred in spite of the fact that the real price of imported fertilizer is now 30 percent lower than it was in 1994.)

The predictable consequence of these price increases is that the use of these improved inputs has not expanded, as was predicted. Instead, it has declined, with a concomitant decline in soil fertility and yields, especially in the smallholder sector.

In terms of competitive behavior, a rather small population of large suppliers exists in the country, with some smaller traders operating mostly in border areas. There is basically one local producer of hybrid seeds, with a number of potentially competing distributors, and two major importers of fertilizer. While these firms clearly compete for markets, not least, the market for donor-financed input distribution, the aggregate market is not very large, and there appears to be more competition by trying to lock in distributors than through price.

Distributors include chains of retailers, smaller shops and individual trader/transporters. Prices are typically fixed at company depots, with specified delivery costs to other locations, although at least one large fertilizer distributor uses pan-territorial pricing. Known traders generally receive discounts, (MK 100 per 50kg bag in the case of fertilizer). They can then sell at the

company price or, in more distant, longer haul locations, at some margin of their choice. The aim of these companies is to have their inputs available right across the country, within some kind of walking, or at least bicycling distance to all farmers. While there may be an implicit "carving-up of the market" arrangement to limit competition, the resulting coverage is of the farming areas, where the demand for fertilizer has expanded rapidly. Local fertilizer agents also hold demonstrations and field days, and make attempts, where possible, to collaborate with Ministry extension staff. A reported problem in such collaboration is the serious financial difficulties that such staff experience.

In the case of the free distribution of starter packs, commercial firms offer vigorous competition in the supply of the necessary commodities to the agencies that put them together. Most of these firms express the view that they are not facing competition from these supplies, since they generally go to producers that are so poor that they would otherwise not participate in the inputs market.

A number of donor initiatives have attempted to address the issue of the poverty constraints on input supplies. The most recent one, the Universally Targeted Input Program (UTIP) is an attempt to reach the lowest income rural producers with input supplies. These producers might otherwise require food assistance. A reported problem is that targeting on the ground is generally in the hands of the local chief's committee, and the distributional mechanism or the criteria used is not always in accord with the design and intent of the program.

2. Conclusions

While there are complaints from some of the firms who formerly had greater market power, and faced limited competition from new entries, the opening up of the markets for agricultural inputs has resulted in the entry of more aggressive and capable suppliers, and in substantial improvements in the availability of supplies.

While price competition has not been vigorous in the liberalized market, as a consequence of its limited size and the small number of competing firms -- coverage in terms of supplies to the farming areas of the country appears to have been reasonably good, although coverage decreases drastically as the distance from regional distribution centers and town increases. Since smaller private traders and distributors undertake most of the distribution outside of the regional depots, location-specific prices generally reflect on transportation difficulties and costs, well understood by farmers. Farmers, and groups of farmers who want to bypass these traders and to arrange their own transportation, have the perfect right to do so.

In terms of the importing, breeding, and multiplying of seeds, along with promoting and distributing operations, the relative efficiency, coverage, and reliability has improved. Again, keeping these activities in the market rather than in the political arena also tends to protect the government from pressures to fix prices or to provide subsidies.

3. Recommendations

Recommendation 1

In some quarters, there is still cynicism about the production, trading, and distribution operations by private, as opposed to public agencies. Despite these residual reservations, there is no doubt that the reforms should not be reversed. Rather, the research and extension capabilities, and the various media and development agencies of the GOM should be mobilized to promote improved practices, including the appropriate use of these various commercially supplied inputs.

Recommendation 2

The entire ability of the country's farming sector to feed the country, and to expand its critical export earnings, depends on improved practices by farmers. These improved practices include the use of biochemical inputs that embody the kinds of technical change likely to provide high returns to Malawi's smallholders. The essence of the development strategy for this sector is sharp and pervasive increases in productivity. The Government, donors, and the commercial supply and marketing agencies need to focus on that task. A crucial component of that task is to achieve substantial increases in the use of improved, commercially supplied seed (hybrid or open pollinated varieties) and fertilizer.

4. Lessons Learned

- Commercial firms are generally ready to undertake the importing, breeding, trading, packaging, and domestic distribution of seed and fertilizer, and can typically do it far more efficiently than can official or parastatal agencies. Such firms can, however, be quite adept at using their contacts with officials to restrict competition, especially with regard to market access and to prices. While such restrictions, whether they favor a commercial firm or supplier, may help the firm in question, it is unlikely to help the farmers or other users of such supplies.

- The initial task of liberalizing the markets is the *sine qua non* for the more efficient and aggressive distribution and sale of these farm input products. The long run task is to encourage and facilitate the penetration of the more remote areas, developing a detailed knowledge of farmers' requirements and opportunities in each area, and in developing demonstrations and other mechanisms to increase the awareness and appropriate use of these inputs. In essence, this task is one of ensuring a competitive market, open to new entries. It also requires a knowledgeable and vigorous distribution and sales force. These distribution networks can and should work closely with MOAI staff to provide farmers with accurate information, and to expand the appropriate use of these inputs.

F. ESTABLISHMENT OF AN AGRICULTURAL POLICY SUPPORT UNIT

1. Findings

USAID/Malawi's assistance to the development of the country's rural and agricultural sector has, virtually from its inception, included an effort to develop a professional capability to support the GOM's agricultural policy-making process with applied and empirically based research in the sector. The implicit model for this effort has been the U.S. Land Grant University system producing, as it has, a body of research-based policy recommendations, and a cadre of policy-analysts, trainers, and researchers, that has had an influence on many levels of US policy relating to its agricultural sector. The rationale for these efforts in Malawi has been that, while a number of high caliber officials can be found in the GOM, they have little or no ongoing access to pertinent research work undertaken by independent professionals or by other governments.

To address the issue of policy research, substantial resources have been allocated to establishing the Agricultural Policy Research Unit (APRU) at Bunda Agricultural College. Bunda is a constituent college of the University of Malawi, located some 30 km outside of Lilongwe. It was felt that an academic base of this type would provide a good research environment, while maintaining some distance from the ongoing functions, meetings, and pressures of the Ministry of Agriculture and Irrigation (MOAI). Bunda was interested in developing its research capabilities, and key officials in MOAI were looking for an independent unit that could undertake professionally competent work that was both objective and relevant to the Ministry's concerns.

USAID/M was a strong supporter of the Agricultural Policy Research Unit (APRU) initiative. A number of US academics were funded to work with local professional staff in designing the institution, and in carrying out surveys and other studies that were thought to be pertinent to Ministry policy. The strategy included a staff and professional development program involving the sending of Bunda College professors for graduate studies at US universities. In addition, approximately US$ 3.4 million was put into physical facilities at Bunda, to house and equip the Unit.

In the process of developing APRU, serious difficulties and conflicts arose among the various interested parties. Bunda College saw APRU as one of the four units, along with food processing, pest management, and training, under its proposed Center for Research on Agricultural Development (CARD). Apart from the training activities, which had some World Bank (EDI) involvement, none of the other units were funded. Bunda administrators also saw APRU as being an integral part of the college, with staff employed by, and funding coming through normal college channels.

Partly because of the view that university pressures were pushing APRU work into a conventional academic direction, rather than toward applied, policy-oriented work, both MOAI and USAID/M became increasingly dissatisfied with the ability of APRU to meet Ministry needs. An additional factor was that APRU terms and conditions were not adequate to attract and maintain staff with the experience and stature to undertake credible, policy-oriented research, or to communicate at a senior level within the Ministry. Even the students who had gone overseas as part of APRU's staff development program, joined the faculty of the College, or took other jobs where tenure security and other prospects were better, rather than pursuing

their careers within APRU. The result was that APRU appointees were largely lower level faculty and others at the very early stages of their careers, and lacked the experience and the credibility to interact fruitfully with senior Ministry personnel.

