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EXTENSION PROJECT: *PHASE III*

**QUARTERLY REPORTS:
OCTOBER 1998 TO SEPTEMBER 1999
WITH SUMMARY OF ANNUAL RESULTS**

Prepared By

WT Bunderson, OA Itimu, ZD Jere and IM Hayes

With

GK Siyeni, AM Mpira and GG Chammagomo

NATURE PROGRAM

Sponsored by The United States Agency for International Development

*Implemented by Washington State University
With the Land Resources and Conservation Department*

Under Cooperative Grant Agreement No. 623-0235-A-00-2065

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ADMINISTRATION AND COORDINATION

Financial and Technical Reports/Publications:

- October to December Financial reports to WSU for onward processing to USAID.
- MAFEP Quarterly Report for July-September 1998.
- Revision and submission of MAFEP's 1998/99 Annual Workplan based on comments received from USAID Malawi.

Revisions to 1998/99 Annual Workplan:

On November 3, USAID requested explanations on certain points in the draft workplan submitted in September. Full responses to the comments have been incorporated into the final copy. Verbal and written criticism was also received from USAID about the delay in submitting the workplan, despite communicating explanations for two concurrent seasons (see July-Sept quarterly report). MAFEP wishes to reiterate its recommendation that USAID change the workplan year the original cycle of October to September.

Recruitment of Staff:

- Dr I.M. Hayes was recruited on October 1st 1999 as the Linkage Coordinator to manage the agreed programs with MEMP and SADP.
- Four Land Management Advisors were recruited in December to manage field activities at 4 of SADP's agricultural development centers. Two others will be recruited in January for the remaining 2 ADCs.

Equipment and Supplies:

- Pentium computer/printer installed with appropriate software for the Linkage Coordinator.
- Laptop computer to replace outdated model for shared use among senior staff.
- Installation of cold unit behind the offices for long-term storage of tree seed with electrical connections to mains power and the office genset.
- Packaging material for 30 tons of crop seed, to be organized in small labeled packs of 2-5 kgs.
- Purchase and delivery of prizes for 235 on-farm agroforestry/soil conservation demonstrations consisting of 8 bicycles, 8 wheelbarrows, 8 hoes, 8 pangas, and 212 water buckets.
- Seed inputs and packing material for 235 agroforestry/soil conservation demonstration sites comprising 650 kg of NSCM51 hybrid maize, 60 kg of pigeon peas (ICP9145, ICEAP00020), 220 kg soya beans, 40 kg sorghum (pilira 2), and 3.8 tons of nitrogen fertilizer (donated by Norsk Hydro).
- Magazine/report holders for library documents/reports/papers.
- Kodak digital camera with case.
- US Robotics Modem for email.
- Sigma Plot and Endnote software.

Maintenance of Equipment, Facilities and Vehicles:

- Negotiation of lease renewals of offices, storage facilities and houses.
- Routine maintenance on all project vehicles, computers, network system, printers, photocopiers, fax machines, telephones-email, storage facilities, gensets and other office/field equipment.

PARTNER SUPPORT NETWORK

Major activities over the quarter centered on the following:

- Linkages with donor, government and BGO partners to improve and expand collaborative programs (see Table 1).
- Technical, training and germplasm support to government, donor and NGO partners, backed up with field visits to selected sites (see Tables 2 & 3).
- Packaging and delivery of labeled tree and crop seed to partners (see Tables 4 & 5).
- Reviews to finalize a common monitoring and evaluation system for use by all implementing agencies involved with agroforestry, soil conservation and crop diversification programs.

Table 1: Summary of Key Partner Meetings and Workshops

Project/Organization	Subjects
USAID	Workshop on Partner relations
USAID/ICRISAT/DARTS ActionAid, private sector processors, and other partners	<ul style="list-style-type: none"> • Future strategies to develop/improve pigeon pea and groundnut variety testing, production, marketing and processing with value-added initiatives to promote higher returns to farmers. • Review of proposals by ICRISAT and Processors for seed multiplication and related collaboration with extension organizations.
Dept of Environmental Affairs: Workshop	Workshop on Awareness campaigns on environmental degradation/agroforestry/alternative energy sources
SADP	<ul style="list-style-type: none"> • Interproject collaboration: Operations, objectives, workplan focus, areas of concentration. • Structure and conduction of LMA Recruitment Interviews and Training sessions.
ACDI, Consultant T. Gardiner	Development of training materials and training courses for SADP-MAFE linkages for land-use management
MEMP	<ul style="list-style-type: none"> • Interproject Monthly Meetings • Collaborative trials to monitor runoff and soil loss under different crops and practices. • GIS mapping of environmental parameters, amelioration measures and project sites.
PROSCARP NRI Consultancy	Workshop on The Way Forward PROSCARP Evaluation and future focus
Area Sampling Frame	Progress on design, implementation and funding
Proposed study of soil and water conservation practices	Focus of study; methodology of sampling; collaboration;
Univ. Zimbabwe, Dr Ken Giller and H. Phombeya	Soil fertility initiatives and regional networks
Leeds University, Prof. Morris King	Carrying capacity issues related to population growth, agricultural sustainability and environmental degradation
CARE International	Partnership initiatives with MAFE to support crop diversification, tree planting and soil conservation in proposed target areas
Catholic Relief Services (CRS)	Partnership initiatives with MAFE to support crop diversification, tree planting and soil conservation in proposed target areas
CPAR	Partnership direction for future plans of CPAR
NASC and Zambian Embassy of Netherlands	Multiple meetings on the structure, design, and focus of the Training Center of the NASC secretariat, including relationships with MAFEP

Training

Table 2 summarizes the training conducted over the quarter. Highlights include:

- ❑ A total of 419 farmers were trained under the Linkage project with SADP. Main topics covered were best-bet AF practices, seed treatment, nursery management and legume agronomy.
- ❑ 152 farmers under Likuni Parish were exposed to several best-bet agroforestry and soil conservation practices. Much interest was expressed about the technologies presented and it was agreed that a follow-up program be developed with support from MAFE. For this season, farmers were each issued a 0.5 kg pack of *Tephrosia vogelii* seed for undersowing with maize.
- ❑ MAFEP was requested by the Department of Environmental Affairs to assist in training District Environmental Officers and members of executive committees from selected districts. Participants rated the course very high. This led to an action plan for implementing agroforestry and soil conservation activities in the districts through district executive committees (DEC).
- ❑ Peace Corps invited MAFE to conduct a 3-day orientation training for Peace Corps and staff of Department of National Parks and Wildlife. The objective of this course was to give participants basic tools to use while working with the farming community within the border zones of national parks. A presentation on key environmental issues in Malawi was also made to 15 Peace Corps located in schools across the country. The underlying concept was to allow the trainees to select areas of interest on which to base their work/lesson plans.

Table 2: Training Courses Conducted

Date	Topics covered	Organization	Audience	No. Participants
Oct 14-16	AF / SWC / nurseries	Peace Corps	Volunteers	2
		Dept of Nat. Parks /Wildlife	FLS	6
Oct-15	AF/Seed pre-treatment/nurseries	Namwera ADC	Mngt	3
			Farmers	26
Oct 16	AF/Seed pre-treatment/nurseries	Zomba ADC	Mngt	5
Oct 19-21	AF / SWC / nurseries	Dept of Environmental Affairs	Mngt	22
Oct-21	AF/Seed pre-treatment/nurseries	Ntcheu ADC	Mngt	2
Oct-23	AF/Seed pre-treatment/nurseries	Rumphi ADC	Mngt	5
Nov-09	AF/Seed pre-treatment/nurseries	Kasungu ADC	Mngt	3
			NASFAM	2
Nov-09	AF/Seed pre-treatment/nurseries	Zomba ADC	Farmers	85
Nov-10	AF/Seed pre-treatment/nurseries	Zomba ADC	Farmers	56
Nov-12	AF/Seed pre-treatment/Nurseries	Mulanje ADC	Mngt	4
Nov 16-19	AF / SWC / nurseries	CPAR	FLS	8
Nov-18	AF/Seed pre-treatment/nurseries	Kasungu ADC	Farmers	26
Nov-19	AF/Seed pre-treatment/nurseries	Kasungu ADC	Farmers	11
Nov-19	Environmental issues in Malawi/AF/SWC	Peace Corps	Volunteers	15
Dec-3	Vetiver nurseries/crop diversification	Rumphi ADC	Farmers	40
Dec-4	Vetiver nurseries/crop diversification	Rumphi ADC	Farmers	40
Dec-10	Agronomic practices for grain legumes	Rumphi ADC	Farmers	79
Dec-11	Agronomic practices for grain legumes	Rumphi ADC	Farmers	41
Dec-15	AF/SWC	Likuni Parish	Farmers	152
			Mngt	2
			Total	635

Table 3: Quantity of Seed Distributed by Species during the Quarter

Species	Quantity (kg)
<i>Acacia galpinii</i>	422
<i>Acacia polyacantha</i>	340
<i>Azelia quanzensis</i>	221.6
<i>Albizia lebbeck</i>	39.81
<i>Albizia zimmermannii</i>	0.05
<i>Brachystegia speciformis</i>	0.07
<i>Burkea africana</i>	0.05
<i>Burttidavya nyasica</i>	0.075
<i>Cajanus cajan</i>	14021.2
<i>Eucalyptus spp.</i>	0.005
<i>Faidherbia albida</i>	1020.22
<i>Gliricidia sepium</i>	61.4
<i>Gmelina arborea</i>	9.5
<i>Jatropha curcas</i>	2.9
<i>Khaya nyasica</i>	289.46
<i>Melia azaderach</i>	10.4
<i>Moringa oleifera</i>	6.7
<i>Pterocarpus angolensis</i>	7.05
<i>Swartzia madagascariensis</i>	0.05
<i>Senna siamea</i>	168.24
<i>Senna spectabilis</i>	278.54
<i>Sesbania sesban</i>	11.1
<i>Tephrosia vogelii</i>	2676.96
<i>Terminalia sericea</i>	3
<i>Toona ciliata</i>	2.38
<i>Ziziphus abyssinica</i>	2.05
<i>Ziziphus mauritiana</i>	74.4
Total kg	19,669

SO1-SO2 LINKAGE PROGRAM UNDER USAID WITH SADP AND MEMP

GENERAL

The Linkage Program

The Memorandum of Understanding for Inter-Project Collaboration underlying the SO1/SO2 Linkage Program was signed by the MAFEP, SADP, MEMP and by USAID on 24th September 1998. Although this was a late seasonal start to a new program, MAFEP attempted to address this by commencing the procurement and repackaging of tree and crop seed before the agreement date. The incremental budget to fund this program was split between MAFEP and SADP. The MAFEP portion was approved by the Botswana Contracts Office in late December 1998, with the SADP portion remaining unapproved at the end of the quarter.

Although this funding delay came at a critical time in terms of the cropping season, its effects were mitigated by the willingness of MAFEP and SADP to cover initial costs themselves. It should be noted that this could not include capital items for contractual reasons, so that vehicle and motor cycle purchases are being deferred to the next quarter.

Recruitment and Training

At the start of this quarter Ian Hayes was recruited as the long-term Linkage Coordinator position to provide technical advice on the linkage program. Hayes has a Ph.D. in the economics of agroforestry and has extensive experience working with smallholder farmers in Malawi.

In addition, a phased recruitment drive was launched to fill six Land-Use Management Advisor (LMA) positions in all the SADP Agribusiness Development Centres (ADCC) viz. Rumphu, Kasungu, Ntcheu, Namwera, Zomba and Mulanje. Both MAFEP and SADP were involved in the recruitment process, with the LMAs being employed directly by SADP. The first phase, which resulted in the successful recruitment of 3 LMAs (Rumphu – Mr. V. Nyirongo, Ntcheu – Mr. D. Mzumara and Mulanje – Ms. G. Kasongo), involved a short training course in soil and water conservation techniques and agroforestry practices. This was followed by a SADP orientation course and a motorcycle maintenance training session.

LMAs were then recruited for Namwera (Mr. H. Chimutu) and Kasungu (Mr. R. Museka), both of whom have previous land-use management experience. As such, by the end of December, Rumphu, Ntcheu, Kasungu and Namwera had LMA's in post, with the Mulanje LMA scheduled to start on 4th January 1999. Zomba ADC had no LMA in post by the end of the quarter due the identified candidate turning down the position at a very late stage.

During this quarter, training on nursery and tree seedling management techniques were conducted at all ADCs by MAFEP, and in Zomba, Kasungu and Rumphu MAFEP facilitated farmer training sessions on the same topic (see training section for more details). MAFEP also produced a Land-Use Management Advisor NRM Training Kit which was distributed to all LMAs and Agribusiness Development Centre Coordinators (ADCC).

Transport

The impact of deferring the purchase of the linkage motor vehicle to the next quarter has been limited through the use of other MAFEP vehicles. However, the lack of motor cycles has compromised the startup of the linkage program by severely restricting field activities. This issue has been compounded by the generally poor SADP transport situation at all the ADCs in advance at the end of their current funding tranche.

MAFEP-MEMP LINKAGES

The MAFEP-MEMP linkages during the period October-December comprised the following:

- **Kamundi** – at this site in Machinga ADD, MEMP, in collaboration with MAFE, are in the process of researching the effect of soil and water conservation and agroforestry practices on erosion. Initial research has indicated the potential for a new erosion-assessment methodology involving counting broken ridges. Over this quarter, a number of additional run-off plots have been constructed and maize and tobacco planted.
- **Nsipe EPA** – this EPA, which falls under Ntcheu ADC, was selected as the site for implementing the above methodology in a field situation. Unfortunately, practical and technical limitations have resulted in the abandonment of this particular exercise for the time-being. These limitations included:
 - ◆ the late recruitment of the Land-Use Management Advisor for Ntcheu ADC
 - ◆ lack of reliable transport for the LMA
 - ◆ the methodology being too cumbersome and time-consuming in its current form for easy implementation
- **GIS Mapping** – during this quarter MAFEP listed the geographical coordinates of all its partner sites, including SADP. In the next quarter MEMP will process this information to generate a GIS map of all sites linked to other available information including agro-climatic zones, soil types etc.

