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COMITÉ EXÉCUTIF
DU FONDS MULTILATÉRAL AUX FINS
D'APPLICATION DU PROTOCOLE DE MONTRÉAL
Quarantième réunion
Montréal, 16 -18 juillet 2003

PROPOSITION DE PROJET : LE MALAWI

Le présent document contient les observations et les recommandations du Secrétariat du Fonds sur la proposition de projet suivante :

Fumigènes

• Élimination de la totalité du bromure de méthyle non-essentiel et non-utilisé dans les applications sanitaires et préalables à l'expédition (paiement de la troisième tranche)	PNUD

FICHE D'ÉVALUATION DE PROJET
MALAWI

SECTEUR : Fumigènes Consommation sectorielle de SAO (2002) : 55 tonnes de PAO

Seuil de coût-efficacité du sous-secteur : S.O.

Titre du projet:

a) Élimination de la totalité du bromure de méthyle non-essentiel et non-utilisé dans les pour applications sanitaires et préalables à l'expédition (paiement de la troisième tranche)

Données relatives au projet	**Fumigènes**
Consommation de l'entreprise (tonnes PAO)	
Incidences du projet (tonnes PAO)	41,1
Durée prévue du projet (mois)	12
Montant initial demandé ($US)	750 000
Coût final du projet ($US)	
Coûts différentiels d'investissements a)	750 000
Fonds pour imprévus b)	
Coûts différentiels d'exploitation c)	
Coût total du projet (a+b+c)	750 000
Participation locale au capital (%)	100 %
Pourcentage des exportations (%)	0 %
Montant demandé ($US)	750 000
Rapport coût-efficacité ($US/kg)	18,25
Confirmation du financement de contrepartie?	
Agence nationale de coordination	Agricultural Research and Extension Trust
Agence d'exécution	PNUD

Recommandations du Secrétariat	
Montant recommandé ($US)	
Incidences du projet (tonnes PAO)	
Rapport coût-efficacité ($US/kg)	
Coûts d'appui de l'agence d'exécution ($US)	
Coût total pour le Fonds multilatéral	

DESCRIPTION DU PROJET

Données générales

1. À sa 32e réunion, le Comité exécutif a approuvé en principe 2 999 824 $ US à titre de montant total des fonds disponibles en vue de l'élimination de 111 tonnes de PAO de bromure de méthyle utilisées dans les lits de semence du tabac au Malawi. Dans le cadre d'un projet séparé (qui ne reçoit aucun soutien du Fonds multilatéral), le gouvernement du Malawi s'est engagé à éliminer, d'ici la fin de 2004, 21 autres tonnes de PAO de bromure de méthyle employées pour le stockage des céréales. Un montant supplémentaire de 25 000 $ US a été approuvé pour le PNUE pour une proposition visant à mettre en valeur la capacité des organisations agricoles locales et des ONG dans la communication du bromure de méthyle.

2. Jusqu'à maintenant, le Comité exécutif a approuvé deux tranches de financement totalisant 1,4 million $ US pour la mise en oeuvre du projet. À la 39e réunion du Comité exécutif, le PNUD a présenté un rapport périodique préliminaire sur la mise en oeuvre du projet de semis de tabac (UNEP/Ozl.Pro/ExCom/39/37/Rev.1), sans demander de fonds supplémentaires.

3. Par la suite, le PNUD a présenté au Comité exécutif pour examen un rapport périodique révisé sur la mise en oeuvre du projet, en même temps qu'une demande au montant de 750 000 $ US correspondant à la troisième tranche du projet. Une copie du rapport périodique présenté par le PNUD est jointe au présent document.

Rapport périodique

4. La mise en oeuvre des deux premières tranches du projet a permis d'éliminer 42,3 tonnes de PAO de bromure de méthyle, grâce à la mise en oeuvre de la technologie du système de bacs dans 2 235 lits de semence (4 tonnes de PAO de bromure de méthyle) et à l'utilisation de produits chimiques de remplacement (basamid et métam-sodium) dans 21 250 lits de semence (38,3 tonnes de PAO).