To address these issues, additional resources, better terms of service, and a degree of independence from the controls and procedures of the College were deemed necessary. There were also serious doubts as to whether the College was the appropriate body to select and appoint APRU staff. The result was serious disagreement among the College, the Ministry, and USAID/M. Charges were made that USAID/M was trying to control the content and character of APRU's work, and to use it to promote its own policy agenda. Eventually, the College agreed that APRU could become a separately-funded, autonomous unit at the College, but by that time, APRU's withdrawal from Bunda was already underway, followed by a (short-lived) effort to set up a separate unit in Lilongwe.

APRU is currently left with a substantial physical facility at Bunda College (though much of the computer equipment is now seriously out of date). The only problem is that nothing is going on inside the Unit. In the meantime, senior Ministry officials have no access to a functioning institution that is capable of initiating and conducting research pertinent to the policies that they must address on a daily basis.

2. Conclusions

The efforts to establish or refurbish APRU have fallen victim to the conflicting agendas of USAID/M, Bunda College, and the MOAI. Mistrust, the struggle for control, and competing claims to available resources, appear to have undermined the various efforts to develop a domestic, academically based institution, capable of undertaking professional work that is useful to the MOAI and to other policy-makers. The key issue of APRU's autonomy in setting a research agenda driven by the requirements of MOAI, was never satisfactorily resolved at the College.

APRU has an extensive physical facility at Bunda College, but is currently without a cadre of researchers to give it substance. Given the right conditions, a number of capable people could be brought together to develop a useful research program. Without a resolution to the institutional and management problems and uncertainties that have dogged it so far, however, it is unlikely that funding alone will create a functional unit.

While the MOAI has serious institutional and budgetary problems of its own, it also has a number of capable and knowledgeable people who express considerable interest in seeing the development of a competent institution undertaking research that is relevant to its policy-making. These Ministry people also express considerable frustration that the efforts to establish such an institution have, for one reason or another, been thwarted.

Without access to such work, on an ongoing basis, the danger is that Ministry officials will become increasingly isolated from the reality of the issues and problems faced by the various producers and traders in the rural and agricultural sector. In these circumstances, superficial solutions and generalizations tend to substitute for research-based analysis of these issues, and as to what can fruitfully be done about them.

3. Recommendations

Recommendation 1

A Ministry can be enormously strengthened by a functional research establishment that undertakes pertinent empirical and analytical work, as the basis for sound and up-to-date policy-making. The same cannot be said for a Ministry without any interest in the findings of policy-oriented studies, or a university institution bent on pursuing conventional academic research and publications, to the exclusion of addressing the policy issues facing GOM.

Recommendation 2

Any attempt to recreate APRU as an independent, academically based institution, doing research work that is relevant to government policy, must face the reasons for its past difficulties, including conflicting agendas, disagreement over scarce resources, and tenure within the university system.

Recommendation 3

If APRU were to be re-established, there are clearly good reasons why APRU appointees should not be College staff, or subject to College terms of employment. Their jobs must be, and be seen to be, the conduct of research activities aimed at addressing the policy issues facing Government. Their terms of service should be far more flexible than those of the University, permitting APRU to attract and retain the international caliber of professional staff required to perform its functions.

Any such cadre of professional staff would be enormously strengthened by an ongoing linkage with an interested external university (such as one of the US Land Grant institutions) or research establishment (such as IFPRI). Such an institutional link could provide critical assistance and interaction with APRU, developing longer run professional relationships, assisting with the definition and content of a pertinent research program, staff and professional development, and the interchange of staff. Such relationships pose familiar problems (such as providing additional channels for a brain drain), but they can enormously strengthen the ability to develop the professional capabilities of staff, and the quality and credibility of the research activities. Given Malawi's budgetary problems, there is virtually no chance that any of this will happen without significant outside funding. If USAID/M has the resources and intention to strengthen the analytical and policy analysis capability of MOAI, it may be that the most useful approach would be to have an appropriate person working within the Ministry, rather than in a separate unit.

4. Lessons Learned

- It is essential that any discussions relating to reviving APRU at Bunda should include all the interested parties, including both MOAI and the College authorities. Misunderstandings and conflicting perceptions regarding the roles of the various parties in the funding and management of APRU, and in the use of its personnel and services, were behind many of the earlier disagreements that finally paralyzed the initiative. If the Bunda facilities are to be refurbished and used, it is particularly important for the College

to be "brought on board", in terms of understanding APRU's task of undertaking independent, applied, and policy-oriented research for the Government.

- A second lesson is that experienced and professional staff, capable of undertaking research that is both credible and useful to senior government policy-makers, does not come cheap. In particular, they are unlikely to be recruited or retained at regular Bunda College terms of service. Graduate students and other less experienced research staff have a very important role, not least in terms of gaining experience and building up their research and professional skills. Nevertheless, APRU's credibility, and therefore its ability to contribute to the policy dialogue within Government, will depend heavily on the reputation and on the expertise of its staff.

- The final lesson is that it is relatively easy to build and equip buildings and facilities designed to house a desired institution. It is far harder to establish the functioning institution itself to make use of these facilities. Key components of such an institution may include: personnel, organizational relationships, incentives and productivity systems and the quality of the inter-linkages with its clientele. If these components are not there, the buildings may pass into other uses or, at worst, become empty shells.

G. GENDER, ETHNIC OR RACIAL DISCRIMINATION

1. Findings

One of the CPs included in Tranche 5 required the GOM to prepare a time-phased action plan for eliminating existing laws and administrative practices, which allowed discrimination based on gender or ethnic, tribal and/or racial background. As has often happened in a number of countries, the most successful entrepreneurs and traders turn out to be drawn from minority religious or ethnic groups. These groups often have strong and mutually supporting internal bonds, speak locally unknown languages, and have few social or family ties with the majority population. It is not uncommon for such groups to be widely mistrusted, even despised and hated, by the majority group among whom they live, with numerous stories typically circulating about their assumed untrustworthiness, their lifestyles, and their sources of wealth. It is also common for these minorities to be used as political targets to be blamed for ongoing economic woes, even by the people who freely patronize and even depend on their shops and services.

In Malawi, these immigrant trading groups are primarily Asians coming from the Indian subcontinent. Most of them came to the country in colonial times, primarily working as artisans or skilled laborers in the building trades, that then evolved into owners of farming estates, transportation networks, and the like. Many of these people and their families stayed in the country, creating multi-generational communities with those who shared ethnic or religious backgrounds. A number of them became citizens of Malawi, and increasingly lost touch with their countries of origin, often feeling quite alienated from them. Most of their contacts with local people were either as clients of their shops and businesses, or as employees. While many of these relationships were businesslike, mistrust, mutual typecasting, categorization, and outright antagonism were not uncommon.

Dating primarily from 1974 at the beginning of the Hastings Banda period, a series of discriminatory laws and regulations were introduced by the GOM. These measures were brought in specifically to exclude Asian shopkeepers, traders, transporters, and other business people from the rural areas, thereby, mandating their departure.

As a direct result of the above discriminatory measures, approximately 80 percent of these Asians reportedly left Malawi. Virtually all of the others migrated to the country's urban areas where, again, they used their commercial and trading skills, their contacts and support networks to develop a range of urban businesses and industries. For the most part, these people have done very well, frequently providing the entrepreneurship that has created large numbers of urban jobs.