MAFEP-SADP LINKAGES

The period October – December 1998 saw the start of the first major phase of the MAFEP-SADP Land-Use Management Program, the following elements of which were carried out:

1. Soil and Water Conservation Component

Vetiver Nursery Establishment

In order to ensure a local supply of vetiver planting material for planting out on marker ridges next season, discussions were held with farmers in the three core associations of Henga (Rumphi ADC), Kandeu (Ntcheu ADC) and Dzaone (Zomba ADC) with regard to multiplying vetiver grass on a contract basis at a rate of MK 8,000 ha⁻¹. As a result, vetiver nursery sites were identified in the three associations, with planting material sufficient for ½ ha and 1 ha being delivered to Zomba and Ntcheu, respectively. On delivery, MAFE technicians instructed the contracted farmers how to plant the vetiver grass. Due to a lack of rain in the north, delivery of planting material to Rumphi was postponed until January 1999.

2. Agroforestry Component

Tree Seed Distribution

A range of tree seeds and polytubes were distributed to all ADCs during this quarter in an effort to promote the following agroforestry practices in particular:

- ◆ systematic interplanting for soil fertility – msangu, mthete, nkungu
- ◆ undersowing for soil fertility - mthuthu
- ◆ woodlots for poles and fuelwood - keshya

Seed was distributed to farmers free of charge with records kept in a registration book for later follow-up. Farmers were instructed in nursery and seedling management techniques, primarily by ADC staff other than the LMAs, as the latter only reached their posts in December at the earliest.

Tree nursery establishment in Mulanje and Zomba was limited by the late seasonal delivery of the seeds, with farmers being advised to concentrate on those species suitable for direct sowing. However, early indications from the other ADCs are that, despite a few instances of farmers using incorrect seed treatments in particular, seed germination was good. A comprehensive evaluation of the tree seed program will be undertaken in the April-June quarter.

Table 4: No. of Tree Packs per Species distributed to Each ADC

ADCs	Nkhungu	Mthete	Mtangatanga	Msambamfumu	Msangu	Keshya (<i>Senna siamea</i>)	Keshya (<i>Senna spectabilis</i>)	Mthutu; mtetezga	Total No. Packs	Total No. Polytubes
Rumphu	490	490	230	120	1,160	1,300	1,500	580	5,870	529,000
Kasungu	240	240	120	60	240	450	750	120	2,220	210,000
Ntcheu	490	490	230	120	1,160	1,300	1,500	580	5,870	529,000
Namwera	240	240	160	120	240	380	580	160	2,120	196,000
Zomba	410	410	190	100	1,080	1,150	1,250	540	5,130	459,000
Mulanje	80	80	40	90	210	150	250	170	740	70,000
SUM TOTALS	1,950	1,950	970	610	4,090	4,730	5,830	2,150	21,950	1,993,000

3. Legume Crop Diversification

Approximately 28 MT of grain legume seed was distributed through all ADCs to farmers on a loan basis, in order to promote diversification away from maize and tobacco into alternative cash crops that also maintain soil fertility. The seed comprised:

- ◆ an improved groundnut variety (CG7)
- ◆ two improved pigeon pea varieties (ICEAP 00020 and ICEAP 9145) and a local variety
- ◆ an improved bean variety (Maluwa); and
- ◆ mixed local and magoye soyabeans

Farmers receiving the seed were required to sign agreement in a crop registration book to return the loaned seed + 50% after harvest. Early indications are that:

- ◆ farmer seed demand was not satisfied, particularly for groundnuts;
- ◆ germination has been generally good, apart from a few problems with groundnuts in clay soils;
- ◆ farmers in Kasungu and Ntcheu showed limited interest in pigeon peas due to uncontrolled grazing by livestock in the dry season before the pea harvest.

In addition, an estate was contracted to multiply 1MT of CG7 groundnut seed as a safety net in case of seed shortages for next season. At a potential yield of 2,000 kg ha⁻¹ this will generate a possible 17,500 kg of seed for the 1999/2000 season.

A comprehensive evaluation of the crop seed program will be undertaken in the April-June quarter.

Kg of Seed	Potential Seed Returned After Harvest		Potential Area and Production	
	Seed Distributed	Potential Seed Return	Area (ha)	Production (MT)
Groundnuts	10,378	15,567	91	91
Pigeon Peas	13,998	20,997	2,154	656
Beans	1,059	1,589	21	5
Soyabeans	2,878	4,317	38	19



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- January to March Financial reports to WSU for onward processing to USAID.
- MAFEP Quarterly Report for October to December 1998.
- Community-based monitoring and evaluation of agroforestry and soil conservation in Malawi. WT Bunderson, ZD Jere, IM Hayes, OA Itimu, SJ Nanthambwe, NJ Mulenga and A. Umphawi. MAFE Pub. No. 24, February 1999.

Recruitment of Staff:

- Two Land Management Advisors were recruited in January to manage field activities at two of SADP's agricultural development centers.

Vehicles and Associated Equipment Received:

- 1 Double Cab Isuzu 280 D turbo 4x4 under the MAFE-SADP Linkage Project
- 1 Mitsubishi 4x4 pickup (replacement for lost vehicle)
- Tires for Isuzu 7-ton truck, Isuzu double cab, and 2 Toyota Hilux 4x4 vehicles
- Windscreen for Toyota Hilux 4x4
- Back window for MG Toyota Hilux 4x4

The two new vehicles were registered, licensed and insured for immediate field use.

Equipment Received:

- 100 Tally counters for M&E Transect Surveys by partners
- 1 x Ohaus electronic balance to weigh small packs of tree seed
- 6 x 100m tape measures for Land Management Advisors under the SADP linkage project
- ArcView Software for GIS / database applications
- HP Printer cartridges

Maintenance of Equipment, Facilities and Vehicles:

- Negotiation of lease renewals of offices, storage facilities and houses.
- Routine maintenance on all project vehicles, computers, network system, printers, photocopiers, fax machines, telephones-email, storage facilities, gensets and other office/field equipment.

Cost Sharing of Office Genset with the National Democratic Institute:

MAFEP owns and operates a 22 kVa Genset to supply power to its offices on the top floor of the New Building Society during black outs. The genset was installed with the understanding that any organization sharing the top floor would contribute to the capital and operating costs based on the proportion of floor space occupied.

NDI, a USAID funded project, has occupied half of the top floor since November 1998. Since NDI's contract coincides with that of MAFEP, ending September 2000, MAFEP prepared an agreement for cost sharing its generator. This agreement offers a prudent and mutually cost-saving alternative to purchasing and installing a separate generator. MAFEP awaits agreement from NDI, but in the meantime provides full access to the genset by NDI.

PARTNER SUPPORT NETWORK

Major activities over the quarter centered on the following:

- Field visits to supervise, evaluate and support programs of partner sites.
- Visits to new sites selected by ADDs under MAFEP's performance-based grants to evaluate the potential for results. Assessments were based on location, problem identification, logistics for management, staff interest and competence, and various factors related to community involvement, notably enthusiasm to participate, organizational leadership, and structure.
- Collection and transport of vetiver planting material to new partner sites with guidelines on outplanting, with emphasis on the SADP linkage and ADD grant programs.
- Design and implementation of AF/SC training courses for government, donor and NGO partners (see section under Training below).
- Workshops and field testing of the new CBM&E system with participation from all ADDs, Forestry Department, NGO partners and PROSCARP (see M&E section below).
- Finalization and printing of the reference manual on the CBM&E system for distribution to all NGO, Government and donor project partners.

Table 1: Summary of Key Partner Meetings and Workshops

Organization	Subjects
USAID	<ul style="list-style-type: none"> • Monthly Donor Coordination Meetings • Field visits to selected MAFE/Partner sites with SO2 • Strategies for continued support after MAFE closes Sept 2000 • Linkages with SO1 and SADP
SADP	<ul style="list-style-type: none"> • Monthly interproject coordination meetings • Participation in SADP's bi-annual meeting with a MAFE presentation • Vetiver grass multiplication and contracts • Development of CBM&E system + training LMAs • Strategies for promoting /marketing improved legume crops
MEMP	<ul style="list-style-type: none"> • Monthly interproject coordination meetings • Development of GIS database showing location of MAFE/partner sites • Monitoring runoff/soil loss under different crops/mgt practices
PROSCARP	<ul style="list-style-type: none"> • Bi-monthly coordination meetings with LRCD • Training needs assessment with consultant, J. Groome • Training plans for seed collection/handling
NGOs	<ul style="list-style-type: none"> • Plans to help partners implement and evaluate the CBM&E system • Information required for partner review workshops in June: field results, next season targets, and support needs from MAFE
CARE International	<ul style="list-style-type: none"> • Seed multiplication strategies/links with MAFE • Support needs from MAFE in soil conservation/tree planting/agroforestry
EU Social Forestry Project	<ul style="list-style-type: none"> • Curriculum development for College of Forestry • Follow-up needs to Forestry Training at Dedza
FAO/World Bank	Soil Fertility Initiative: strategies, best practices, training plans, extension services
Rockefeller Foundation	Undersowing trials with <i>Tephrosia</i> , <i>Mucuna</i> , <i>Crotalaria</i> , <i>Canavalia</i>
NASC and Zambian Embassy of Netherlands	<ul style="list-style-type: none"> • Reviews of proposals from the Netherlands Training Support Program and needs to activate/support the NASC • Plans to hold the 3rd National Agroforestry Symposium

TRAINING SERVICES

Table 2 summarizes training conducted during the quarter. Highlights include:

- MAFE provided training in agroforestry practices to 40 forestry assistants drawn from the districts of Dedza, Ntcheu, Mwanza, Chikwawa and Nsanje in response to a request for assistance from the EU-funded Social Forestry In-Service Training Program under the Department of Forestry. MAFE also prepared training materials to assist in training 90 forestry guards from the same districts. This included production of a reference manual on agroforestry and soil conservation practices, and development of module training plans for each topic. Training of forestry guards is being conducted by forestry assistants selected on the basis of their performance in the first course.
- Workshops were held to review and pre-test the newly developed community-based monitoring and evaluation methodology with government, NGO and private sector partners. Details are discussed below under monitoring and evaluation.

Table 2: Training Courses Conducted

Date	Topics covered	Organization	Audience	No. Participants
Jan 18-19	CBM&E/transect method	8xADDs	Mgt	18
		MAI-Planning Division	Mgt	1
		LRCD H/Qs	Mgt	3
		SADP/MAFE	LMAs	6
Jan 21-22	Agroforestry & SWC practices	Forestry Dept	Forestry Assistants	40
Jan 25-26	CBM&E for NGOs	CPAR	Mgt	1
		LMC	Mgt	1
		CCAP Livingstonia	Mgt	1
		CSC	Mgt	2
		Bwanje Valley Womens' For. Society	Mgt	1
		Lilongwe Forestry Project	Mgt	2
		Blantyre Forestry Project	Mgt	1
		ELDP	Mgt	2
Feb 11-12	TOT on CBM&E	8xADDs	Mgt	37
			FLS	9
		Border Zone Dev. Project	Mgt	1
Feb 15-16	TOT on CBM&E for NGOs	CPAR	Mgt	1
		Inter Aide	Mgt	2
		ELDP	Mgt	4
		ARET	TA	1
		Mulanje RDP	Mgt	1
		CSC	FA	2
		Africare	Mgt	1
		CCAP Livingstonia Synod	Mgt	1
		OXFAM-GB	Mgt	1
		WVI	Mgt	2
		Concern Universal	Mgt	1
		LL RT Tree Project	Mgt	1
Mar 15-17	CBM&E	WVI-Mchinji ADP	FLS	7
			Mgt	2
			TOTAL	153

Mgt = Management/Coordinating/Training Staff; **FLS** = Frontline Extension Staff
TA = Technical Assistant; **LMA** = Land Management Advisor

GERMPLASM SUPPLY

Tree seed

Table 3 summarizes quantities of tree seed supplied by species to each partner organization for the season (June 98 – March 99). Table 4 shows the seed distributed during the quarter under review. A total of 37 partners were supplied with tree seed totaling 20.66 tons.

Table 4: Kg of Seed Distributed by Organization and Species between January - March 1999

Organization	Date	Species						Totals
		<i>Azadirachta quanzensis</i>	<i>Cajanus cajan (ICP9145)</i>	<i>Faidherbia albida</i>	<i>Khaya nyasica</i>	<i>Senna siamea</i>	<i>Tephrosia vogelii</i>	
Dowa West RDP	04/01/99						25	25
Peace Corps, Balaka	10/01/99						5	5
Namwera ADC	11/01/99						4	4
Rumphi ADC	20/01/99		20					20
CPAR	02/02/99						5	5
Peace Corps Malawi	11/02/99	0.5		0.5	0.5	0.25	0.25	2
Totals		0.5	20	0.5	0.5	0.25	39.3	61

Vetiver Grass

Table 5 shows quantities of vetiver distributed to partners. Distribution was restricted to new MAFE and NASFM sites under the Linkage project. Table 6 shows area of nursery established in three of the new MAFE sites. The approach of establishing these nurseries is village based, which will make it easier to transport the material to farmers' gardens within the villages being targeted.