5. Durant la période 2001-2002, le personnel de l'ARET (Agricultural Research and Extension Trust) aussi bien professionnel que non-professionnel a reçu une formation; 11 programmes de démonstration ont été présentés sur la mise en oeuvre du système de bacs flottants, la gestion de la culture sans sol et l'application appropriée de produits chimiques de remplacement. Des activités visant à informer et à sensibiliser le public et des activités de vulgarisation ont aussi été offertes en 2002.

Dépenses

6. Le tableau ci-dessous décrit les dépenses en 2001 et 2002 et les obligations en cours :

Rubrique	**Décaissements ($US)**	**Obligations (US $)**	**Total ($ US)**
Personnel (local, externe)	74 673	155 700	230 373
Sous-contrats	26 422	35 000	61 422
Formation	17 454	80 692	98 146
Divers	8 616	11 500	20 116
Écarts dus au change	663	-	663
Équipment :			
Bacs	95 029	20 000	115 029
Support de croissance - écorces	45 389	0	45 389
Plastique noir	74 932	0	74 932
Produits chimiques	677 876	25 000	702 876
Serre	28 054	23 000	51 054
Sommes totales	1 049 108	350 892	1 400 000

Programme de travail for 2003

7. Pour son programme de travail de 2003, le PNUD propose de continuer à distribuer du matériel et de l'équipement aux agriculteurs, afin de leur permettre d'éliminer 81,3 autres tonnes de PAO de bromure de méthyle; de former 30 agronomes nationaux et spécialistes en agriculture et 200 exploitants agricoles commerciaux; de disséminer aux intervenants du matériel d'information et les résultats des projets; et d'aider le gouvernement à élaborer des politiques visant à interdire l'usage du bromure de méthyle dans la production de semis de tabac.

OBSERVATIONS ET RECOMMANDATIONS DU SECRÉTARIAT

OBSERVATIONS

8. Selon les données sur la consommation de bromure de méthyle présentées par le gouvernement du Malawi au Secrétariat de l'ozone, la consommation de bromure de méthyle était en baisse par rapport au niveau maximal de 1999, passant de 129 tonnes de PAO à 55 tonnes de PAO en 2002. Cette quantité est inférieure au niveau de consommation proposé dans la proposition de projet pour 2002 (90 tonnes de PAO). À cet égard, le Secrétariat a demandé au PNUD d'expliquer si les réductions en matière de consommation de bromure de méthyle avaient été réalisées grâce à la mise en oeuvre du projet d'investissement ou à d'autres facteurs externes. Le PNUD a indiqué que les chiffres sur la consommation présentés dans le rapport périodique ne pouvaient au mieux qu'être considérés comme des estimations et non comme des données officielles fournies par le gouvernement. La question de la divergence dans les données a déjà fait l'objet de discussion avec le gouvernement du Malawi. Il a été convenu de procéder à un relevé des données pendant la deuxième moitié de juin 2003, afin de mettre à jour

les chiffres indiqués, de corriger le rapport périodique, et qu'un rectificatif, avec justification, puisse être envoyé par le gouvernement au Secrétariat du Fonds et au Secrétariat de l'ozone. Les données recueillies pendant le relevé feront l'objet d'un examen et elles seront vérifiées par un spécialiste technique international qui, à son tour, aidera le gouvernement à déterminer les effets précis de la réduction réalisées grâce à la mise en oeuvre du projet jusqu'à ce jour et guidera l'équipe nationale de gestion de projet à préparer un plan de travail stratégique.

9. Le Secrétariat a aussi pris note que le Malawi a consommé en 2002 quelque 55 tonnes de PAO de bromure de méthyle et que 41,1 autres tonnes de PAO de bromure de méthyle seront éliminées grâce à la mise en oeuvre de la troisième tranche du projet, et que la consommation restante de bromure de méthyle au Malawi s'établirait à environ 14 tonnes de PAO. Le PNUD a informé le Secrétariat que, étant donné le manque de fiabilité des données indiquées, il est clair qu'il est impossible pour le moment, pour le gouvernement du Malawi et le PNUD, de confirmer la réduction réalisée grâce aux activités du projet par rapport à la consommation en cours au pays. Il ne sera possible de présenter un rapport décisif sur cette question qu'après l'achèvement du relevé mentionné.