In the meantime, the departure of these traders and business people from many thousands of rural communities has had a major impact on the availability of goods, and the various other services, that the Asians had been providing. The business experience, the financial resources, and the trading contacts and communication networks they had developed were not readily taken up, or even available to local people.

It is also likely that the extended family networks and obligations of indigenous local people, which are typically very powerful and present influences in their lives, have made it hard for them to accumulate the capital or, for example, to ensure that dependents and extended family

members do not share in the supplies, or in the savings of the individual who may be trying to start a business. Whatever the explanation, it has been hard to substitute for these Asian traders, and it is now commonly believed that their exodus has not improved rural welfare.

As a result of the above mentioned CP, an action plan was developed, and the discriminatory laws and regulations were finally eliminated with the new constitution (as per MOF/MOAI letter of October 18th, 1995). The immediate question arising is what happened as a result of the removal of the discrimination?

While it was hoped that the repeal of the discriminatory legislation and regulations would generate a reverse flow and re-establish, to some degree, the pre-existing situation, this has not happened. In part, as discussed above, the reason for this failure is that the people involved have generally created better lives for themselves elsewhere, and do not feel inclined to return to their former isolation and relative poverty. In part, there are also worries about the deteriorated security situation and the perceived increased incidence of extreme poverty, crime, and violence in these areas. There has even been discussion of trying to attract another inflow of foreign migrants, in the hope that they might fill the same niche, but these are primarily indications of the despair of policy-makers on the issue of recreating rural services and trade.

2. Conclusions

Rural people, and their production systems depend critically on a network of efficient, low cost traders and other intermediaries. Impairing or undermining such a network, and discriminating against the entrepreneurs who develop and manage it have turned out to be a serious disservice to rural communities, who find themselves less well supplied with marketing and business services.

The implication is that introducing such discrimination, while it may generate short-term political benefits, does not serve the longer-term interests of rural people, and may seriously exacerbate them. In addition, while such measures may have political appeal, they are offensive in terms of human rights.

Given the lack of willingness on the part of Asian and other non-ethnic Malawians to take up agricultural trading in remote rural areas, the 80 percent reduction in their numbers since 1974, and the 1994 Constitution prohibiting discrimination on the basis of gender, religion, or ethnic background -- this is no longer an issue and should be dropped from the Mission's portfolio of potential policy changes.

3. Recommendations

Recommendation 1

The role of efficient and entrepreneurial traders, transporters, and other commercial people doing business in the remote rural areas must be seen as a critical component of rural development. Roads and other communications and infrastructure services and investments are crucial mechanisms for reducing the costs of these operations, improving rural people's prices for their farm inputs, outputs and their consumption items.

Recommendation 2

Governments are generally not good at creating entrepreneurs, or even at training them. While certain bookkeeping skills and other educational components may help, entrepreneurs do not typically arise from the ranks of bookkeepers or accountants. A number of successful business people, and even those who end up putting major commercial and financial empires together, have typically learned and developed their key entrepreneurial abilities in the market place rather than in the classroom.

Recommendation 3

What can be said is that "a conducive environment" to entrepreneurship, and particularly one that is not tied up with excessive official procedures, licenses, and 'red tape', can facilitate the operations and the development of entrepreneurs. A tradition of government control, and of dependence on the operations, institutions and authorizing powers of government are likely to be a severe inhibition to such a development.

4. Lessons Learned

- Perhaps the most obvious lesson from the above experience is that it is easier for governments to dismantle a functioning trading system than to put it back together. A competitive marketing system depends not only on capable entrepreneurs, taking calculated risks, building up local business experience, skills, and contacts, but on assiduous saving and tightly managed financial assets. Governments and their official organizations are generally not good in these areas.

- It should be noted that one of the main imperatives for establishing state or parastatal marketing and trading agencies in Malawi, was to provide a substitute for the Asian traders. The familiar problem with such official agencies (discussed elsewhere) is that they lack the independence and the flexibility of individual traders. An additional problem is that these official agencies are not "cost-conscious" and have difficulty covering their costs. The result is that they typically build up very large debts, eventually calling on the Treasury to "bail them out." The clear lesson is that these agencies are not a good substitute for a network of individual traders. In addition, it is also possible to say that their relatively high costs, their management systems, and the typical condition of their equipment, suggest that they are not the right mechanism for the efficient transportation, purchase, and sale of agricultural commodities and inputs.

H. OVERALL SUMMARY AND DIRECTIONS FOR THE FUTURE

Having spent substantial resources on conventional investment projects, there is now a widespread recognition that even good projects do not do well in a bad policy environment. It is also recognized that successfully addressing policy problems may deliver far higher, more pervasive, and better-distributed benefits to an economy than conventional projects. It can also turn out that critical policy reforms can make conventional projects far more successful. An extension project, for example, is likely to be far better received, if the crop or technology being promoted is profitable to farmers. It is a short and obvious step from concluding that policy changes can deliver real economic benefits, to realizing that assisting with the instigation or implementation of reforms in key areas can be a legitimate investment, and one with high returns to the sector and the economy. That is the rationale for NPA.

It is hard to quantify the effects of policy reform, partly because of the difficulty of the "counterfactual," or as to what would have happened to the economy in the absence of this particular reform? A further complication is the difficulty of knowing what the policy regime would have been, and what adjustments might have occurred in the absence of a particular CP, and the NPA.

In evaluating the effects of reforms, it must also be recognized that these last years have been turbulent times in Malawi. Some of the macro and trade-related changes have had economy-wide price and other effects that would be naïve to ignore. In some cases these events have clearly swamped or dominated the effects of even the best NPA-related reforms, some to reinforce the changes, others to work in the opposite direction. An obvious example would be the major devaluation of the MKwacha. While this process has provided a price boost to local producers (to the extent that the devaluation was transmitted to them through the price system), it has also resulted in equally large increases in the prices of imported inputs, such as fertilizer. The question as to why Malawi is not better off than it is after all these reforms, should be reformulated to asking whether the country is better off than it would have been had the reforms not happened.

In evaluating NPA, three questions arise:

- Did the NPA conditions lead to the specified policy reforms? Related questions include whether these reforms were initiated or reinforced by the CPs, and to what extent were they incorporated into the thinking and internal processes of the GOM.
- Did the policy reforms lead to increased agricultural productivity, increased farm incomes, and increased employment?
- What lessons arise from the ASAP NPA for future NPA activities by USAID/M?

With regard to the first of these questions, the predictable answer is "it has been mixed." Some reforms, such as opening up tobacco markets, radically changed the distribution of incomes in favor of smallholder farmers in the sector. As such it appealed to powerful domestic constituencies and groups who defended and proceeded with the reforms, and who pushed for subsequent adjustments and corrections as problems arose.

Other liberalization measures, equally appropriate and correct in their initiation, fell victim to a lack of commitment, understanding or support from key constituencies. Especially in cases

involving the removal of subsidies, there were predictable outcries from those who had grown used to, and felt entitled to the subsidies, and they often created successful political pressures to maintain them. While these subsidies were typically inequitable in their distribution, they also generated severe budgetary problems. It is well known that the Treasury, especially in its efforts to balance the budget, frequently lacked either the political influence or the power it needed.

Regarding the second question, it seems likely that the answer is affirmative. Even though the country's principal exports have been subject to seriously adverse price movements, it is highly likely that the reforms increased efficiency right through the marketing system, providing a better deal to farmers. Measurements of productivity, incomes, and employment in the sector are beyond the capacity of this exercise, but it would be very surprising if the effects were other than positive.