Table 5: Quantity of vetiver distributed during the season

ORGANIZATION	SOURCE	DESTINATION	DATE	7-TON TRUCK LOADS
SADP	Namitete	Zomba	15/12/98	1
		Ntcheu	01/09/99	1
		Ntcheu	31/12/98	1
	Rumphi	Rumphi	21/1/99	1
		Rumphi	22-23/1/99	2
ADD MAFE Sites	Namitete	Kanyama EPA	01/11/99	1
		Ng'ombo site	15/1/99	1
		Ng'ombo site	02/09/99	1
	Champhira Buwa	Dedza Hills RDP	02/05/99	1
		Champhira	25-26/1/99	4
		Mponera	24/3/99	7
		Mchinji sites	2-5/3/99	10.5
Mchinji PROSCARP	03/04/99	1		
TOTAL				32.5
SADP	Chitsime	Rumphi Kasungu Ntcheu	23/2/99	TWIN CAB LOADS
			17&19/2/99	
			23/2/99	
			TOTAL	

Table 6: Vetiver grass nurseries established during the season

RDF	TARGET SITE	No. OF NURSERIES	AREA (Ha)
Mchinji	Kamwendo	6	2.25
Dowa West	Chikwete 2&3	12	1.07
South Mzimba	Champhira	6	2.6
TOTALS		24	5.92

MONITORING AND EVALUATION

The project has developed a new community-based system to monitor and evaluate agroforestry and soil conservation programs in Malawi. This has been a culmination of 2 years work with partner organizations and communities.

During the quarter, the project conducted five courses (see Table 2). The first two aimed at orienting partners in the methodology with extensive field pre-testing involving 39 representatives from partner organizations. Results led to modifications to improve and streamline the system. This was followed by 3 courses to train 65 trainers from ADD and NGO organizations. These courses aimed at developing core-training teams within each organization who will be responsible for training frontline staff and farmers, and to supervise implementation in target sites.

Copies of the manual and sets of data sheets were distributed to all partners with mechanical tally counters. ADDs showed commitment to test the methodology in 1 MAFE and 2 PROSCAP sites before the end of the current season. 3 ADDs have done this to date, and others are in progress. NGOs will also test the methodology in at least one site, but some require assistance from MAFE to build confidence. World Vision International in Mchinji has already requested MAFE to assist in training 7 development facilitators.

Some of the preliminary results/comments from the field are:

- Staff find the methodology objective and accurate with a well-balanced community focus.
- Communities are empowered from assessing their own performance to plan future actions.
- The methodology provides uniformity in indicators and methods of measuring them, allowing comparisons and consolidation of results across sites.
- There is need to build confidence among staff for implementing the practice.
- Frontline staff require orientation in simple cartographic techniques for producing target site maps needed in transect surveys.
- Use of the system has identified problems not previously recognized to improve targeting.

Future plans

Agreement has been reached with all partners to incorporate the CBM&E approach within workplans. To strengthen this plan, a refresher course for trainers will be conducted in November December 1999 to support full field implementation for the 1999/2000 season. This will include training of frontline staff, transect surveys, and community assessments. MAFE's role will be to monitor and guide application of the system until it is fully institutionalized.

SO1-SO2 LINKAGE PROGRAM UNDER USAID WITH SADP AND MEMP

GENERAL

Recruitment

Mr. K. Mbalame was identified to fill the post of LMC for Zomba ADC, and took up his position in the early part of this quarter. As such, from January all LMC posts were filled.

Transport

The linkage motor vehicle was purchased during this quarter. Field activities continued to be restricted due to non-arrival of the LMA motor cycles.

LMA Reporting and Work Planning Formats

Monthly reporting and work planning formats were developed for use by the LMA's which closely follow the current SADP ADC system. The reporting requirements involved an EPA-Level summary of field activities including farmer participation in meetings, and a narrative report on general monthly activities. The work planning requirements are twofold: a daily individual workplan and a consolidated ADC monthly workplan. Following initial teething problems, the new formats are now instituted.

MAFEP-MEMP LINKAGES

The MAFEP-MEMP linkages during the period January – March comprised the following:

- **Kamundi** –MEMP has progressed with gathering data from the run-off plots in Kamundi. This activity will be completed next quarter at which time the relevant data will be passed to MAFE. MAFE will decide whether to continue the experiment next season in the absence of MEMP which shuts down at the end of April 1999.
- **GIS Mapping** – MEMP produced a GIS map of all MAFE partner sites which has been installed in the MAFE offices. The information also includes a number of useful overlays including agro-climatic zones, soil types and EPA boundaries.

MAFEP-SADP LINKAGES

Tree Planting

Site visits were made to evaluate tree planting activities. Whilst a number of individual farmers have done an excellent job of raising and outplanting trees from NASFAM seed, training and supervision in nursery management was generally insufficient due to the late LMA placement. A full picture of this will emerge from the community-based monitoring and evaluation of the tree seed program to be implemented next quarter.

Soil and Water Conservation

A total of 2.6 ha of vetiver nursery were established in three Associations by January 1999, on individual (Zomba and Rumphi) and group (Ntcheu) contract bases. Mixed results have been observed at the various sites. The Ntcheu site (Mpephozinai GAC, Kandeu Association) performed the best, with a club of 6-8 men and women contracted to plant 1 ha. The Zomba site (Dzaone, Taombekamwendo GAC) has been an unmitigated disaster with the local chief who contracted ganyu to plant and weed 0.5 ha but failed to pay them. The chief is now in hiding, and the site has been abandoned to weeds. Efforts are now underway to save what vetiver remains through direct labour contracted by the LMA. Three of the five Rumphi sites have performed well, with the remaining two (0.5 ha) being abandoned due to poor contractual performance. These results indicate need to review the contracting mechanism, particularly the method and selection of contractors.

Vetiver Nursery Establishment

ADC	No. of Nurseries	
	Established	Area (Ha)
Zomba	1	0.5
Ntcheu	1	1.0
Rumphi	5	1.1
Total	7	2.6

Legume Crop Diversification

The legume crop diversification program has in general progressed well, with a comprehensive evaluation planned next quarter through the community-based monitoring and evaluation program:

- groundnuts – the CG7 has developed well in most areas apart from problems of pops in some parts of Namwera (due to low soil pH) and rosette in Mulanje (due to late planting).
- pigeon peas – all three varieties are doing very well, particularly the 9145, although no flowering is expected until next quarter.
- beans – yields will be low this season due to excessive rains.
- soya beans – indications are that the mixed seed has performed well

Discussions were held to determine the best mechanism for collecting loaned seed, and procedures for re-issuing collected and new seed for the 1999/2000 season. The following points were made:

- seed will be collected at GAC-level by the Associations, with supervision and monitoring by the LMA and ADA.
- seed will be stored at Association or ADC-level depending on available facilities.
- costs of collection and storage will be met from seed sales 1999/2000.
- loan scheme will be discontinued with 2nd generation and new seed disbursements for 1999/2000 being on a purchase basis, to new farmers, at a reasonable cost.

Early indications are that the CG7 groundnuts under the estate multiplication contract are doing very well, with harvesting expected to start next quarter.

Model Farmers

Approximately 4-5 model farmers per ADC were selected with varying practices established. Rumphu, Kasungu and Ntcheu have several model farmers with contour marker ridges planted with vetiver, msangu trees planted systematically and boundary planting with other species. The soil conservation practices for the Southern ADC's will be put in place next season, although a start has been made on tree planting. A full report on model farmer establishment will be included next quarterly report.

Monitoring and Evaluation

A comprehensive community-based monitoring and evaluation procedure was developed to enable a full evaluation of the tree planting and crop diversification programs. The CBM&E procedure is based on the new MAFE approach, but adapted to reflect the individual farmer rather than site-based nature of the Association setup. It consists of a tree and crop seed inventory, a random sample of homestead and field surveys, and GAC-level focus group interviews. The program will be implemented next quarter.

Six-Month workplan and Annual Training Plan

A six-month workplan and annual farmer training plan were developed as a guide for LMA work and training planning.

SADP Mangochi Workshop

MAFE presented an introduction to the MAFE/NASFAM Land-Use Management Program and the SADP bi-annual workshop held at Mangochi.



EXTENSION PROJECT: *PHASE II*

QUARTERLY REPORT APRIL TO JUNE 1999

Prepared By

WT Bunderson, OA Itimu, ZD Jere and IM Hayes

With

GK Siyeni, AM Mpira and GG Chammagomo

NATURE PROGRAM

Sponsored by The United States Agency for International Development

*Implemented by Washington State University
With the Land Resources and Conservation Department*

Under Cooperative Grant Agreement No. 623-0235-A-00-2065

ADMINISTRATION AND COORDINATION

Financial and Technical Reports/Publications:

- April to June Financial reports to WSU for onward processing to USAID.
- MAFEP Quarterly Report for January to March 1999.
- MAFE support services, results and lessons learned. Paper presented by WT Bunderson, OA Itimu, ZD Jere and IM Hayes. Partner Review Workshop at NRC, April 26, 1999.
- MAFE/NASFAM Land-Use Management Program: Community-based monitoring and evaluation LMA Instruction Manual. IM Hayes, WT Bunderson, ZD Jere, OA Itimu.. MAFE Pub. No. 25, April 1999.
- Community-based monitoring and evaluation of agroforestry, soil conservation and legume crop diversification practices: Instruction Manual for NGO Village-based Programmes. IM Hayes, WT Bunderson, ZD Jere, OA Itimu. MAFE Pub. No. 26, June 1999.

Vehicles and Associated Equipment Received:

- 6 x 10 kg scales for weighing crop seed for delivery to and receipt from farmers.
- 4 x hi-lift jacks

Equipment Orders:

- 500 Tally counters for M&E Transect Surveys by partners
- 500 clip boards for M&E surveys
- 500 solar calculators for M&E survey analysis
- 2700 line levels for distribution to staff and farmers
- computer upgrade for office manager

Cost Sharing of Office Genset with the National Democratic Institute:

NDI has agreed to the terms for sharing costs of the office genset. Payments for 40% of the capital cost will be made in 4 installments, the first of which has been received. Operating costs will be shared monthly.

PARTNER SUPPORT NETWORK

Major activities over the quarter centered on the following:

- Field visits to evaluate implementation of partner programs supported by MAFE
- Training: (1) on CBM&E systems for area and village-based programs for ADDS and NGOs; (2) agroforestry, soil conservation, seed collection and nursery management for WVI
- M&E of selected sites to document results based on the new CBM&E systems
- Partner review meetings of last season's results and targets for next season
- Meetings with CARE International, and EU Public Works Program to discuss MAFE support
- Workplan for next quarter
- Inventory and testing of tree seed in stock
- Analysis of agroforestry/reduced tillage demonstrations/trials
- Start of crop and tree seed collection for this season with packing, labeling and storage.

Summary of Key Partner Relationships during the Quarter

Organization	Subjects
USAID	<ul style="list-style-type: none"> • Monthly Donor Coordination Meetings • Field visits to selected MAFE/Partner sites with SO2 • Strategies for continued support after MAFE closes Sept 2000 • Linkages with SO1 and SADP
SADP	<ul style="list-style-type: none"> • Monthly interproject coordination meetings • Participation in SADP's bi-annual meeting with follow-up training by MAFE to LMAs
PROSCARP	<ul style="list-style-type: none"> • Bi-monthly coordination meetings with LRCD • Joint field programs and changes therein. • Plans to produce a common set of extension messages in leaflet form with MAFE taking the lead to minimize duplication and conflicting messages
ADDs and NGOs	<ul style="list-style-type: none"> • Review last season's results and targets for next season, specifying the nature and level of support required from MAFE • CBM&E surveys in selected sites • Review of NRM strategies with communities in target sites • Training course for WVI
CARE International	<ul style="list-style-type: none"> • Seed and technical support requested from MAFE • Field visits to selected MAFE sites and partners
EU Social Forestry Project	<ul style="list-style-type: none"> • Links requested for follow-up training needs in agroforestry for Forestry Department staff and students from the College of Forestry
EU Mission	<ul style="list-style-type: none"> • Discussion of MAFE partnership support for the proposed village based reforestation efforts of the EU's Public Works Program
Training Support Program and NASC	<ul style="list-style-type: none"> • Review TSP workplan • NASC quarterly meeting • Timing of the 3rd National Agroforestry Symposium

TRAINING SERVICES

One training course was held on agroforestry and soil conservation for World Vision International from 17-21 May 1999. A total of 16 Agricultural Development Programs (ADPs) were targeted involving 8 management staff and 12 development facilitators. Training focused on improving knowledge and skills in tree seed collection and handling.

EXTENSION AND TRAINING MATERIALS

Leaflets

MAFE will produce a series of leaflets in English on soil conservation and agroforestry for government and NGO extension agents. This is being done under the authority of the Department of Land Resources Conservation to reduce duplication by other parties and to ensure consistency in the delivery of extension messages. Leaflets will be reviewed by key stakeholders before printing, costs of which will be borne by MAFE and PROSCARP. Planned extension messages include:

- Contour ridging with the line level
- Vetiver nurseries and contour hedges
- Nursery management and outplanting of common agroforestry species
- Homestead tree planting
- Dispersed systematic tree interplanting
- Undersowing *Tephrosia vogelii* with maize (shorter version)

Posters

MAFE will produce posters in Chichewa on the above topics with farmers as the target audience. Each will involve illustrations with clear narrative to explain key impact/management points. One poster per technology is planned, except for nursery management and outplanting which requires 4 posters to cover all salient points.