10. Quant à l'élimination du bromure de méthyle employé dans les installations de stockage des céréales, le gouvernement du Malawi a informé le PNUD que des pastilles de phosphine étaient actuellement utilisées comme fumigène.

11. Le Secrétariat a pris note que, bien que le décaissement total atteignait presque 47 pour cent de la totalité des fonds approuvés, le bromure de méthyle avait été éliminé dans seulement 21 pour cent de la surface totale où il avait été appliqué. Dans son rapport, le PNUD a indiqué que les chiffres indiqués dans le rapport ne tenaient pas compte du fait que le décaissement pour l'équipement et les fournitures achetés en 2002 était terminé. La superficie totale où le bromure de méthyle a été éliminé est donc plus vaste que les 21 pour cent indiqués. L'équipe nationale de projet procède actuellement à un nouveau calcul de la surface réelle où le bromure de méthyle a été éliminé. Le PNUD a aussi indiqué que le gouvernement du Malawi s'est engagé à accroître la surface qui sera convertie en système de bacs flottants durant la période restante de mise en oeuvre du projet.

RECOMMANDATION

12. Le projet est présenté pour examen individuel. Le PNUD doit recueillir d'autres informations qui seront communiquées au Comité exécutif avant la 40^{e} réunion.

ANNUAL PROGRESS REPORT:
Phase-out of all non-essential and non-QPS Methyl Bromide in Malawi

Presented to the Executive Committee of the Montreal Protocol

Project Number: **MLW/FUM/32/DEM/01**
MLW/FUM/34/INV/16

UNDP Project Number: **MLW/01/G61**

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BACKGROUND

1A. PROJECT INFORMATION

MLF Project Numbers:	MLW/FUM/32/DEM/01 (trials phase) MLW/FUM/34/INV/16
UNDP Project Number:	MLW/01/G61
Project Title:	Phase-out of all non-essential and non-QPS Methyl Bromide in Malawi
Implementing Agency:	United Nations Development Programme (UNDP)
Executing Agency:	Government of Malawi (Nationally Executed) through Agricultural Research and Extension Trust (ARET)
Project Approval Date:	30th April 2001
Project Completion Date:	31st December 2004
Total Budget Approved (US $):	US $ 2,999,824
Disbursements to date:	US$ 1,400,000 (US $400,000 of which was used in Phase I to conduct demonstration trials
Disbursement requested (tranche 3):	**US$ 750,000**

1B. PROJECT OBJECTIVES

The objective of the project is to phase out 111 ODP tones of methyl bromide (MBr) used by 424,789 tobacco farmers (of which 76,000 are registered) cultivating 180,155 hectares of tobacco. In addition, the Government, through a complementary project presently being implemented separately, is phasing out 21 ODP tonnes used in grain storage. Together, total methyl bromide used in the sector represented, at the time of the project's approval, 132 ODP tonnes for non-essential and non-QPS uses.

Malawi has not had the benefit of any demonstration project and therefore, following the existing guidelines on methyl bromide (decision 27/33) which allow a small demonstration component within the investment project, the project was developed to include two phases. Phase 1 compromised a small-scale methyl bromide phase out programme, the purpose of which was to ensure that the technology of choice an alternative technology that the country can live with. Inputs included extensive training of leading farmers and extensionists in the use of non-soil (hydroponic) technique and basamid (covered by grant funding), together with another chemical treatment (covered by Government), all within the context of an integrated pest management system. Phase I covered 17.4% of the total hectarage presently

used for tobacco cultivating. In the case of Malawi, the demonstration component called for achievement of ODS phase-out since alternative chemicals were used to produce the seedlings which in turn, were planted in open fields.

Phase II consists of the full tobacco sector methyl bromide phase-out, concentrating on adoption of cost effective and efficient substitutes for methyl bromide identified during the demonstration trials, and using the personnel trained during Phase I. This should cover about 83% of total hectarage presently used for tobacco cultivation in Malawi, or approximately180,000 hectares of land where tobacco is grown.