The third question of the lessons arising from the ASAP NPA is the focus for this section of the report. A very significant advantage of establishing open markets for price determination is that it serves to remove prices and markets from the political arena, providing governments with some protection from the pressure to use prices for short-term political ends. This protection, if it is used, offers a major improvement in the political economy of countries such as Malawi

1. Land Rights; a Specific Intervention

In terms of possible future NPA activities, a critical area in Malawi, as in a number of the countries of the region, is that of land rights. Without clear, agreed and secure boundaries for individual farmers, offering both long-term (including intergenerational) security and the right to engage in the complete range of land transactions, the incentive for farmers to invest in and develop their farms is impaired to the point of non-existence. Without such incentives, even the most basic investment measures required to protect farmland from degradation, are not undertaken, let alone the multiple investments required to generate greater returns from the land. In the absence of very basic and widely implemented reforms in this area, it is unlikely that the necessary productivity increases will occur in Malawi's smallholder agriculture. With such reforms, extensive changes, including the accumulation of on-farm capital, is likely to have profound positive effects on rural investments, income and welfare.

For many years, whatever have been the reforms to the rights of landholders, these have focused on urban areas. The problem of rural land rights has been regarded as too embedded in traditional culture, and too tightly controlled by traditional authorities for the treatment of outsiders, or even by the GOM. The evaluation team believes that this issue is absolutely fundamental for the most basic, and arguably the most consequential of reforms in the sector, and recommends that it become part of any further policy dialogue between the Mission and the GOM.

ANNEXES

ANNEX A
PROJECT IMPLEMENTATION LETTER MATRIX

PIL #	Date	Admin.	Prog.	Description/Conditions and Covenants	Amount US$/MK	CP Compliance
Program Grant Agreement Signed 9/30/91						
1	No Date	X	X	Conditionality for disbursement of Tranche One a. Describes program management; the establishment of a Program Management Committee (PMC) and a Program Implementation Committee (PIC) b. Designation of Representatives from GOM. c. Legal Opinion. d. Establishment of a Special Local Currency Account and a Special Dollar Account e. Design of a system for the registration of smallholder burley producers. f. Official allocation of 3.5 million kg. of burley tobacco quota to smallholder with an emphasis on women. g. Design of a credit plan for smallholders. h. Design of a Second Payment Plan to smallholders for the 1990-91 season. i. Design of a Fertilizer Plan for smallholders for the 1991-92 season.	First Tranche US$ 4.0 million	
2	1/6/92	X		a. Extension of Terminal Date by one month.		
3	2/19/92	X		a. Reiterates the need to establish the Special Local Currency Account and the Special Dollar Account.		
4	3/5/92	X	X	a. First Tranche approved with reservations; lacking information on credit and the establishment of local currency and dollar accounts.	US$ 4.0 million	Partial Compliance
5	3/20/92	X		a. Procedures for the monitoring, accounting, and reporting of the Special Dollar Account.		

PIL #	Date	Admin.	Prog.	Description/Conditions and Covenants	Amount US$/MK	CP Compliance
Program Grant Agreement Signed 9/30/91						
6	4/2/92		X	Conditionality for the disbursement of Tranche Two a. Individual Production Quota Certificates. b. Estate Purchase of Smallholder Burley Tobacco. c. Market Price Information. . Posting the Terms and Conditions for Tenants and Laborers. . Environmental Impact Monitoring Plan . Implementation Schedules for Studies. i. Crop Diversification Opportunities and Constraints ii. Smallholder Access to Credit, Seeds, Fertilizer, and Alternative Marketing Channels iii. Expanded Private Sector Maize Marketing iv. Improved Extension Services to Smallholders v. Tenant Burley Pricing Structures vi. Legislative and Administrative Barriers to Smallholder Crop Production and Marketing	US$ 6.0 million	
7	5/27/92	X		. Request that the GOM deposit the equivalent of US$ 4.0 million into the Special Local Currency Account		
8	11/27/92		X	. Authorizes the withdrawal of local currency funds for: i. Seed Multiplication ii. Budgetary Support iii. Smallholder Burley Extension Services and Credit iv. Price Monitoring v. Computer Training vi. Food and Nutrition Monitoring	MK 12,465,549	
9	2/11/93		X	. Authorizes the withdrawal of local currency funds for: i. Department for Research and Environmental Affairs (DREA) operational budget.	MK 115,000	
10a	7/14/93		X	. Authorizes the withdrawal of local currency funds for: i. Food Security and Nutrition Unit (FSNU) of the Department of	MK 147,000	

PIL #	Date	Admin.	Prog.	Description/Conditions and Covenants	Amount US$/MK	CP Compliance
Program Grant Agreement Signed 9/30/91						
				Economic Planning and Development (EP&D) in the Office of President and Cabinet		
10b	8/10/93		X	a. Second Tranche Disbursement Approved based on compliance with PIL 6 conditionality.	$ 6.0 million	Total Compliance (Although all of the studies were not completed.)
11	12/8/93		X	Conditionality for the Disbursement of Tranche Three a. Adjusts the Studies established for the Second Tranche based on 3/93 Evaluation b. Establishes the Conditions Precedent for Tranche Three i. Smallholder Burley Registration System to become Permanent ii. Allocation of Seven Million KG. of Burley Tobacco to Smallholders in the 1992/93 season. iii. Multiple Burley Tobacco Seed Sources for Smallholder Burley Growers. iv. Sale of Smallholder Burley to Licensed Marketing Agents Including Estates. v. Evaluation of Smallholder Burley Program. vi. Evaluation of Pricing Tenants' Burley Production. vii. Adjudication Procedures for Estate Tenants and Laborers viii. Market Price Information System ix. Action Plans Developed from Specific ASAP Studies.	US$ 10.0 million	
12a	12/3/93		X	a. Authorizes the withdrawal of local currency funds for: i. Smallholder Burley Program ii. Price Monitoring iii. Crop Estimates Methodology iv. Agro-forestry	MK 20.0 million	

PIL #	Date	Admin.	Prog.	Description/Conditions and Covenants	Amount US$/MK	CP Compliance
Program Grant Agreement Signed 9/30/91						
				v. Contingency		
12b	4/26/94		X	a. Authorizes the withdrawal of local currency funds for: i. Bunda College library expansion, hostel construction, external works, and furniture and equipment		
13	6/9/94		X	a. Authorizes the withdrawal of local currency funds for: i. Department of Research and Environmental Affairs (DREA)	MK 2,700,310	
PAAD Amended September 1994						
14	10/6/94		X	a. Third Tranche Disbursement Approved based on meeting the Conditionality set out in PIL 11.	US$ 10.0 million	Total Compliance
15	2/13/95	X		a. Concurs that the US$ 20.0 million deposited in the Special Dollar Account was used for the specified purposes and in the specified manner. b. Notes that the use of a Special Dollar Account was only for the first three tranches and would not be required for subsequent tranches.		
16	2/15/95		X	a. Authorizes a withdrawal from the Special Local Currency Account for Ministry of Agriculture and Livestock Development for general budgetary support.	MK 20,540,140	
17	3/9/95	X	X	Conditionality for Disbursement under Tranche Four a. Legal Opinion b. Delegation of Representatives c. Letter of Intent d. Tobacco i. Deregulation of smallholder tobacco prices ii. Public announcement that smallholders have direct access to all legal marketing channels. e. Establishment of an Economic Policy Support Unit at Bunda College. f. The GOM has increased maize producer prices to at/near export parity prices for 1994/95 crop year.	US$ 5.0 million	