TECHNOLOGY EVALUATION AND DEVELOPMENT

ADD Reduced Tillage-Agroforestry Demos/Trials

Analysis of these trials for 97/98 report was based on 177 out of the 273 sites, more than sufficient to provide a sound evaluation across agro-ecological zones. Data quality from the other sites was sub-standard and therefore excluded from the analysis. Data for 98/99 are being received from the ADDs for computer entry. Key results are summarized below across sites for the 97/98 season:

Table 1 Treatment effects on maize and sorghum yields with and without fertilizer

Plot Details	Maize (kg ha ⁻¹)	Sorghum (kg ha ⁻¹)
No fertilizer	1340	580
With fertilizer	2840	890
Reduced Tillage Treatments		
Intercrop after sole pigeon peas	2270	1002
Sole crop after pigeon pea intercrop	2070	620
Sole crop after sole soyabeans	2410	649
Continuous sole cereal crop	2150	598
Conventional tillage		
Continuous sole cereal crop	2325	550

Legume Rotations: Maize following legumes gave slightly higher yields than monocropped maize, (200 kg ha⁻¹ after pigeon peas and 340 kg ha⁻¹ after soyabeans). The response of sorghum increased by 68% after sole pigeon peas, but only 9% after soyabeans. The cereal yield response after intercropping of pigeon peas was negligible.

Effect of Fertilizer: Fertilizer application increased maize yield from 1340 to 2840 kg ha⁻¹, a differential of over 100%, compared with a 53% increase for sorghum. The previous season gave a maize yield increase of 150%, showing a decline in fertilizer use efficiency in the second year.

Conventional vs Reduced Tillage: Reduced tillage of sole maize yielded 175 kg ha⁻¹ less grain than conventional tillage, compared with an increase of 9% for sorghum. Results after 2 years show little benefit from reduced tillage. This is likely due to the low return of crop residues, as well as nutrient and organic matter deficiencies in the soil, reflected by the low yields obtained, even with the use of fertilizer.

Legume Yields: Average yields of sole pigeon peas were 332 kg ha⁻¹ compared with 309 kg ha⁻¹ as an intercrop, indicating little yield advantage from pigeon peas as a sole crop. Soyabeans as a sole crop averaged 929 kg/ha.

Tephrosia Biomass: Tephrosia was in the fallow period so maize yields will not be reported till next year. Tephrosia leaf biomass ranged from 6 to 9 tons ha⁻¹ while wood biomass ranged from 4 to 12 tons ha⁻¹.

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Direct Sowing vs Air Pruning of Msangu: Results were mixed depending on location. Direct sown seedlings had a higher survival rate than air-pruned seedlings in Blantyre, Machinga, Lilongwe, Mzuzu and Karonga ADDs while air pruned seedlings had higher survival in Salima and Shire Valley. No differences were observed in Kasungu ADD. Done properly, direct sowing is cheaper in terms of labor and nursery costs.

Lilongwe Golf Club *Tephrosia* Reduced Tillage Trial

This trial evaluated the effect of undersowing *Tephrosia* with maize under conventional vs reduced tillage with and without a medium rate of N fertilizer.

Maize Yields (kg/ha) from Undersowing *Tephrosia* with Maize

Treatment	Conventional Tillage	Reduced Tillage
0 kg N ha ⁻¹	3428	2938
60 kg N ha ⁻¹	3891	3908
Mean	3660	3423

Yields of maize on the club grounds have risen over the past 3 seasons from less than 1 ton per ha to over 3 tons largely from 2 years of undersowing *Tephrosia*. Plant growth of *Tephrosia* was good during the growing season, with plants having an average basal diameter of 2.4 cm. Biomass production on a dry matter basis was 2700 kg ha⁻¹ for leaves and 5400 kg ha⁻¹ for stems.

Conventional tillage with no fertilizer outyielded maize under reduced tillage by about 500 kg, but tillage systems had no effect with application of fertilizer. Conventional tillage also had lower weed biomass (40 and 90 kg ha⁻¹ with and without fertilizer, respectively) than reduced tillage (100, and 150 kg ha⁻¹ with and without fertilizer, respectively).

Dedza Hills *Tephrosia* undersowing Trial

This trial has run for two seasons on nutrient deficient soils in Dedza. As expected, treatments had no effect on maize yield in the first season. Results for the second season, shown below, indicate a substantial improvement from undersowing (50%), which is doubled with a modest rate of N fertilizer application.

Maize yields in Dedza after 2 seasons of undersowing with *Tephrosia*

Treatment	Maize Yield (kg/ha)	% Change over Control
Control of sole maize, no fertilizer	1664	-
Control of sole maize + 60 kg N/ha	2989	79.6
<i>Tephrosia</i> undersowing, no fertilizer	2485	49.3
<i>Tephrosia</i> undersowing + 60 kg N/ha	3265	96.2

Adoption of Dispersed Systematic Interplanting of Msangu Trees

An evaluation exercise was conducted in Mzuzu ADD of an early extension effort in 1989/90 to promote the adoption of msangu trees. Key results include:

1. 40% of the planted trees had survived to the age of 10 years, and had attained heights of up to 15 m with tree trunks 15 cm in diameter. Highest survival was in dambo sites, the lowest on upland stony soils.
2. Maize yields were about 3000 kg ha⁻¹ directly under the trees planted, compared to less than 2000 kg ha⁻¹ away from the tree.
3. Extension staff in the ADDs displayed limited knowledge on tree establishment procedures.
4. Extension support was poor in terms of follow ups and record keeping.
5. Seedling mortality was most affected by late delivery of seedlings, poor care of seedlings, termite damage, and accidental removal during weeding by ganyu labor.
6. Adoption was higher in areas where the trees do not occur naturally as many farmers felt little need to plant the tree in such areas.
7. Use of organic and chemical fertilizers on crops improved growth and survival of associated trees. Crop rotations also helped growth and survival.
8. Tree survival was higher among faster growing trees.

ANNUAL REVIEW MEETING

MAFE organized two workshops in June to review 98/99 results and plans for 1999/2000. One involved the ADDs, and the other NGOs. Key results and discussion points included:

- Field level physical achievements on best-bet practices based on the 1998/99 AWP from new MAFE sites and implications for future support
- Small grants program to ADDs: results, expenditure reports and ceilings for 1999/2000
- Participatory AWP with targets for 1999/2000 season
- Community-based monitoring and evaluation of results & plans for 1999/2000 and beyond
- New policy on vetiver grass
- Seed strategy and requirements per species for 1999/2000 season
- Reduced tillage results and strategy for 1999/2000 season
- Training strategy for 1999/2000 season

Small Grants Program

Revisions were made to grants to ADDs based on performance during the 1998/99 season. Grants to Lilongwe, Kasungu and Mzuzu ADDs were increased to MK 400,000, while those to Shire Valley, Salima and Karonga ADDs were withdrawn due to poor performance. Grant levels to Machinga and Blantyre ADDs were revised to MK 160,000. The approach has demonstrated the effectiveness of a performance-based grant system to generate more and better quality results by rewarding good performance and weeding out non-performers. It is also motivating non-performers to produce results after recognizing that funding opportunities are being affected.

New Policy on Vetiver Grass Multiplication

MAFE played a major role in drafting a policy on vetiver grass multiplication. The policy is intended to harmonize approaches used by different stakeholders to ensure that multiplication of vetiver grass is demand-driven by communities for sustainability. Highlights of the policy are:

1. Multiplication of vetiver grass should be a community-based initiative with support from development facilitators in providing basic planting material for establishment.
2. Material from existing non-communal nurseries should be provided for community nurseries.
3. Outstanding contracts to multiply vetiver grass will be honored but all will be phased out by January 2001. Contractors should be clearly informed about the termination of contracts, and plans should be made to make good use of any remaining planting material.
4. With immediate effect, no new contracts will be made.

The policy has since been finalized and communicated to all stakeholders.

Discussions for a Future Strategy on Tree Seed

A new strategy was discussed among stakeholders to build capacity and self-reliance for tree seed among MAFE's partners. Discussion points included the following:

- The purchase of Tephrosia and other tree seed by MAFE from farmers will be phased out by December 2000 to reduce partner dependency on MAFE for tree seed. This does not preclude farmers from selling seed to other organizations, individuals or other farmers as these are opportunities dictated by demand. The selling price will eventually be determined by real market forces for different types of seed.
- A clear policy is needed on tree seed multiplication and collection for different classes of species, and a leaflet should be produced on how to collect and manage different seed.
- Farmers need training in seed collection and management.
- Beginning this season, ADDs should satisfy most of their own seed requirements (e.g., *Acacia polyacantha*, *Albizia lebbeck*, *Faidherbia albida*, *Senna spectabilis*, *Senna siamea*, and *Tephrosia*) through local collections/purchases from farmers. In cases where the species needed is not available, seed can be sourced from other ADDs at an agreed price.
- It was agreed that NGOs should pay for any seed bought from MAFE at the farmer price, i.e., excluding MAFE overhead costs. NGOs should also begin to develop plans for self-sufficiency in seed. This is being initiated through training programs on seed collection and handling.

Strategy for Reduced Tillage/Agroforestry Demo-Trials for 1999/2000

ADDs were requested to evaluate all sites based on (1) the quality of managing the demo components for effective exposure to farmers, and (2) the quality of data collection for the sound analysis of trial treatments. The first is a pre-requisite, the second desirable. The aim of these assessments is to maintain sites that are adequately fulfilling their required functions to improve returns for the investments made, and to preclude negative impacts from poor management. In short, if management is satisfactory, but data collection poor, the site should be maintained for extension purposes only. Each ADD should provide a list of sites meeting these criteria by 12th July, 1999 to streamline plans for next season.

Training Strategy for 1999/2000

1. Need for CBM&E refresher training/assessment of one site per ADD and per NGO in December 1999/January 2000. This is designed to build capacity and confidence in conducting the CBM&E methodology. It is expected that those ADD officers who participated in the TOT on CBM&E will participate in this re-orientation.
2. Training courses will focus on seed collection and handling for selected frontline staff in July 1999. Each ADD to train 8 LHAs/FAs and 2 FOs. MAFE will coordinate the training. NGOs requesting similar training include CSC, ECOYA, Livingstonia Synod, CPAR, WVI and Concern Universal.
3. CSC to organize a PRA training with OXFAM-GB. Those NGOs interested to participate should liaise with them.
4. Training in agroforestry, soil conservation and tree nurseries will be planned for new partners.

MONITORING AND EVALUATION

MAFE assisted its partners during May and June in conducting transect /village level sample surveys and community assessment using the CBM&E system. The aim is to build capacity to better document results for the past season and for next year. ADDs used the transect system because of their catchment approach. All NGOs except WVI used the village-based system since technologies are targeted through individuals in villages. Partners assisted included:

- All 8 ADDs
- World Vision International
- Christian Services Committee
- Interaide
- Africaire
- Canadian Physicians for Aid and Relief
- Lutheran Mobile Clinic

SO1-SO2 LINKAGE PROGRAMME UNDER USAID

GENERAL

Transport

During this quarter 6 new motor cycles were distributed, one to each LMA in all ADC's, therefore solving the previous transport problem.

MAFEP-MEMP LINKAGES

The MAFEP-MEMP linkage has ceased after the completion of the MEMP Project in April 1999.

MAFEP-SADP LINKAGES

Tree Planting

Activities focused on the CBM&E exercise, a full report on which will be made next quarter. Early indications are that tree planting results are lower than expected primarily due to a lack of timely farmer training and support. This quarter also initiated plans for assessing tree seed requirements for

next season's program under the LMP. LMA's were in the process of conducting this exercise as part of the CBM&E process, and a deadline of 31 July 199 was set at the June Mangochi Workshop for submission of targets to MAFE.

Soil and Water Conservation

The remaining vetiver nurseries in Rumphu and the one in Ntcheu continue to perform reasonably well. Direct contract labor has managed to recover a significant portion of the Zomba nursery which had been abandoned to weeds early in the season. The Department of Land Resources Conservation effected a change in vetiver policy which will impact nursery activities under the LMP next season. Details of this policy are specified above.

Legume Crop Diversification

Preliminary plans for new seed injections into the 1999/2000 crop diversification program were made for 12-15 MT CG7 groundnuts (available), 6MT PPeas (ICEAP 00020 or ICEAP 9145 depending on availability) and 5MT of soya (Santarosa or Ocepara-4 depending on availability). At the June Mangochi Workshop, the following pack sizes were agreed for seed issues in 1999/2000:

⊕ groundnuts	4 kg
⊕ soyabeans	2 kg
⊕ pigeon peas	1 kg
⊕ beans	1 kg

The estate groundnut multiplication exercise exceeded expectations with 1 MT of basic seed producing 34 MT of certified seed. Seed was harvested this quarter and is being bagged into 4kg units for distribution to farmers. The seed collection program started in earnest for beans, soyabeans and groundnuts. It appears to be going well apart from beans which had a poor harvest due to excess rain. Pigeon peas are still in the field but a good yield is anticipated.

Model Farmers

The table below reflects the number and gender distribution of model farmers selected for the 1998/99 cropping season. A range of technologies including vetiver contour hedges, DSI with msangu, undersowing with *T. vogelii* and boundary planting, have been or are in the process of being established in a selected plot on each model farm for demonstration purposes.