Phase I and II include extensive and intensive training that will reach up to 424,789 growers/farmers. The project will also involve in-depth policy dialogue and development of measures to enforce the use of alternatives and ensure permanent and sustainable phase-out. Out of a total 1,081 hectares used for planting tobacco, 400 hectares use methyl bromide. This Multilateral Fund Project covers the elimination of methyl bromide in these 400 hectares. However the Government, through the project's training and awareness programme and through national legislation, will ensure that the remaining 60% of the land not using methyl bromide will not begin using this controlled chemical in future.

2. MeBr CONSUMPTION OVERVIEW

The table below provides an overview of MeBr consumption in Malawi until December 2002 (excluding QPS). The information it provides is not official data reported by the Government, and as a result should only be considered as best estimates gathered during preparation of the Progress Report. Once precise import data has been collected and is available, it will be reported to the Ozone Secretariat without delay. As a result, the figures indicated below are likely to change in future:

Table 1: MeBr Consumption Overview

Year	MB imports (ODP-tonnes)
Baseline (1995-98 average)	122.4
2000	56
2001	65.603
2002	35.308

3. OVERVIEW OF PROGRESS - YEAR 2002 IMPLEMENTATION

January - February 2002:

- Recruitment of the National Project Manager
- Development of a revised project logo (post-demonstration phase) to adequately reflect the sector being targeted by the project
- Procurement process launched for Year 2002 activities

April – May 2002:

- Identification and recruitment of regional technical experts
- Preparation and submission of Annual Progress Report for Phase I
- National Project Manager reported for duty
- Local consultant engaged to conduct an independent evaluation of the project Monitoring and evaluation field visits
- Receipt of funding for 2002

June 2002:

- Construction of a greenhouse launched

July 2002:

- Arrival of the first consignment of the materials for Phase II
- Distribution of materials to growers that had received training
- Monitoring and evaluation field visits launched

August 2002:

- Monitoring and evaluation visits (on-going)
- Field days and on-farm demonstrations conducted in all the three regions
- Arrival of additional materials
- Final report of the independent evaluation received
- Distribution of material to growers that had received training

September 2002:

- Arrival of final consignment of materials
- Distribution of materials to growers that had received training
- Implementation of field days and demonstrations continued

October 2002:

- Public awareness activities
- Monitoring and evaluation visits (on-going)
- Implementation of field days and demonstrations continued
- Press briefing to raise awareness on methyl bromide ban and to promote the use of alternatives

November 2002:

- Resignation of National Ozone Officer to join UNEP CAP programme.
- Monitoring and evaluation visits (on-going)

December 2002:

- Environmental Affairs Department (EAD) assigns new National Ozone Officer, Ms. Jacinta Chipendo

4. YEAR 2002 - PHASE-OUT TARGETS AND RESULTS

As per the "Agreed Conditions for Phase Out of Methyl Bromide in Malawi", the Government of Malawi committed itself to phase-out 111 ODP tonnes of methyl bromide used in tobacco production through this terminal phase-out project by 31st December 2004.

For 2002, the total phase-out target for methyl bromide use in this sector was 40.2 ODP tonnes, which comprised phase-out of 19.3 ODP T for 2001 and 20.9 ODP T for 2002. According to the report presented by a local independent evaluation consultant, 18.45 ODP T of MeBr were eliminated in 2001. An additional 23.82 ODP T were eliminated in 2002. As a result, to date a total of 42.27 ODP T have been eliminated as a result of efforts underway within the context of the project.

Based on the quantity of materials which were used in 2002 (refer to Annex 2) the following calculations on the number of ODP T phased out per technology have been made:

- **Float Tray System**

The use of soil less culture (floating tray system), yielded a total phase-out of 4.023 ODP T, as highlighted below:

Number of ponds constructed = 745
Equivalent number of seedbeds = 745 x 3 (1 pond makes 3 seedbeds)
Total = 2235 seedbeds

1 seedbed = 36 sq. metres
∴ 2235 seedbeds = 2235 x 36 sq. metres
= 80,460 sq. metres

ODP T phased out:
50 g of MeBr = 1 sq. metre
∴ 80,460 sq. metres x 50 g ÷ 1 sq. metre **= 4,023,000 g (4.023 T)**

- **Basamid**

A total of 18,463 tobacco nursery beds were treated with Basamid which yielded elimination of 33.23 ODP T consumption MeBr.