PIL #	Date	Admin.	Prog.	Description/Conditions and Covenants	Amount US$/MK	CP Compliance
Program Grant Agreement Signed 9/30/91						
				g. The GOM has established, authorized, and published a procedure whereby private traders may purchase GOM non-buffer fertilizer stocks held by the Smallholder Fertilizer Revolving Fund of Malawi		
18	3/9/95		X	a. Fourth Tranche Disbursement Approved based on meeting the Conditionality established in PIL 17	US$ 5.0 million	
19	5/9/95	X		a. Acknowledges an error made by GOM in its request detailed in PIL 16.		
20	10/6/95		X	a. Authorizes the withdrawal of funds from the Local Currency Special account for replenishment of the Strategic Grain Reserve.	MK 40.0 million	
21	11/15/95		X	Conditionality for the Disbursement of Tranche Five a. The GOM to eliminate all fiscal seed subsidies. b. Development of the terms of reference for a seed import liberalization study. c. The GOM to eliminate all fiscal fertilizer subsidies. d. The GOM to complete a time-phased action plan for eliminating existing laws and administrative practices that allow discrimination on the basis of gender or ethnic, tribal, and/or racial background. e. The GOM has completed an analysis of ADMARC's pan-territorial and pan-seasonal input pricing policies with the intent of eliminating these policies. f. The GOM has completed an overview of all statutory bodies, trusts, parastatals, and government sponsored organizations operating in the agricultural sector. g. The GOM has liberalized the producer and consumer pricing by i.) releasing ADMARC from pan-territorial and pan-seasonal consumer and producer pricing obligations for all crops except maize, ii.) completing the terms of reference for developing a model for stabilizing maize prices based on price band analysis or an alternative system, and iii.) ensuring that ADMARC operates as a fee paying intermediate buyer of burley tobacco.	US$ 10.0 million	

PIL #	Date	Admin.	Prog.	Description/Conditions and Covenants	Amount US$/MK	CP Compliance
Program Grant Agreement Signed 9/30/91						
				h. The GOM has improved the efficiency of the burley tobacco quota system by: i.) assessing the feasibility of transferring quota allocation and administrative responsibility from the MOA to the Tobacco Control Commission, ii.) developing the terms of reference for a computerized, performance-based quota allocation scheme based on performance criteria, and iii.) ensuring that the marketing quotas under the intermediate buyers program continue to be additive to the national total production quota and not subject to a maximum ceiling. i.) The GOM has completed the terms of reference for assessing the policy and procedures which permit ADMARC to sell, rent, and/or lease its retail facilities. j.) The GOM has allocated sufficient financial and staff resources to effectively and efficiently implement agreed upon environmental monitoring and mitigating agro-forestry activities. k.) The GOM has prepared a Letter of Intent concerning the activities/actions to be included in Tranche Six. l.) The GOM has complied with the above mentioned conditions precedent and authorization is granted for the disbursement of Tranche Five funding.		
22	No Date	X		Reauthorizes the availability of unused authorized funds from PILs 8 and 12.	MK 2,096,400	
23	8/27/96			a. Authorizes the withdrawal of funds from the Local Currency Special Account to pay for purchases of maize for the Strategic Grain Reserve.	MK 55.0 million	
24	8/31/99		X	a. Authorizes the withdrawal of funds from the Local Currency Special account for the purchase of computers for the Debt and Aid ~~Management~~ Unit of the Ministry of Finance.	MK 462,000	
25	6/12/02		X	<u>Conditionality for the Disbursement of Tranche Six</u> a. Liberalizing Input Markets i.) Grantee has completed the seed liberalization study initiated under Tranche Six, and the results have been incorporated into revised, authorized, and publicly announced seed import policies and regulations.	US$ 7.0 million	

PIL #	Date	Admin.	Prog.	Description/Conditions and Covenants	Amount US$/MK	CP Compliance
Program Grant Agreement Signed 9/30/91						
				ii.) Grantee has established and publicly announced a procedure whereby private importers and/or private traders are allowed to buy and/or replace GOM fertilizer buffer stocks. iii.) Grantee is implementing recommendations regarding ADMARC's pan-territorial and pan-seasonal input pricing policies in accordance with mutually agreed upon action-plan recommendations developed under Tranche Five. iv.) Grantee has analyzed the constraints to efficient and affordable rural freight and transport services and has prepared a time-phased action plan to address identified constraints. b. Expanded Market Competitiveness i. Grantee has eliminated the exclusive marketing arrangement of ADMARC and all limitations on private sector buying and selling of smallholder produced commodities. ii.) Grantee continues the process of producer and consumer price liberalization by: completing the model for stabilizing of maize prices established under Tranche Five, and established an open tendering system for supplying maize to, and removing maize from, the Strategic Grain Reserve. iii.) Grantee is implementing the scheduled action plan activities prepared under Tranche Five concerning policies and procedures for ADMARC selling, leasing, and renting its retail facilities. iv.) Grantee has implemented and publicly announced a national business license system to replace the current system requiring that trading practices be approved in each ADD where trading activities take place. v.) Grantee has removed all agricultural commodities except maize from the negative list for import/export licensing requirement effectively lifting the export bans on all non-maize crops. vi.) Grantee has replaced the duty drawback system with a duty reduction		

PIL #	Date	Admin.	Prog.	Description/Conditions and Covenants	Amount US$/MK	CP Compliance
Program Grant Agreement Signed 9/30/91						
				system for the import of agricultural and agribusiness inputs. vii.) Grantee has implemented and publicly announced a national import/export licensing system which eliminates the requirement for prior approval by the MOA of import/export licenses for agricultural produce, and which provides appeal procedures for licenses that are denied or rescinded. viii.) Grantee has reviewed the role of smallholder credit and marketing clubs in developing a sustainable base for rural economic growth and has developed a policy on the future institutional framework in which such clubs are to function. ix.) Provided a copy of line item budget of financial resources committed by the GOM for ASAP program activities detailed in Tranche Five disbursement letter of intent for the 1996/97 fiscal year for expenses related to Tranche Six. c. The GOM has complied with the above mentioned conditions precedent for disbursement of Tranche Six funds.		

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ANNEX B
LIST OF PERSONS/ORGANIZATIONS CONTACTED

Agricultural Development and Marketing Corporation
- Evans Chipala, Director
- Namwira Chikonde, Manager Lizulu Store

Bunda College of Agriculture
- Evans Khaila, Director of APRU
- Davis Ng'ong'ola, Former Director APRU

CARE International
- Nick Osborne, Country Director
- Sophie Chitedze, Project Manager
- Sylvester Kilonge, Food Security Coordinator

CLUSA/NCBA (Zambia)
- Cecilia Polanski

Evangelical Baptist Church of Malawi (EBCM)
- Richard Lister, Country Director
- Paul Jones, Program Manager
- Charles Mukiwa, Manager IFA Roads Program

Farmers' World Ltd.
- Christos Giannakis, Managing Director
- Dimitri Giannakis, Director

FEWS NET
- Sam Chimwaza, Representative
- Evance Chapasuka, Assistant Representative
- Joan Chalira, Administrative Assistant

Grain and Milling Company
- John Ndasauka, Production Manager

ICRISAT
- Allen Chiyembykeza, ICRISAT Coordinator

IFDC
- Amit H Roy, President and Chief Executive Officer
- Hereshel Weeks, Project Manager

International Institute of Tropical Agriculture
- France Gondwe, Agricultural Economist
- Nzola M. Mahungu, SARRNET Coordinator
- Albert Mkone, Post Harvest Specialist
- Costa Mwale, Agronomist
- Vito S. Sandifolo, Research Scientist