Model Farmers 1998/99 Season

ADC	Male	Female	Total
Mulanje	4	1	5
Zomba	No data		12
Namwera	3	1	4
Ntcheu	6	2	8
Kasungu	5	2	7
Rumphu	4	0	4
Total	22	6	40

During this quarter a plan was developed for model farmer demonstration plots that includes all the technologies being promoted under the LMP to guide LMA model farmer establishment. A target number of new model farmers for the 1999/2000 season was set at the June Mangochi Workshop, in an effort to increase GAC coverage as follows:

New Model Farmer Targets 1999/2000 Season

ADC	Total
Mulanje	6
Zomba	3
Namwera	10
Ntcheu	7
Kasungu	8
Rumphi	7
Total	41

Monitoring and Evaluation

A training session was held for LMA's on the new community-based M&E methodology at Kasungu ADD in early April. Full-scale implementation commenced following this session and was ongoing at the end of the quarter. At the June Mangochi Workshop a deadline of July 31 1999 was set for submission of completed CBM&E results. A NASFAM-level report will be compiled in the next quarterly report.

NASFAM Mangochi Workshop

At the end of this quarter MAFE participated in the NASFAM Staff bi-annual workshop held at Mangochi. The following general issues were discussed with the LMA's:

- ⇒ workplanning and reporting formats – agreed to reduce requirements for forwarding to the LMC to (i) the monthly progress report, and (ii) the monthly LMA workplan
- ⇒ reconciliation of seed issued and distributed – to be submitted following completion of the CBM&E implementation exercise
- ⇒ model farmers – report on current progress, set targets for next season, and distribute illustrative demonstration plot plan
- ⇒ crop diversification program – review 1998/1999 performance and preliminary plans for 1999/2000
- ⇒ 6 month workplan – a LMA workplan for July-December 1999 was drawn up
- ⇒ vetiver review - 1998/1999 performance and preliminary plans for 1999/2000
- ⇒ CBM&E exercise – preliminary results and a review of the methodology
- ⇒ LMA further training workshop – this was proposed for a date to be set in September 1999, to be held in Lilongwe
- ⇒ finally, the LMA's attended a refresher course on soil and water conservation and tree nursery management



EXTENSION PROJECT: *PHASE III*

QUARTERLY REPORT JULY TO SEPTEMBER 1999

WITH SUMMARY OF ANNUAL RESULTS

Prepared By

WT Bunderson, OA Itimu, ZD Jere and IM Hayes

With

GK Siyeni, AM Mpira and GG Chammagomo

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- MAFE support services, results and lessons learned. Paper presented by WT Bunderson, OA Itimu, ZD Jere and IM Hayes, Partner Review Workshop, April 26, 1999. Natural Resources College, Lilongwe.
- Malawi Agroforestry Extension Project: Annual Workplan October 1 1999 to September 30 2000. MAFE Publication No. 27.
- Best-bet soil conservation and agroforestry practices in Malawi. Booklet Series No. 1. MAFE Publication No. 28.

Changes in MAFE Staff

A number of changes in MAFE staff occurred this quarter:

- The contract of the Administration Officer, DM Kumwembe, was terminated July 1st for misappropriation of funds. His duties are being handled by the project secretary with assistance from the Director and Linkage Coordinator.
- MAFE is sad to announce the untimely death of our Deputy Director, Dr Ommar Itimu, who passed away on September 27th. MAFE staff attended the funeral services in Balaka. Condolences and support have been given to his family and relatives individually and collectively on behalf of the project. Ommar made a significant contribution to agroforestry research and development in Malawi, and his commitment, hard work and good humor will be badly missed by all. Ommar's duties will be taken over by Zwide Dexter Jere, MAFE's extension and training officer. No replacement is contemplated given the limited timeframe left for the project.
- Mr Glynwel K. Siyeni, MAFE's senior Technical Associate, has joined the VIFOR program of the EU. We continue to have close working relationships with Mr Siyeni through partnership links with VIFOR.
- Mr Dryford Chimutu, Land Husbandry Field Officer in Lilongwe ADD was attached to MAFE on a temporary basis from September 1st to offer his skills as an artist in preparing extension materials.

Equipment Received:

- 500 tally counters for M&E Transect Surveys by partners
- 500 clip boards for M&E surveys.
- 500 solar calculators for M&E survey analysis.
- 2700 line levels for distribution to field staff and farmers
- computer upgrade for office manager.

Equipment Orders:

- 1500 labels for nursery seedlings and 100 marker pens
- seed scarifying equipment.

PARTNER SUPPORT NETWORK

Major activities over the quarter centered on the following:

- Preparation of the 1999/2000 Workplan with consolidation of MAFE and partner results for the 1998/99 season with next season targets for inclusion in the 1999/2000 workplan. Field results are compared against targets in Table 1 a, b and c.
- Design and production of 3 posters on tree nursery management and outplanting, one poster for contour ridging using the line level, and one poster for vetiver nurseries and contour hedges. 3000 copies are being printed for each poster.
- Design and preparation of a booklet on best-bet agroforestry and soil conservation practices for printing by WSU, 4000 copies planned.
- Crop and tree seed collection for the 99/2000 season with packing, labeling and storage.
- Collection of tree pods from *Bauhinia thonningii* and *Faidherbia albida* for use as experimental supplemental feed for selected livestock during the dry season.
- Support to partners and collaborators for nursery inputs, germplasm and extension materials.
- Identification of villages for the VIFOR program including (1) selection of nursery and outplanting sites, (2) training to villagers in nursery management, (3) delivery of nursery inputs, (4) construction of nurseries and (5) seed treatment and sowing.
- Training course to WVI, CSC, CU and ELDP on (1) best-bet agroforestry and soil conservation practices and (2) seed collection and handling.

Summary of Key Partner Relationships during the Quarter

Organization	Subjects
USAID	<ul style="list-style-type: none"> • Monthly Donor Coordination Meetings • Workplan preparation • Proposed project evaluation • Field visits to selected MAFE/Partner sites with SO2 • Linkages with SO1 and NASFAM, including CSP consultant team for 2001
NASFAM	<ul style="list-style-type: none"> • Monthly interproject coordination meetings • Recruitment of new LMAs for new sites • Delivery of seed and other inputs to ADCs • Plans for follow-up training to LMAs
PROSCARP	<ul style="list-style-type: none"> • Coordination meetings with LRCD • Joint field programs and changes therein. • Exchange of extension materials for feedback/comments
ADD and NGO Partners	<ul style="list-style-type: none"> • Delivery of germplasm and extension materials according to submitted workplans • Training courses in response to individual requests
EU Mission	Progress on VIFOR program under MAFE's partnership initiative
Training Support Program and NASC	Plans for the 3 rd National Agroforestry Symposium

Demands for MAFEP services continue to rise with the increasing interest from all sectors in tree planting and soil conservation. The nature and scale of support offered depends on the party involved (see Table 2 for a complete list).

Table 1A: 1998/99 RESULTS AND 1999/2000 TARGETS

STRATEGIC OBJECTIVE 2:		INCREASED SUSTAINABLE USE, CONSERVATION, AND MANAGEMENT OF NATURAL RESOURCES			
APPROVED: 15/03/95		COUNTRY/ORGANIZATION: USAID/Malawi			
INTERMEDIATE RESULT 2.3 :		Service programs improved			
INDICATOR: Agroforestry/soil conservation support services provided to partners					
UNIT OF MEASURE: Number (cumulative) except for tree seed since this is used up annually.					
<p>a) number of ADDs/ Govt Depts / Donor Project Partners b) number of NGO partners c) number of private sector partners¹ d) number of trainers and field staff trained in AF/SC practices e) hectareage under vetiver nurseries (includes farmers, groups, govt plots and private estates) f) tons of improved grain legume seed distributed to partners annually g) tons of tree seed distributed annually to partners</p>					
SOURCE: WSU and partner quarterly/annual reports					
INDICATOR DESCRIPTION:		Year	Planned	Actual	
<p>MAFE support to USAID/Govt/NGO/private sector partners to improve/expand the implementation of agroforestry/soil conservation practices with farmers.</p> <p>COMMENTS ON 1999 RESULTS AND 2000 TARGETS: One additional donor project partner targeted in 2000. One NGO partner was dropped (VEZA) due to poor performance, and 2 new ones added, CARE and OXFAM for 2000.</p> <p>Training strategy focused on trainers to expand impacts through multiplier effect (numbers shown are trainers directly trained by MAFE)</p> <p>Tree germplasm includes short-term species like <i>Tephrosia vogelii</i>. The split is 10 tons of <i>Tephrosia</i> and 3 tons of other tree seed. Targeted tree seed distributed by MAFE to partners increases in 2000 because of increased demand, but some partners have begun their own seed collection to reduce dependency on MAFE for tree germplasm.</p>		1996 (B)	a) 10	10	
			b) 2	2	
			c) 2	2	
			d) 200	218	
			e) 31	33	
			f) 0.1	0.1	
			g) 2.1	2.1	
			1997	a) 10	10
				b) 2	2
				c) 2	2
				d) 270	269
				e) 83	87
				f) 10	10.6
				g) 6.1	6.1
			1998	a) 15	15
				b) 10	10
				c) 4	4
				d) 562	890
				e) 155	208
				f) 15	8.5
				g) 5.2	6.25
			1999	a) 16	16
				b) 13	13
				c) 5	2
				d) 1465	1270
				e) 300	272
				f) 20	28.4
				g) 9	6.6
	2000	a) 17			
		b) 14			
		c) 3			
		d) 1500			
		e) 400			
		f) 40			
		g) 13			

Table 1B: 1998/99 RESULTS AND 1999/2000 TARGETS

STRATEGIC OBJECTIVE 2: INCREASED SUSTAINABLE USE, CONSERVATION, AND MANAGEMENT OF NATURAL RESOURCES			
APPROVED: 15/03/95		COUNTRY/ORGANIZATION: USAID/Malawi	
INDICATOR: Increased adoption of improved soil conservation and agroforestry practices (specified below).			
UNIT OF MEASURE:			
a) no. of hectares for practices (i) and (2); millions of trees for practice (3)			
b) no. of farm families adopting each practice			
c) % of participating households that are female headed (new indicator starting 1999)			
SOURCE: Washington State University and partner institutions			
<p>1) contour strips of grass/shrubs, reduced tillage, or combinations thereof¹</p> <p>¹ Excludes contour and box/tie ridging since the integration of dense vegetative barriers is vital to reduce erosion and runoff. Also reduced tillage practices will not be extended till after trials are completed in 2000.</p> <p>COMMENTS ON 1999 RESULTS AND 2000 TARGETS: High achievements relative to targets for number of FF is due to high interest in the practice, the limited material to share out, and the high labour needs for establishment. FF Targets for 2000 were therefore adjusted upward, with less area planted per FF.</p>	YEAR	PLANNED	ACTUAL
	1996 (B)	a) 400 b) 1,000	a) 385 b) 822
	1997	a) 600 b) 1,400	a) 506 b) 1,272
	1998	a) 750 b) 3,000	a) 2,872 b) 6,464
	1999	a) 5,000 b) 10,000 c) 30%	a) 6,154 b) 19,594 c) 22%
2000 (T)	a) 14,000 b) 60,000 c) 30%	a) b) c)	
<p>2) soil-improving trees/shrubs planted in intercropping and/or short-term fallow systems:</p> <p>COMMENTS ON 1999 RESULTS AND 2000 TARGETS: 1999 achievements for no. of FF were higher than targets because more FF expressed interest in the practices for the seed available, so smaller areas were planted per FF.</p>	1996 (B)	a) 3,500 b) 7,000	a) 3,311 b) 6,543
	1997	a) 7,000 b) 15,000	a) 4,381 b) 12,993
	1998	a) 10,000 b) 22,000	a) 6,525 b) 23,533
	1999	a) 12,500 b) 35,000 c) 25%	a) 13,638 b) 50,869 c) 23%
	2000 (T)	a) 20,000 b) 100,000 c) 25%	a) b) c)
<p>3) increased tree planting as woodlots and on homesteads/boundaries¹</p> <p>COMMENTS ON 1999 RESULTS AND 2000 TARGETS: ¹ Units are trees in millions planted annually by FF with a 48% survival rate by MAFEP and its partners (not cumulative since many trees die or are felled every year). Excludes tree planting by the Forestry Dept and relief organizations.</p> <p>Targets were set too high for number of surviving trees per FF so more FF are being targeted in 2000 based on increasing interest to plant trees with the limited seed available.</p>	YEAR	PLANNED	ACTUAL
	1996 (B)	a) 0.08 b) 255	a) 0.05 b) 528
	1997	a) 2.5 b) 10,000	a) 2.4 b) 9650
	1998	a) 4.0 b) 15,000	a) 3.82 b) 16,940
	1999	a) 6.0 b) 80,000 c) 30%	a) 6.98 b) 115,913 c) 36%
2000 (T)	a) 8.0 b) 120,000 c) 36%	a) b) c)	