Land O' Lakes, Inc.
- Austin Ngwira, Country Coordinator
- Alick Nkhoma, Business Development Specialist
- Roy H Thomson, Manager, Monitoring, Evaluation &Administration
- Prof. E Chibambo, Owner Northern Dairies
- Taiwan Chiyombo, Field Agent
- Zizwani Nyirongo, Field Agent
- Helpless Mbale, Field Agent
- Jeff Msosa, Field Agent

Malawi Agricultural Sector Investment Program
- Ian Kumwenda, National Coordinator

Malawi Export Promotion Council
- L.M. Chaluluka, Managing Director
- W.O. Bapu, Board Member

Malawi Union of Savings and Credit Cooperatives, Ltd.
- Sylvester Kadzola, Chief Executive
- Robert F Mbeza, Business Development Manager
- Jonathan Zainga, Financial Services Coordinator Central

Dedza Teachers SACCO
- Happiness Gomagoma, Senior Bookkeeper
- Lonely Chikoti, Office Assistant
- Herbert Chisemphere, Bookkeeper

Ntcheu SACCO
- Richard Maliro, Chairman
- Matthews Elia, Senior Bookkeeper.

Mchinji Smallholder Farmers' Association (MASFA)
- Judith Harry, Chairperson
- Emphraim Kachola ViceChairperson
- Rosemary Dadziche, Treasurer
- Feliz Sichali, General Manager
- Vincent Mzembe, Crop Production and Marketing Manager

Ministry of Agriculture and Irrigation
- Compton Chavula, Director of Crops
- Zangophi Chicosi, Personal Assistant to the Minister
- Ellard S. Malindi, Chief Technical Advisor
- Charles Mataya, Chief Planning Officer
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ANNEX C

DELIVERY ORDER SCOPE OF WORK: STRATEGIC OBJECTIVE 1: "INCREASED AGRICULTURAL INCOMES ON A PER CAPITA BASIS"

I. TITLE

USAID/Malawi's evaluation of Strategic Objective One "Increased Agricultural Incomes on a Per Capita Basis" – 1993 to 2001.

II. OVERALL PURPOSE

To assess the impact of and lessons learned from the group of activities that formed USAID/Malawi's Strategic Objective One (SO1): "Increased Agricultural Incomes on a Per Capita Basis". Building on the March 1993 Mid-Term Evaluation, the team will:

(a) Assess the development impact of activities comprising Strategic Objective One (SO1) as stated in initial goals and objectives;
(b) Assess the success of Non-Project Assistance (NPA) activities on Government of Malawi's (GOM's) policy reform efforts; and
(c) Identify design and implementation strengths and weaknesses and lessons learned for future activities of this nature.

The team's assessment will guide the Mission's decision in reviewing and implementing new activities for the period 2001 to 2006.

III. BACKGROUND

The Agricultural Sector Assistance Program (ASAP) was authorized on September 26, 1991, with a total funding level of $30 million ($20 million Non-Project Assistance (NPA) and $10 million Project Assistance (PA) for three years. Following the March 1993 mid-term evaluation, ASAP I was amended in September 1994 (creating ASAP II), extending the date of program completion by four years, to September 30, 1998. This amendment increased authorized levels on NPA and PA funding by $35 million and $5 million to a new total of $55 million and $15 million respectively. Further amendments extended the date of program completion to September 30, 2003 and increased the life-of-project funding to approximately $46 million for PA.

The goals of ASAP were to increase agricultural productivity, employment, and incomes of the Malawian people. Specific objectives were to increase smallholder access to agricultural inputs, output markets, cash crop production alternatives and labor market information. The long-term impacts of ASAP were liberalized agricultural economy with equal access to the means of production, and no barriers to market entry or other practices that are biased for or against any category of farmer.

IV. STATEMENT OF WORK

In conducting the evaluation, the selected contractor will analyze both the NPA and the PA components. The NPA focused on policy reform efforts while the PA provided implementation support through several program activities.

A. ASAP PA ACTIVITIES

Under the ASAP PA, the team shall:

- Assess and quantify achievements of stated objectives for specific ASAP activities. To what extent were the planned objectives achieved?
- Draw lessons learned for future USAID programs. What are the lessons learned from each activity? How can they be applied in USAID's future activities?

Below is a brief description of activities and the specific objectives to be assessed for each activity.

1. Small Agribusiness Development Project: Key to ASAP I and ASAP II was the $11.5 million Small Agribusiness Development Project (SADP) which started in 1995. The goal of SADP was to increase Malawi's sustainable economic growth through expanded participation of smallholders in the national economy. Its purpose was the development of economically viable business entities through which smallholders could realize increasing returns and contribute to economic development through group action.

The activity was implemented under a cooperative agreement with ACDI/VOCA. In the past two years, USAID/Malawi and ACDI/VOCA have worked together to phase out SADP and position in the forefront the National Smallholder Farmers' Association of Malawi (NASFAM). NASFAM represents and furthers economic and political interests of a large number of smallholder memberships, operating without direct subsidy. Both ACDI/VOCA and NASFAM sought to achieve six basic objectives.

√ Improve the business and financial management skills of smallholder clubs;
√ Facilitate smallholder empowerment through improved information and awareness;
√ Strengthen business links between smallholder clubs and market service providers;
√ Improve the participation of women in smallholder clubs;
√ Promote crop development and diversification initiatives among smallholders; and
√ Promote environmental practices of smallholders.

2. Malawi Dairy Business Development Program: This is a $2.6 million program implemented by Land O' Lakes. The goal of the program is to stimulate the development of a commercially viable dairy sector that will result in significant increases in rural incomes, employment opportunities, and overall performance of businesses that contribute to Malawi Gross National Product (GNP). The purpose of the project is to facilitate improvements in the dairy sector resulting in efficient milk production which then flows through local processing plants generating cost-effective, quality dairy products to meet consumer demand. Through training, a focus group of small, medium and large clients was to be introduced to a menu of organizational structures that best fit their needs to better collect and maintain quality raw milk from the farm and include it into the value-added process. Another critical component of the

activity was the expansion of industry support services including the transfer of technology and better business practices to support cooperatives and societies. Specific objectives included:

- √ Development of efficient milk producer organizations – 3 milk producer groups registered and functioning as cooperatives;
- √ Innovative dairy processing and marketing – 2 dairy operating businesses improved their operating and management procedures, increasing profit margins by 10 percent; and
- √ Expansion of industry support services -- establish 5 in-house extension services for dairy production and 5 in-house artificial insemination units;

3. MUSCCO Financial and Field Support Activity: This activity had two components: the $626,000 technical assistance component implemented by the Barents Group and a $550,000 direct cooperative agreement with the Malawi Union of Savings and Credit Cooperatives (MUSCCO). The overall goal of the activity was to increase agricultural incomes through increased delivery of efficient financial services to the rural population by MUSCCO and its affiliated Savings and Credit Cooperatives (SACCOs). The purpose was to improve MUSCCO's institutional framework through its financial management systems, strategic planning, participation in national financial dialogue and self performance and monitoring systems. Barents Group provided technical assistance.