Table 1C: 1998/99 RESULTS AND 1999/2000 TARGETS

STRATEGIC OBJECTIVE 2:		INCREASED SUSTAINABLE USE, CONSERVATION, AND MANAGEMENT OF NATURAL RESOURCES		
APPROVED: 15/03/95		COUNTRY/ORGANIZATION: USAID/Malawi		
INTERMEDIATE RESULT 2.3 : Service programs improved				
INDICATOR: Agroforestry technologies and support services tested, evaluated and adapted at the farm level before broad-based extension to farmers.				
UNIT OF MEASURE: Cumulative number of technologies that are (a) undergoing testing, or (b) have completed testing and modification/adaptation with farmers. Note that new technologies may be added for testing in a given year, while others complete testing.				
SOURCE: WSU quarterly and technical reports				
INDICATOR DESCRIPTION: Each technology undergoes on-farm testing with farm communities in multiple sites to identify what technologies work where and why, and what does not. Refinements/adaptations are made to enhance farmer adoption with faster & greater returns and lower costs by better understanding the socio-economic and bio-physical factors that affect adoption. When testing is complete, extension recommendations are made, but improvements may continue in management and species selection. Technologies below are categorized according to their primary function, though many have multiple uses (wood, fodder, thatching etc) with contributions to soil/water conservation.				
YEAR	NO. TECHNOLOGIES		TECHNOLOGIES/PRACTICES	Extension Suitability
	PLANNED	ACTUAL		
1992 (B)	a) 12	a) 12	A. Germplasm multiplication/collection 1) Tree nurseries (individual & communal)	Countrywide
	b) 0	b) 0		
1993	a) 13	a) 13	3) Seed banks	Countrywide
	b) 0	b) 0		
1994	a) 11	a) 11	B. Soil and Water Conservation	Countrywide
	b) 3	b) 3		
1995	a) 6	a) 6	6) Gully reclamation ¹	Countrywide
	b) 9	b) 9		
1996	a) 2	a) 2	8) Reduced tillage & crop residue management	Testing incomplete
	b) 14	b) 14		
1997	a) 2	a) 2	C. Soil Fertility/Conservation	Countrywide
	b) 15	b) 15		
1998	a) 2	a) 1	10) Hedgerow/alley intercropping ¹	Countrywide
	b) 15	b) 16		
1999	a) 1	a) 1	12) Improved short-term fallows ²	Countrywide
	b) 16	b) 16		
2000 (T)	a) 1		D. Tree Planting for wood/other products	Testing incomplete
	b) 16			
COMMENTS: After several years of testing and adaptation with farmers in different agro-ecological zones, many technologies are ready for extension on a wide or selective scale depending on farmer and location conditions, with species to match the site. New technologies with great promise for impact include (1) reduced tillage with crop residue management for soil/water conservation with much reduced labour for annual ridging, and (2) undersowing crops with fast-growing n-fixing shrubs, producing more than double th yields in 1-2 seasons, depending on biomass yields. These two technologies are currently undergoing intensive testing to shorten the time for extension.			15) Living fences ¹	Selective
			16) Fodder banks ²	Selective
			17) Living barns ³	Selective
			¹ Limited to farmers with crops, trees or animals that need protection from outside agents.	
² Limited to farmers with larger farms or plots that are being left idle.				
³ Targeted at growers of cash crops for curing sheds and barns.				

Support services basically fall into 2 categories: (1) formal support to partners, and (2) informal support to other parties, groups or individuals seeking assistance:

Partnerships:

These are government agencies, NGOs, projects and private companies that have entered into a formal agreement with MAFEP for support services to increase the adoption rate and impact of improved agroforestry and soil conservation practices. Services provided include:

- Technical information on what practices to target based on the community and problem to be addressed, location and agro-environment.
- On farm evaluation of new technologies developed by researchers.
- Training courses in subject areas defined by the partner.
- Extension / training materials (e.g., field manuals, extension leaflets, posters, and training kits).
- Germplasm support for planting material best suited to partner needs.
- Follow-up field visits to assess progress, management and problems that need correction.
- Improved M&E methods to document results for better consistency, reliability, and cost efficiency.

Partners provide workplans on results and targets by number of households, area conserved and number of trees planted. The level of support provided is decreasing among partners who have operated for more than one season as they gain confidence, skills and knowledge. Reduced dependencies on MAFEP is important for sustainability, freeing up time to support new parties needing assistance.

Parties Requesting Assistance:

Requests have proliferated for MAFEP to provide information and assistance on tree planting and soil conservation. Most requests come from individuals, groups, communities, clubs, small NGOs and commercial farmers. Since MAFEP has a mandate to expand results on the ground, and is well placed to provide assistance, it is right and proper to help those seeking support. Most assistance is in the form of supplying seed and relevant information with advice on contacts for further assistance in the location targeted.

TECHNOLOGY DEVELOPMENT

MAFEP is investigating new technology opportunities with researchers and farmers, with a focus on:

- Evaluating the potential of undersowing using other leguminous shrubs such as *Mucuna pruriens* and *Crotalaria* species.
- Dry-season supplemental feeding of livestock using nutritious pods harvested from natural trees.
- Reduced tillage with crop residue management to improve soil and water conservation with lower labor demands. Trial sites have been reduced from 260 to about 120 based on the quality of data generated and management of the demonstrations (see Map on MAFE Partner Sites).
- Research plans, pending USAID support, on the potential production and marketing of non-timber products, notably oil from *Moringa oleifera*, leaf and fruit extracts from neem (*Azadirachta indica*), rotenone from *Tephrosia vogelii*, bio-diesel fuel from *Jatropha curcas* and gum from guar bean.

Table 2: USAID MAFEP/SO2 PARTNERS AND COLLABORATORS

NGO Partners	Head office location	Site(s) located	No. of sites	Type of support ¹
Evangelical Lutheran Dev. Program (ELDP)	Blantyre	Lilongwe	5	E/TM, GM, M&E, T
		Dedza	1	E/TM, GM, M&E, T
		Blantyre	1	E/TM, GM, M&E, T
Lutheran Mobile Clinic (LMC)	Lilongwe	Lilongwe	4	E/TM, GM, M&E, T
Concern Universal (CU)	Blantyre	Dedza	5	E/TM, GM, T
CCAP Livingstonia	Ekwindeni	Mzimba	5	E/TM, GM, M&E, T
		Rumphu	1	E/TM, GM, M&E, T
		Kasungu	2	E/TM, GM, M&E, T
		Nkhata Bay	1	E/TM, GM, M&E, T
Canadian Physicians for Aid and Relief (CPAR)	Lilongwe	Lilongwe	1	E/TM, GM, M&E, T
World Vision Malawi (WVI)	Lilongwe	Mchinji	6	E/TM, GM, M&E, T
		Mzimba	10	E/TM, GM, M&E, T
		Rumphu	12	E/TM, GM, M&E, T
		Lilongwe	8	E/TM, GM, M&E, T
		Karonga	6	E/TM, GM, M&E, T
		Chiradzulu	6	E/TM, GM, M&E, T
		Dowa	10	E/TM, GM, M&E, T
		Balaka	7	E/TM, GM, M&E, T
		Thyolo	4	E/TM, GM, M&E, T
		Kasungu	12	E/TM, GM, M&E, T
		Ntchisi	8	E/TM, GM, M&E, T
		Machinga	5	E/TM, GM, M&E, T
		Mulanje	7	E/TM, GM, M&E, T
		Chitipa	7	E/TM, GM, M&E, T
		Mangochi	7	E/TM, GM, M&E, T
Zomba	7	E/TM, GM, M&E, T		
InterAide	Nkhoma	Lilongwe	1	E/TM, GM, M&E, T
Christian Service Committee (CSC)	Lilongwe	Mzimba	3	E/TM, GM, M&E, T
		Dowa	2	E/TM, GM, M&E, T
		Dedza	3	E/TM, GM, M&E, T
		Ntcheu	1	E/TM, GM, M&E, T
		Balaka	1	E/TM, GM, M&E, T
		Mangochi	1	E/TM, GM, M&E, T
		Machinga	1	E/TM, GM, M&E, T
		Zomba	2	E/TM, GM, M&E, T
		Chiradzulu	1	E/TM, GM, M&E, T
		Nsanje	1	E/TM, GM, M&E, T
Mulanje	1	E/TM, GM, M&E, T		
Greenline Movement	Machinga	Machinga	1	E/TM, GM, T
Bwanje Valley Women' Forestry Society	Bwanje	Bwanje	1	E/TM, GM, T
Self Help Development International	Linthipe	Dedza	1	E/TM, GM, M&E, T
Africaire	Ntcheu	Ntcheu	1	E/TM, GM, M&E, T
CARE International	Lilongwe	Lilongwe	2	E/TM, GM, IS
OXFAM-GB	Mulanje	Mulanje	1	E/TM, GM, M&E, T

¹TYPE OF SUPPORT

E/TM = Extension/training materials

IS = Information Sharing/Meetings

GM = Germplasm

T = Training in agroforestry, soil conservation and nurseries

FTS = Field technical support

M&E = Community-based monitoring and evaluation

R = Research and technology development

GF = Grant Funds

Table 2 (continued): USAID MAFEP/SO2 PARTNERS AND COLLABORATORS

GOM & Project Partners	Head office location	Site(s) located	No. of sites	Type of support ¹
Karonga ADD	Lilongwe	Karonga	2	E/TM, FTS, GF, GM, M&E, T
Mzuzu ADD		Mzuzu	4	E/TM, FTS, GF, GM, M&E, T
Kasungu ADD		Kasungu	6	E/TM, FTS, GF, GM, M&E, T
Lilongwe ADD		Lilongwe	7	E/TM, FTS, GF, GM, M&E, T
Salima ADD		Salima	1	E/TM, FTS, GF, GM, M&E, T
Machinga ADD		Machinga	4	E/TM, FTS, GF, GM, M&E, T
Blantyre ADD		Blantyre	3	E/TM, FTS, GF, GM, M&E, T
Shire Valley ADD		Shire Valley	5	E/TM, FTS, GF, GM, M&E, T
PROSCARP		Lilongwe	All ADDs	120
Department of Forestry	Lilongwe	All Districts	22	E/TM, IS, T
Department of Environmental Affairs	Lilongwe	Thyolo	1	E/TM, GM, T
Department of National Parks	Lilongwe			E/TM, T
National Smallholder Farmers Association of Malawi (NASFAM)/SADP	Lilongwe	Rumphi	3	E/TM, FTS, GM, M&E, T
		Kasungu	3	E/TM, FTS, GM, M&E, T
		Ntcheu	2	E/TM, FTS, GM, M&E, T
		Namwera	3	E/TM, FTS, GM, M&E, T
		Zomba	3	E/TM, FTS, GM, M&E, T
		Mulanje	3	E/TM, FTS, GM, M&E, T
Peace Corps	Lilongwe			E/TM, GM, T
Lilongwe Forestry Project	Lilongwe	Lilongwe	20	E/TM, T
Blantyre Fuelwood Project	Blantyre	Blantyre		E/TM, T
VIFOR Project	Lilongwe	Lilongwe	50	E/TM, FTS, GM, M&E, T
		Dowa	50	E/TM, FTS, GM, M&E, T
Private Sector Partners				
Round Table/TEAM	Bunda	Bunda	1	E/TM, GM, M&E, T
Limbe Leaf Tobacco Company	Lilongwe	Unspecified	?	E/TM, GM, M&E, T
Parties Requesting Information, Training and/or Germplasm				
EU Social Forestry Project	Lilongwe	5 Districts		E/TM, IS, T
Mvera Christian Group	Chezi	Dowa	1	E/TM, GM, T
Smallholders Organic Growers Association (SHOGA)	Blantyre	Blantyre	2	E/TM, GM, T
	Lilongwe	Lilongwe	2	
Chezi Catholic Group	Chezi	Dowa	1	E/TM, GM, T
Dzithndizeni Women Group	Mchinji	Mchinji	1	E/TM, GM
Environmental Concern Youth Organization	Blantyre	Blantyre	1	E/TM, GM, T
Mthuzi wa Malawi	Chingale	Zomba	2	E/TM, GM
Rural Foundation for Afforestation	Mzuzu	Rumphi	1	E/TM, GM
Titani Rural Youth Support Organization	Chingale	Zomba	1	E/TM, GM
Active Youth Initiative Social Enhancement	Blantyre	Blantyre	1	E/TM, GM
		Chiradzulu	1	
Bangwe Youth Club	Bangwe	Blantyre	1	E/TM, GM
Chilengedwe	Malosa	Machinga	2	E/TM, GM
Research Collaborators				
Department of Agricultural Research		Lilongwe		IS, R
Bunda College of Agriculture		Lilongwe		IS, R
Forestry Research Institute of Malawi (FRIM)		Zomba		IS
Int'l Center for Research in Semi-Arid Tropics		Chitedze		GM, R, IS
Rockefeller Foundation		Lilongwe		R

¹TYPE OF SUPPORT

E/TM = Extension/training materials

IS = Information Sharing/Meetings

GM = Germplasm

T = Training in agroforestry, soil conservation and nurseries

FTS = Field technical support

M&E = Community-based monitoring and evaluation

R = Research and technology development

GF = Grant Funds

TRAINING SERVICES

The objective of the training program is to build capacity among partner organizations by improving knowledge and skills of staff in extension delivery of best-bet agroforestry and soil conservation practices to farmers. The training program has become demand-driven from expressed partner requests for training that is tailor-made to meet specific needs.

Training this Quarter:

MAFE provided training in agroforestry and soil conservation to a total of 93 members of staff from Christian Services Committee, Concern Universal, Evangelical Lutheran Development Program and World Vision International – Kasungu ADP (see **Table 3**). Training courses for ELDP and WVI-Kasungu ADD also involved ADD staff. At all the five courses, seed collection and management module received special emphasis. This is in line with MAFE's strategy to build capacity of partner organizations in the services currently being provided under the project.

Table 3: Training Courses Conducted during the Quarter

Date	Topics covered	Organization	Audience	No. Participants
July 5-9	Agroforestry and SWC practices; seed collection and management	Christian Services Committee	Development Facilitators	19
		Inter Aide	Development Facilitators	1
July 12-14		Concern Universal	Extension Staff	10
		Dedza Hills RDP	Front Line Staff	7
Aug 9-13	Agroforestry and SWC practices; seed collection and management	ELDP (Blantyre)	Front Line Staff	14
Aug 30 – Sept 3		ELDP (Lilongwe West, Dedza and Dowa)	Front Line Staff	32
Sept 20-23		WVI-Kasungu ADP	Development Facilitators	6
		Kasungu ADD	Front Line Staff	4
			TOTAL	93

Training during the 1998/99 Season prior to this Quarter:

A total of 380 staff and 711 farmers were trained directly by MAFEP during the 1998/99 season. The project refocused its strategy to train core teams as trainers within partner organizations for multiplier impacts. Out of the total of 380 staff, 65 were trained as trainers. Topics included participatory extension and teaching methods, best-bet technologies, and the new system of community based monitoring and evaluation. The balance of staff were trained in nursery management, agroforestry and soil conservation practices. This strategy is designed to make partner organizations more self-reliant in imparting skills and knowledge to their frontline staff and farmers.

Table 4 gives numbers of staff/farmers trained per organization for the whole 1998/99 season.

Training Strategy for 1999/2000

Partner review meetings identified specific hands-on training services from MAFEP to increase partner self-sufficiency for continuing agroforestry programs after the project ends in the following areas:

1. tree seed collection and handling to reduce dependency on MAFEP for germplasm
2. nursery management and best-bet practices as refresher courses to build confidence in extending messages, emphasizing key management issues and problem solving
3. community-based monitoring and evaluation to document results that are accurate, simple and low cost with information to improve targeting of extension support services.

Table 4: Numbers of Staff and Farmers Trained per Organization for the 98/99 Season

NAME OF ORGANIZATION/GROUP	STAFF TRAINED	FARMERS TRAINED
<u>Government and Parastatals</u>		
8 x Agricultural Development Divisions	152	0
Department of Land Resources Conservation	4	0
Department of Forestry	48	0
Department of National Parks	6	0
Department of Environmental Affairs	22	0
Agricultural Research & Extension Trust	1	0
Peace Corps Volunteers	17	0
<u>Projects and NGOs</u>		
NASFAM	28	406
Border Zone Development Project	1	0
World Vision International	44	0
Christian Service Committee	28	0
Canadian Physicians for Aid and Relief	13	34
InterAide	6	0
Lutheran Mobile Clinics	7	0
Evangelical Lutheran Development Program	54	0
Concern Universal	15	0
Africaire	2	0
Catholic Development Commission	1	0
Mvera Catholic Church Group	5	119
Bwanje Valley Women Society	6	0
Self-Help Development International	2	0
Greenline Movement	4	0
Livingstonia Synod	5	0
Lilongwe Round Table Tree Project	1	0
OXFAM-GB	1	0
Likuni Parish	0	152
Total	473	711

Training Plans

October-December: Training will focus on seed collection and handling for frontline staff. Each ADD will train up to 8 Field Assistants and 2 Field Officers who will train farmers in areas where specific types of tree seed can be collected. NGOs will include CSC, ECOYA, Livingstonia Synod, CPAR, WVI and Concern Universal. NGOs training will be done in groups depending on the number of participants per organization.

December-January: CBM&E follow-up training is planned with a full evaluation of one field site per ADD and NGO to build capacity and confidence in the CBM&E methodology. It is recommended to target officers who participated in the TOT on CBM&E to maintain continuity.

October to March: Selective courses on nursery management, best-bet practices and grafting of fruit trees will be carried out on a demand-basis from existing and new partners.

PRODUCTION AND DISSEMINATION OF TRAINING AND EXTENSION MATERIALS

MAFEP has begun intensive revisions to update and expand its extension and training materials for dissemination to government, NGO, donor and private sector partners, as well as to policy makers.

Extension Booklets

MAFEP is planning the production and dissemination of 3 booklet series on the following topics:

- Best-bet Agroforestry and Soil Conservation Practices
- Tree Nursery Management and Outplanting Practices
- Common Agroforestry Species for Malawi

During the quarter, MAFEP produced a booklet in English on the first booklet series: best-bet soil conservation and agroforestry practices. The target audience is government and NGO field staff. The contents of the booklet are as follows:

1. Contour ridging with the line level
2. Vetiver nurseries and contour hedges
3. Nursery management and outplanting of common agroforestry trees
4. Homestead tree planting
5. Dispersed systematic tree interplanting
6. Undersowing *Tephrosia vogelii* with maize (shorter version than the one currently in print)

After intensive reviews and pre-testing, the booklet was sent to WSU for printing 4000 copies. A Chichewa version will be prepared next quarter to reduce critical translation errors by field staff when training farmers, but extra funds are needed to meet printing costs.

Posters

MAFEP is designing and producing posters in Chichewa to target farmers for each of the above topics. Posters will be disseminated to agricultural and forestry offices, NGOs, projects, churches, schools, town halls and targeted villages. Each poster will contain illustrations with short, clear narrative to explain key impact/management points.

3000 copies of the following posters were produced this quarter:

- 3 posters on key management practices for establishing and managing tree nurseries
- 1 poster on contour ridging using the line level
- 1 poster on vetiver grass nurseries and contour hedges

MAFE will hold three regional workshops early next quarter to distribute the booklets and posters, and to explain how to use them. During the meeting, a consistent strategy will be developed on how best to target and disseminate posters to communities.

GERMPLASM SUPPLY AND DISTRIBUTION

Availability of quality germplasm clearly limits the scale and success of planting programs, and growing demands demonstrate the urgency to address the issue before it becomes more acute. Table 5 summarizes tree and crop seed distributed directly to partners by MAFEP in 1998/99. Table 6 shows quantities collected and distributed during the quarter, and Table 7 shows overall targets for 1999/2000.

Table 5: Agroforestry and Crop Planting Material Distributed by MAFEP to Partners in 1998/99

Agroforestry Germplasm	Total kg		Potential No. Trees or Ha	
Tree seed and seedlings	3986		14.16 million trees	
<i>Tephrosia</i> seed for undersowing	2725		545 ha	
Vetiver grass	7-ton Truck Loads	No. Nurseries	Nursery Area (ha)	Area to be conserved
	32	29	8	720
Total No. Partners given Planting Material	31			

Crop Seed to NASFAM	Kg Seed		Potential Area and Production	
	Delivered	Potential Seed Return	Area (ha)	Production (MT)
Groundnuts	10,378	15,567	91	91
Pigeon Peas	13,998	20,997	2,154	656
Beans	1,059	1,589	21	5
Soyabeans	2,878	4,317	38	19
Total	28,313	42,470	2,304	771

Table 6: Tree and Crop Seed Collected and Distributed during the Quarter

Tree Seed	Kg COLLECTED	Kg DISTRIBUTED *
<i>Acacia galpinii</i>	0	219
<i>Acacia polyacantha</i>	190	238
<i>Acacia seiberiana</i>	148	0
<i>Azelia quanzensis</i>	3,132	575
<i>Albizia lebbeck</i>	56	121
<i>Albizia adianthifolia</i>	2	0
<i>Albizia zimmermannii</i>	0	14
<i>Bauhinia thonningii</i>	38	0
<i>Colospermum mopane</i>	5	0
<i>Faidherbia albida</i>	3,207	639
<i>Gliricidia sepium</i>	0	15
<i>Khaya nyasica</i>	0	204
<i>Melia azaderach</i>	0	49
<i>Moringa oleifera</i>	0	24
<i>Senna siamea</i>	28	210
<i>Senna spectabilis</i>	0	168
<i>Sesbania sesban</i>	0	4
<i>Tephrosia vogelii</i>	3,100	4,721
<i>Terminalia sericea</i>	245	34
<i>Toona ciliata</i>	0	2
<i>Ziziphus mauritiana</i>	0	58
Total tree seed	10,151	7,295
Crop seed		
Soyabeans (Magoye/Santa Rosa)	2800	0
Pigeon peas ICEAP 00020	90	0
Groundnuts CG7	36,000	3680
Total crop seed	38,890	3,680

* Tree seed distributed to 10 Govt/Donor Partners and 23 NGO Partners

Table 7: Target Agroforestry and Crop Planting Material for Distribution by MAFEP to Partners in 1999/2000

Agroforestry Germplasm	Total kg *		Potential No. Trees or Ha	
Tree seed and seedlings	3000		10.6 million trees	
<i>Tephrosia</i> seed for undersowing	10,000		2000 ha	
Vetiver grass	7-ton *	No.	Nursery Area (ha)	Area to be conserved
	Truck Loads	Nurseries		
	30	50	15	1120
Total No. Partners to receive Planting Material		46		

Crop Seed to NASFAM and CARE	Kg Seed		Potential Area and Production	
	Target Distribution	Potential Seed Return	Area (ha)	Production (MT)
Groundnuts (CG7)	35,000	70,000	306	303
Pigeon Peas (ICEAP 00020)	1,100	7,700	154	770
Soyabeans (Magoye/Santa Rosa)	3,800	7,600	47.5	20
Total	39,900	86,300	507.5	1,093

* Quantities targeted for distribution directly by MAFE will decrease due to Partner Collections

MONITORING AND EVALUATION

Introduction

MAFE has taken a lead role in the development of transect and village-based CBM&E methodologies to monitor and evaluate agroforestry and soil conservation programs in Malawi. The transect system tracks results where targeting is done on a catchment basis, while the village-based approach is designed for programs that target individuals in villages. Details about these methodologies are contained in 2 instruction manuals: MAFEP Publication Series 24 and 25.

1998/99 Results

The methodologies were finalized during the 1998/99 season after extensive reviews and pre-testing, which demonstrated significant improvements in accuracy, cost and efficiency so that more resources can be directed at achieving results. Changes made reflect feedback from implementers and field results to focus and streamline data collection and analysis to provide an accurate assessment of the scale and quality of land-use practices in the context of the farming ecosystem. Uniformity in the indicators and methods allows comparisons and consolidation across sites regardless of the implementing agency. Active community participation ensures that programs are responsive to farmer needs, and all monitoring is gender sensitive. The appeal of the 2 systems is their adaptability to monitor any NRM or agricultural practice. Recent exposure and strong endorsement by LRCD and the MAI have generated high demands for imminent and widespread adoption.

During the season, MAFE assisted its partners in implementing the CBM&E methodology in their respective sites, tailored to their needs. The aim was to build capacity to better document results for the past season and for next year. All partners expressed tremendous enthusiasm for the system based on the quality and quantity of the results produced.

Assistance in the CBM&E systems was provided to the following partners:

- All 8 ADDs
- World Vision International
- Christian Services Committee
- InterAide
- Africaire
- Canadian Physicians for Aid and Relief
- Lutheran Mobile Clinic
- PROSCARP

It is noteworthy that PROSCARP used the transect system to assess adoption of agroforestry and soil conservation practices in most of its 275 sites. ADD officers organized the monitoring activities after undergoing a series of training provided by MAFE.

This Quarter

MAFE completed final revisions to the CBM&E manuals for (1) programs operating on a catchment area basis, (2) NASFAM farmer clubs and groups, and (3) programs operating on a village basis that do not target contiguous areas of land.

Institutionalization Plans for 1999/2000

The Department of Land Resources Conservation is undertaking actions to institutionalize the CBM&E system within all of its Government and Donor programs. This will include (1) steps to identify and fill a new full time monitoring and evaluation officer within the department, and (2) actions to support implementation and capacity building at the field level.

MAFE plans the following services to speed up institutionalizing the system with the Ministry of Agriculture and Irrigation:

- Refresher courses for its partners with a full assessment of sample field sites in December 1999 and January 2000. ADD/NGO officers who participated in the TOT on CBM&E are targeted to participate in the re-orientation.
- Printing and distribution of field manuals for the catchment based system during the refresher training courses in December 1999 and January 2000.
- Supply of basic tools to all partners to facilitate data collection and analysis in the field. These will include: 500 sets of manuals, dataforms, clipboards, tally counters and hand calculators. Quantities to be distributed will be sufficient to cover an average of 60 sites per ADD.

These fundamental services will further consolidate capacity building and confidence in conducting the CBM&E methodology.

GENERAL

Memorandum of Understanding

The Memorandum of Understanding for inter-project collaboration underlying the SO1/SO2 Linkage Programme was signed by the MAFEP, NASFAM, MEMP and by USAID on 24th September 1998. This meant a late start for the 1998/99 cropping season, exacerbated by funding delays. The incremental budget to fund this programme was split between MAFEP and SADP. The MAFEP portion was approved by the Botswana Contracts Office in late December 1998, with the NASFAM portion being approved even later.

These delays, although critical in terms of the cropping season, were mitigated to some extent by the willingness of MAFEP and NASFAM to cover initial costs themselves, particularly tree and crop seed. This did not extend to staff recruitment and capital items.

Recruitment

The long-term Linkage Coordinator (Ian Hayes) position was filled in October 1998. In addition, six Land-Use Management Advisor (LMA) positions were filled in all the NASFAM Agribusiness Development Centres (ADCC) viz. Rumphu, Kasungu, Ntcheu, Namwera, Zomba and Mulanje. The Rumphu (Mr. V. Nyirongo), Ntcheu (Mr. D. Mzumara), Kasungu (Mr. R. Museka) and Namwera (Mr. H. Chimutu) positions were filled by the end of December 1998. The Mulanje (Ms. G. Kasongo and Zomba (Mr. K. Mbalame) LMA's took up their posts in January 1999.

LMA Reporting and Workplanning

Monthly reporting and work planning formats were developed during the Jan – Mar 1999 quarter for use by the LMA's which closely follow the current ADC system. The reporting requirements involve an EPA-Level summary of field activities including farmer participation in meetings, and a narrative report on general monthly activities. The work planning requirements are twofold requiring a daily individual workplan and a consolidated ADC monthly workplan.

Transport

As a result of the funding delays, purchase of the linkage motor vehicle was deferred until the Jan – Mar 1999 quarter. The impact of this was limited through the use of other MAFEP vehicles. However, the purchase of six LMA motorcycles, which was delayed until the Apr – Jun 1999 quarter, compromised the startup of the linkage programme by severely restricting field activities. The linkage motor vehicle was involved in an accident during the Jul – Sep 1999 quarter and is currently a non-runner, but actions are underway to restore it to operation.