MUSCCO strategy to expand membership mobilization was to be achieved through awareness campaigns using radio announcements, drama, and posters. In addition, MUSCCO was to provide financial services to selected NASFAM sites. A training component was included in the activity to promote empowerment of SACCOs.
Specific objectives included:

- √ Improving MUSCCO's financial management -- a detailed review of the existing systems and an action plan to make improvements, development of user friendly financial reports for programmatic decision-making;
- √ Improving financial self-sufficiency for the Central Finance Facility (CFF) and MUSCCO operations -- analyze CFF's administrative cost recovery, review asset reinvestment, review share capital policy and prepare action plan for CFF's financial self-sufficiency,
- √ Expanding and strengthening rural SACCOs -- develop tactics to alter the current vision that SACCOs are for savings and loans only and introduce insurance products for members and member SACCOs; and
- √ Expanding savings mobilization in rural areas by strengthening existing rural SACCOs and helping to establish new rural SACCO by using awareness campaigns, radio messages, publications and promotional materials, and collaboration with other USAID activities under NASFAM.

4. Central Regional Livelihood Security Program: This pilot activity is implemented by CARE with a life of project funding of $1.3 million. The overall goal of the program is to improve the livelihood and food security of rural households. Four underlying issues contribute to the problems of food and livelihood in Malawi. These include weak community and farmer organizations, low agricultural productivity and poor yield, weak productive infrastructure (water catchment structures, water points, roads), and limited income earning opportunities. The program's intermediate objectives were to improve the food and livelihood security of 10,000 rural households through:

- √ Strengthening community institutional decision making and outreach capacity through formation of community based organizations (CBOs), i.e., training community facilitators, leadership development etc;
- √ Raising agricultural productivity through farmer access to improved seed varieties, promotion of organic fertilizers and green manure, crop diversification into legumes, roots and tubers and soil and water conservation;
- √ Improving water availability and utilization by increasing cultivation in the dambo (wetlands) areas and constructing water harvesting structures; and
- √ Increasing income opportunities and earnings through promotion of savings and loan groups, linking village groups to markets and promotion of non-agricultural income generating activities.

5. Famine Early Warning System Network (FEWS NET) Malawi:
FEWS NET Malawi is a buy-in support activity by the Mission. The goal is to create more useful and sustainable information systems that facilitate finding solutions to food insecurity problems in Malawi. Information collected is related to crop and livestock production, market structure, prices, nutrition and meteorological data and other necessary data. FEWS NET Malawi's objectives are:

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

6. Groundnut and Peas Multiplication: This is a $382,334 activity implemented by ICRISAT under a grant agreement. The goal is to enhance groundnut and pigeonpea productivity for household food security, nutrition, and poverty alleviation. The purpose is to provide a sustainable seed production system for breeder, basic and certified seed and supporting technologies. ICRISAT sells basic seed to NGOs and other institutions to multiply and produce commercially certified seeds. Funds obtained from these sales are ploughed back into a Revolving Fund. Specific objectives include:

- √ Providing high quality breeder seed and basic seed of high-yielding, disease resistant groundnut and pigeonpea to various stakeholders in Malawi;
- √ Increasing awareness of the value of improved varieties in enhancing the production of groundnut and pigeonpea among smallholder and commercial farmers through on-farm demonstrations;
- √ Strengthening the capacity of the Department of Research and Technical Services (DARTS), the Department of Extension and relevant NGOs in transferring groundnut and pigeonpea production technologies through short-term training courses; and
- √ Establishing a sustainable Revolving Funds from sales of basic seeds.

6. Cassava and Sweet Potato Multiplication: Currently, this is a "drought mitigation effort" activity implemented by the Southern Africa Root Crops Research Network (SARRNET). Its goal is to improve food security and nutrition both at national and household levels. The purpose is to increase the supply of improved, pathogen-free cassava and sweet potato planting materials and make them more readily and widely available to smallholders.

An impact study of the activity was carried out in July-August, 2000. The activity came to completion in May 2001. At issue is to change the focus of the activity from "food security" to fit into the "increased rural income" strategy. A follow-on proposal to commercialize cassava has been prepared. Specifically, the objectives are:

- √ Carrying out on-farm testing of elite cassava and sweet potato clones;
- √ Maintaining the existing 3 selected multiplication sites and expands to about 30 secondary sites;
- √ Introducing prototype cassava processing machines and training local artisans to fabricate machines locally – 10 focal processing centers in all the three regions;
- √ Disseminating the processing technologies and foster rural entrepreurship; and
- √ Providing training 400 farm assistants and technical support to 800 farmers in the cassava and sweet potato traditional and non-traditional areas;

8. Fertilizer for Work Program: This is a $744,900 voucher-for-work program to Evangelical Baptist Church of Malawi and Emmanuel International aimed at reducing acute food insecurity among the vulnerable families in Machinga and Balaka districts. The activity started in May 2001. This is the first year of implementation. Specific objectives include:

- √ Assisting vulnerable households increase food production without crating dependency or sacrificing dignity;
- √ Training committee members on the management of a self-help activity, i.e. correct methods of road construction and maintenance, record keeping etc;
- √ Increasing knowledge related to proper application of fertilizers, alternative fertilization, agroforestry, nutrition, gender sensitization and aids education;
- √ Improving access to health facilities resulting in improved services provided to and by the center; and
- √ Reducing in part, the time, energy and expense of transporting local products to trade centers as a direct result upgraded road conditions.

B. ASAP NPA

NPA policy reforms under ASAP I aimed at liberalization of smalholder agriculture. Four themes were addressed. These included:

Theme One: Production and marketing of crops – aimed at the revision of policies and regulations, and establishment of necessary mechanisms to permit smallholders to grow any cash crop and to market those crops through a variety of marketing channels.

Theme Two: Efficiency of input delivery – aimed at increasing access to and utilization of agricultural inputs by removing constraints to private sector participation in their supply and distribution, and by improving or developing modalities of technical information dissemination.

Theme Three: Equity in the agricultural sector – aimed at promoting improved conditions for tenants and agricultural laborers, both for their own welfare and to encourage improvements to their productivity.

Theme Four: Crop diversification – aimed at identifying appropriate diversification opportunities for Malawi, legal/administrative/policy constraints to profitable diversification, and technical constraints to successful diversification.

In March 1993, a Mid-Term Evaluation was conducted. The Evaluation concluded that while ASAP I had contributed in a measurable way to the achievement of the goal and the purpose of the program, constraints remained to further liberalization of the smallholder agricultural sector. These constraints included: distortions in input markets; continued lack of competitive trading opportunities; and restrictive government regulations and administrative practices which impede rural market development. As a result, ASAP II was created – expanding the NPA component to achieve further policy and institutional changes. The previous four themes were collapsed into two major themes.

Theme One: Increased equity and efficiency in the smallholder sector through liberalizing input markets – aimed at removing constraints to private sector participation in input supply and distribution, including the removal of subsidies, and

Theme Two: Increased equity and efficiency in the smallholder sector through expanding market competitiveness and institutional reform. Theme Two policy reform actions were divided into four groups.

(i) *Tobacco sub sector* - activities focused on eliminating Agricultural Development Marketing Corporation's (ADMARC's) exclusive tobacco marketing arrangements and strengthening private smallholder marketing and credit clubs;

(ii) *Consumer and producer price liberalization* – focused on a set of activities relating to improving the system for stabilizing maize prices and eliminating all limitations on private sector buying and selling of smallholder produced commodities;

(iii) *Government owned/sponsored agricultural organization reform* – emphasized on the review of the role of statutory bodies, government trusts, parastatal and government sponsored farmer organizations on the performance of the smallholder agriculture sector; and

(iv) *Rural market development* – aimed at broad actions relating to rural market development and agricultural investment.

Broadly, the team shall:

(a) Assess progress toward achieving ASAP II NPA policy changes as negotiated in conditionality agreement. Did the conditions present lead to policy reforms?

(b) Assess whether USAID supported policy reform had a broader impact on agricultural productivity, incomes and employment. Did policy reforms lead to increased productivity, incomes and employment?

(c) What are the lessons learned in ASAP NPA? What lessons should be incorporated in USAID's future NPA activities?

Under specific themes, the team shall:

Theme One: Assess the progress toward increased equity and efficiency in the smallholder sector through liberalizing input markets: To what extent is the participation of the private sector in the importation and distribution of inputs? How has the adequacy and timeliness of the provision of inputs improved?

Theme Two: Assess the progress toward increasing equity and efficiency in the smallholder sector through expanding market competitiveness and institution reform:

- √ Consumer and producer price liberalization: To what extent does a more liberalized output marketing system exist? Is the Strategic Grain Reserve being operated on the intended guidelines? What remains as the role of ADMARC in pricing and marketing of smallholder produce? Currently, does ADMARC play a positive role in the market? To what extent has price liberalization expanded or reduced price volatility and overall producer price levels?

- √ Government owned/sponsored agricultural organization reform: Assess the extent to that the government has devolved ownership of the different agricultural parastatals. What lessons have been learnt? What critical issues need to be addressed?

- √ Rural market development: What organizational structures, procedures and systems constrained successful rural market development? What worked and what didn't work? What recommendations could be made for USAID/Malawi and GOM's attention?

V. METHODOLOGY

In March 1993, a mid-term evaluation of ASAP I was conducted. The evaluation concluded that while ASAP I had contributed in a measurable way to the achievement of the goal and purpose, constraints remained to further liberalization of the smallholder agriculture sector. These constraints included: distortions in input markets; continued lack of competitive trading opportunities; and restrictive government regulations and administrative practices that impeded rural market development. This evaluation will largely build on the previous. The SO6 Private Sector Specialist and the Monitoring and Evaluation Specialist in the Program Development and Analysis (PDA) Office will provide the necessary guidance.

The SO6 Private Sector Specialist will arrange briefing at various times during the period of the assessment with relevant officials from the Mission, the Ministry of Agriculture and Irrigation, donors and other key stakeholders. A meeting will be arranged at the beginning to discuss the approach to the evaluation, agree on the draft outline and any other critical issues. At the end of the evaluation, a debriefing meeting with all stakeholders will be arranged to discuss the draft report before finalizing.

The SO6 Private Sector Specialist will make available all relevant documents for review. These will include activity designs, studies, reports, publications and any other documents deemed relevant for the exercise. USAID Malawi will provide relevant documents for review.

Based on the initial meeting with the Mission and other stakeholders, the evaluation team will make a determination of the field visits that will need to be conducted to supplement the reviews literature. The SO6 Private Sector Specialist will arrange visits to the selected sites.

VI. TEAM COMPOSITION

Team Leader (8 weeks): Should have a *minimum* of Master of Science (MSc) degree with a strong background in agribusiness. He/she should have 10 years or more experience in agricultural policy-related and agribusiness evaluations. He/she should have excellent writing skills. Preferred is an individual who has had prior experience with the design, implementation and/or evaluation of programs which have focused on the expansion of smallholder agriculture. The Team Leader will be responsible for the management of the evaluation team, the preparations and presentation of draft and final reports, and for other specific tasks during the evaluation.

Agricultural Economist (7 weeks): Should have a minimum of Master of Science degree in Agricultural Economics with some background in financial management. He/she should have a 10 years or more experience. He/she will be responsible for the assessment of the different agricultural systems developed under the program and make some recommendations. He/she will comment on the overall design and implementation of the program. Specifically, he/she will evaluate Central Region Livelihood Security Program, (CARE), Cassava and Sweet Potato Multiplication (SARRNET), Groundnut and Pigeon Pea Multiplication (ICRISAT) and Famine Early Warning System Network (FEWS NET) Malawi activities.

Agribusiness/Marketing Specialist (7 weeks): Must have an advanced degree in agribusiness-related area with a bias in agricultural finance. He/she should have 5 years or more experience. He/she should be familiar with operations of agricultural enterprises, groups and cooperative-like associations. He/she will be responsible for assessing organizational structures as well as financial strengths and weaknesses of the enterprises, groups and associations. He/she will focus on Small Agribusiness Development Project (ACDI/VOCA/NASFAM), Malawi Dairy Business Development Program (Land O' Lakes), MUSCCO Financial and Field Support Activity (BARENTS/MUSCCO) and Fertilizer for Work Program (Evangelical Baptist Church of Malawi and Emmanuel International).

Agriculture Policy Specialist (7 weeks): An advanced degree in social science with a strong emphasis on agricultural policy. Preferred is an individual who has worked on programs or evaluations which have had as a focus policy reform concerning the expansion of development benefits to large, poorer sectors of a country's population. He/she will analyze ASAP NPA issues concerning program-related policy definition and change, political will, and program participant impact (winner and loser analysis).

During the period and to accomplish the objectives of the evaluation, the Team Leader is free to re-assign responsibilities of team members depending on skills and workload.

VII. REPORTS AND DELIVERABLES

By the end of the first week, the team in collaboration with the SO6 SEG Team will have developed a report format to include all topics to be addressed in the final report. The team will submit to USAID/Malawi and selected partners an interim draft written report, addressing all of the elements identified above, one week prior to the team members departing the country. By end of week seven, six copies of a final draft report will be prepared and submitted to the Mission. The report will be discussed by the SO6 Team, the PDA Office, other senior USAID/Malawi staff, GOM and other key stakeholders before the team departs. The team leader for the evaluation team is authorized one additional week to complete the final report at the headquarters. The team will submit 10 copies of the final report to USAID/Malawi Mission at

the end of week seven. In addition, the team will submit to USAID/Malawi the final evaluation on a 3.5 inch diskette, formatted in Microsoft Word 97.

VIII. RELATIONSHIP AND RESPONSIBILITIES

The overall leadership for this evaluation will be provided by the SO6 Team Leader with technical direction from the SO6 Private Sector Specialist and the Monitoring and Evaluation Specialist in the Program Development and Analysis (PDA) Office.

IX. PERFORMANCE PERIOD

The overall evaluation will be carried out in a period of seven weeks, with the evaluation team leader working for an extra week finalizing the report. The team is authorized a six-day working week without premium pay. Local holidays are not authorized. In addition, the evaluation team leader is authorized three days consultation in Washington with the Africa Bureau and World Bank officials.

X. LOGISTICS

The evaluation team will arrange international and local travel, office space, computers, printing, photocopying. The Mission will assist in making appointments for meetings with stakeholders and field visits.

The Malawian administrative assistant will perform the following services for the evaluation team:

- √ Coordinate closely with the evaluation team leader on the team's transportation, secretarial, and administrative requirements and provide these services accordingly;
- √ Arrange appointments, meetings, and field trips as requested by the evaluation team leader;
- √ Arrange for car rental, typing, photocopying, and related services; and
- √ Other duties as may be assigned.

XI. LEVEL OF EFFORT

The level of effort (LOE) excludes the days of international travel for all team members. It includes the three days of consultation in Washington by the evaluation team leader.

Team Leader	48 working days
Agricultural Economist	42 working days
Agribusiness/Marketing Specialist	42 working days
Agricultural Policy Specialist	42 working days
Administrative Assistant (Malawian)	42 working days

XII EVALUATION CRITERIA

The evaluation criteria for awarding the proposed work is as follows.

Related Work Experience:	40%
Academic Qualifications:	30%
Familiarity with USAID Programming cycle and requirements	20%
Special knowledge or skills	10%

ANNEX D
BIBLIOGRAPHY

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