Training and Extension Materials

As part of the recruitment process, the Mulanje, Ntcheu and Rumphu LMA's attended a short training course in soil and water conservation techniques and agroforestry practices, followed by a SADP orientation course and a motorcycle maintenance training session.

During the Oct – Dec 1998 quarter, MAFEP conducted training on nursery and tree seedling management techniques with SADP staff at all six ADCs. MAFEP also facilitated farmer training sessions in Zomba, Kasungu and Rumphu. In addition, MAFEP produced a Land-Use Management Advisor NRM Training Kit which was distributed to all LMAs and Agribusiness Development Centre Coordinators (ADCC).

In the Apr – Jun 1998 quarter, all six LMA's attended a refresher course on soil and water conservation and tree nursery management at the NASFAM Mangochi workshop. In the Jul – Sep 1999 quarter, MAFEP started distributing a range of Chichewa extension posters on agroforestry and soil and water conservation to all LMA's to be used for training purposes and then left with farmers for future reference.

MAFEP-MEMP LINKAGES

This linkage, which ceased after the completion of MEMP in April 1999, comprised the following:

- **Kamundi** – at this site in Machinga ADD, MEMP, in collaboration with MAFEP, were researching the effect of soil and water conservation and agroforestry practices on erosion. Initial research has indicated the potential for a new erosion-assessment methodology involving counting broken ridges. MAFEP is currently waiting to receive the trial data.
- **GIS Mapping** – MEMP produced a GIS map of all MAFEP partner sites which has been installed in the MAFEP offices. The information also includes a number of useful overlays including agro-climatic zones, soil types and EPA boundaries.

MAFEP-NASFAM LINKAGES

Tree Planting

A range of tree seeds (see **Table 8**) and polytubes were distributed to all ADCs during the Oct-Dec 1998 quarter in an effort to promote systematic interplanting and undersowing for soil fertility and homestead planting for poles and fuelwood. Seed was distributed to farmers free of charge with records kept in a registration book for later follow-up. Farmers were instructed in nursery and seedling management techniques, primarily by ADC staff other than the LMAs, as the latter only reached their posts in December at the earliest. A number of site visits were made during the quarter to evaluate tree planting activities.

The tree planting programme results, derived from the CBM&E exercise, are detailed in **Table 9**. The estimated survival rate of 11% for tree planting is a poor result, and can be attributed to a number of factors including the following:

- ⇒ late start to the season for essential nursery preparation including late disbursement of seed and polytubes to farmers in some ADC's (Mulanje and Zomba)
- ⇒ insufficient farmer training in and supervision of nursery management practices, primarily due to late LMA placement and field transport restrictions

Tree seed (and tubes) were distributed to all ADC's for the 1999/2000 season (see **Table 10**) during the Jul – Sep 1999 quarter, in line with targets set by the farmers through the CBM&E exercise. This was followed by farmer training in tree nursery management techniques by the LMA's, a programme which has extended into the Oct – Dec 1999 quarter.

Table 8: 1998/99 NASFAM Tree Seed Issues

Location	Nkhungu	Mthete	Mtangananga	Msanbamu	Msangu	Keshya wa milimo	Keshya wa maluwa	Mthuthu	Farmers No.
Mulanje	0.0	0.0	21.0	55.0	58.0	73.0	65.0	42.0	135
Zomba	405.0	405.0	187.5	93.0	1,075.0	1,150.0	1,247.5	537.5	NA
Namwera	174.0	230.0	226.0	185.0	199.0	284.0	220.0	247.0	731
Ntcheu	105.0	55.0	87.0	56.0	95.0	1,211.0	364.0	109.0	389
Kasungu	109.0	160.0	75.0	60.0	180.0	562.0	311.0	69.0	617
Rumphu	103.0	24.0	57.0	68.0	16.0	246.0	72.0	170.0	313
Tot. Packets	896	874	654	517	1,623	3,526	2,280	1,175	2,185

Note: (1) Mthuthu packets are 0.5 kg (enough for 0.1 ha undersowing); (2) all other seed packets contain enough seed for 100 seedlings. Number of farmers involved at Zomba ADC were not available at the time of writing.

Table 9: 1998/99 NASFAM Survey Results: Tree Planting Summary

	Potential Trees Issued	Trees Planted	% Result
Mulanje	27,200	3,996	15%
Zomba	456,300	30,606	7%
Namwera	151,800	59,608	39%
Ntcheu	197,300	13,939	7%
Kasungu	145,700	5,204	4%
Rumphi	58,600	3,915	7%
Total NASFAM	1,036,900	117,268	11%

Undersowing of Mthuthu	Potential Area Issued (ha)	Area Planted (ha)	% Result
	117	27	23%

Table 10: 1999/2000 NASFAM Tree Seed Targets

	Nkhungu	Mthete	Mtangatanga	Msambamfumu	Msangu	Keshya wa milimo	Keshya wa malwa	Gricidia	Mbawa	Mthuthu	No. Farmers
Mulanje			800	3,000	3,500	800	800	800		1,700	8,757
Zomba	783	800	739	1,005	1,080	1,150	1,353			2,456	9,366
Namwera	150	150	75	60	250	960	200		50	1,500	4,660
Ntcheu	379	569	514	813	656	1,832	927			443	4,019
Kasungu	538	770	674	1,800	1,369	2,048	1,043			1,423	5,662
Rumphi	500	500	250	150	1,200	1,300	1,500			600	6,000
Tot. Packets	2,350	2,789	3,052	6,828	8,055	8,090	5,823	800	50	8,122	38,464
Pot. Trees or ha	235,000	278,900	305,200	68,280	805,500	809,000	582,300	80,000	5,000	812	
Total Pot. Trees	3,169,180	All species									

Note: (1) Tephrosia vogelii packets are 0.5 kg (0.1 ha undersowing); (2) msambamfumu packets contain seed for 10 seedlings (3) all other seed packets contain enough seed for 100 seedlings.

Soil and Water Conservation

Soil and water conservation efforts this year started with the establishment of a number of vetiver nurseries during the Oct – Dec 1998 and Jan –Mar 1999 quarters in Zomba, Ntcheu and Rumphi ADC's. Nurseries were contracted on a communal (Zomba and Ntcheu) and individual basis (Rumphi) at a rate of MK8,000 per ha per annum. Problems arose over the year with the Zomba and Rumphi nurseries, culminating in the termination of two Rumphi contractors and NASFAM taking over the Zomba nursery using direct labour. The net result was a fall in nursery area from the original contracted 2.6 ha to 1.83 ha (see Table 11).

Table 11: NASFAM Vetiver Nursery Establishment

ADC	No. of Nurseries Established		No. of Nurseries Remaining	
	Established	Area (Ha)	Remaining	Area (Ha)
Zomba	1	0.5	1	0.25
Ntcheu	1	1.0	1	1.00
Rumphi	5	1.1	3	0.58
Total	7	2.6	5	1.83

During the Jul – Sep 1999 quarter, the LMA's emphasised training farmers in contour ridging using the line-level. Soil conservation targets for 1999/2000 were derived from the CBM&E exercise, detailed in Table 12.

Table 12: 1999/2000 NASFAM Soil Conservation Targets

	Mulanje		Zomba		Namwera		Ntcheu		Kasungu		Rumphi		NASFAM TOTAL	
	Fmrs	No.	Fmrs	No.	Fmrs	No.	Fmrs	No.	Fmrs	No.	Fmrs	No.	Fmrs	No.
Contour ridging	949		633		15		137		279		1,675		3,688	
Box ridging	291		288		15		211		83		886		1,774	
Contour vetiver hedges	243		760		15		137		399		1,675		3,229	
Gully reclamation	167	167	50	74	15	15	50	70	1	3	288	389	571	718
Raised footpaths/borders	178	178	145	378	15	15	103	395	209	389	1,675	4,349	2,325	5,704

Following a change in the policy of the Department of Land Resources on vetiver contracts, no new contracts will be entered into with NASFAM farmers this season. An individual approach will be taken instead with vetiver planting material being issued directly to individual farmers selected for their interest and track record in soil and water conservation, with no remuneration involved. The Rumphi and Ntcheu nurseries that are already under contact will be continued for an additional season if they show satisfactory performance.

Legume Crop Diversification

Approximately 22 MT of grain legume seed was issued through all ADCs to farmers on a loan basis (150% return) during the Oct – Dec 1998 quarter, in order to promote crop diversification into alternative cash crops that also maintain soil fertility. The seed comprised:

- ◆ CG7 groundnuts – 9.4 MT
- ◆ ICEAP 00020, ICEAP 9145 and local pigeon peas – 8.5 MT
- ◆ Maluwa beans – 0.8 MT; and
- ◆ mixed local soyabeans – 3.0 MT

Whilst this programme proved very popular with NASFAM farmers, with estimated area planted by crop legume detailed in Table 13, a range of problems were encountered:

- ⇒ poor (under) recording of seed distributed to farmers by some ADC's due to late LMA placement resulting in differentials in quantities of seed received by ADC's from MAFE and that distributed to farmers
- ⇒ farmers in Ntcheu were not interested in pigeon peas due to livestock browsing problems
- ⇒ beans had a very poor season due to the erratic start to the rains followed by too much rain
- ⇒ soyabeans were also affected by the rainfall pattern
- ⇒ a limited incidence of groundnut pops in Namwera possibly due to low soil pH
- ⇒ some incidence of rosette in Mulanje possibly due to late planting

Table 13: 1998/99 NASFAM Survey Results: Crop Legumes

Crop Type	Area Planted (ha)
Groundnuts	119
Pigeon Peas	514
Beans	33
Soyabeans	121
Total NASFAM	787

The seed collection exercise is still ongoing (see Table 14), particularly for pigeon peas which matures late in the dry season. Projections are for a poor result for beans (as indicated above), a reasonable return for groundnuts and soyabeans, and a good result for pigeon peas.

Table 14: NASFAM Crop Seed Collection as at end October 1999

Crop Type	Targeted Seed to be Collected (kg)	Seed Collected to Date (kg)	Forecast (kg)
Groundnuts	12,953	8,978	10,447
Pigeon Peas	17,353	881	17,353
Beans	1,387	221	236
Soyabeans	4,495	2,969	3,387

Activities during the Jul – Sep 1999 quarter have focused on identifying improved pigeon pea and soyabean seed sources, bagging and commencing distribution of the groundnuts multiplied under an estate contract. In addition, 10 MT of contracted groundnut seed was sold to CARE International with proceeds being recycled to purchase other crop seed. To date the following seed is available or has been identified for distribution to NASFAM for the 1999/2000 season:

- ⇒ Groundnuts (CG7) 25.0 MT
- ⇒ Pigeon peas (00020) 1.0 MT
- ⇒ Soyabeans (Magoye) 2.8 MT
- ⇒ Soyabeans (Santarosa) 1.0 MT

In an effort to commercialise the crop seed programme, all new seed supplied by MAFE to NASFAM this year will be sold on a retail basis to NASFAM farmers through input supply shops and Association offices. Prices have been set at MK 20/kg for groundnuts and MK 15/kg for soyabeans and pigeon peas. The seed collected from last year's issues will be reissued on a loan basis with 200% recovery.

Model Farmers

Table 15 reflects the number and gender distribution of model farmers selected for the 1998/99 cropping season. A range of technologies including vetiver contour hedges, DSI with msangu, undersowing with *T.vogelii* and boundary planting, have been or are in the process of being established in a selected plot on each model farm for demonstration purposes.

Table 15: Model Farmers 1998/99 Season

ADC	Male	Female	Total
Mulanje	4	1	5
Zomba	No data		12
Namwera	3	1	4
Ntcheu	6	2	8
Kasungu	5	2	7
Rumphhi	4	0	4
Total	22	6	40

During the Apr – Jun 1999 quarter, a plan was developed for model farmer demonstration plots that includes all the technologies that are being promoted under the LMP to guide LMA model farmer establishment. A target number of new model farmers for the 1999/2000 season was set at the June Mangochi Workshop (Table 16), in an effort to increase GAC coverage as follows:

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Table 16: New Model Farmer Targets 1999/2000 Season

ADC	Total
Mulanje	6
Zomba	3
Namwera	10
Ntcheu	7
Kasungu	8
Rumphi	7
Total	41

During the Jul – Sep 1999 quarter, activities in this programme area focused on plot demarcation and layout for the new model farmers, and the marking of contour ridges using the line-level.

Community-Based Monitoring and Evaluation

During the Jan – Mar 1999 quarter a comprehensive community-based monitoring and evaluation procedure was developed to enable a full evaluation of the NASFAM tree planting and crop diversification programmes. The CBM&E procedure is based on the new MAFE approach but has been adapted to reflect the individual farmer rather than site-based nature of the Association setup. It consists of a tree and crop seed inventory, a random sample of homestead and field surveys, and GAC-level focus group interviews. The programme was implemented during the Apr – Jun 1999 quarter with results analysed during the Jul – Sep 1999 quarter, shown in the representative programme sections above. During the Jul – Sep 1999 quarter a start was made on streamlining and updating the CBM&E procedure to include soil and water conservation in advance of the 1999/2000 season exercise.

NASFAM Workshops and Annual General Meetings

MAFE participated in the following NASFAM meetings and workshops over the past year:

- ⇒ January 1999 Mangochi Workshop – presented an introduction to the MAFE/NASFAM Land-Use Management Programme
- ⇒ June 1999 NASFAM AGM Lilongwe - presented an introduction to the MAFE/NASFAM Land-Use Management Programme
- ⇒ June/July 1999 Mangochi