Number of seedbeds = 18,463
Amount of Basamid applied = 16,586 Kg

1 seedbed = 36 sq. metres
∴ 18,463 seedbeds = 18,463 seedbeds x 36 sq. metres / seedbed
= 664,668 sq. metres

ODP T phased out:
50 g of MeBr = 1 sq. metre
∴ 664,668 sq. metres x 50 g ÷ 1 sq. metre **= 33.2334 ODP T**[1]

- **Herbifume**[2]

A total of 2,790 beds were treated with metam sodium (availability of this product was the result of a balance that remained from the 2001 trial season). The metam sodium had been promoted as a contribution on the part of the government because the stakeholders had requested that it be included in the trial phase. It contributed to the following phase-out.

Number of seedbeds = 2790
Amount of Metam Sodium applied = 8,260 litres

1 seedbed = 36 sq. metres
∴ 2790 seedbeds = 2790 x 36 sq. metres
= 100,440 sq. metres

ODP T phased out:
50 g of MeBr = 1 sq. metre
∴ 100,400 sq. metres x 50 g ÷ 1 sq. metre **=5.022 ODP T**

The total amount of ODP T phased-out during 2002 therefore, comes to **42.27 ODP T.**

The tables below provide a breakdown of the distribution of alternatives amongst the various estates involved in the project's implementation during 2002.

[1] There could be a positive variation with the actual amounts of Basamid distributed in 2002 versus the number of seedbeds and it is because of the balance of the material from 2001 which was already with the farmers and was used by the farmers.
[2] Balance of the 2001 stock used in trials (covered by Government)

TABLE 2: Distribution of Nursery Seedbeds Adopting Alternatives (Central Region)

ESTATES – Central Region	BASAMID	SOILLESS CULTURE
1. Kakuyu Investments	-	90 (30 ponds)
2. Lisandwa	-	90 (30 ponds)
3. Chitipi	100	30 (10 ponds)
4. Kandiya	80	1 (2.5 ponds)
5. Mawano	-	45 (15 ponds
6. Likase	-	45 (15 ponds)
7. Mbabzi Estate	-	30 (10 ponds)
8. Tamamalowo	-	30 (10 ponds)
9. Chinese T. Mission	30	15 (5 ponds)
10. Thandizani Estate	30	48 (16 ponds)
11. Mikundi EPA	-	12 (4 ponds)
12. Mkusa Nkhoma	2	6 (2 ponds)
13. Tiyamike Estate	-	15 (5 ponds)
14. NASFAM Kasungu	10	78 (26 ponds)
15. Dr. Mgomezulu	-	15 (5 ponds)
16. P.M. Banda (KU)	-	12 (4 ponds)
17. J.A. Tewete	-	12 (4 ponds)
18. Chikalira (KU)	-	12 (4 ponds)
19. Lupachi Estate	30	9 (3 ponds)
20. Kapuku	30	6 (2 ponds)
21. Chisambo	-	12 (4 ponds)
22. Mr. Phikiso (NU)	-	9 (3 ponds)
23. Liwelezi Estate	1860	-
24. Lingadzi Estate	105	-
25. Nsangu Estate	12	30 (10 ponds)
26. Khama Estate	12	
27. Tiyeni Tsogolani	50	
28. Chimwemwe Estate	660	
29. Chimwamkango Estate	350	
30. Kwamba Estate	25	
31. Glen Farms	10	
32. General Farming	3000	30 (10 ponds)
33. Baron	-	30 (10 ponds)
34. McPherson	-	12 (4 ponds)
35. KTFT – Limbe Leaf	1700	60 (20 ponds)
36. Press Farming	-	45 (15 ponds)
37. Chilipa Estates	10	9 (3 ponds)
38. Fulaha Estate	100	6 (2 ponds)
39. Chiuseni Banda	-	30 (10 ponds)
40. Kachita Estate	-	6 (2 ponds)
41. Talimbanazo Estate	250	18 (6 ponds)
42. Viole Estate	30	-
43. Mdyankhanga	30	12 (4 ponds)
44. Tengani	30	
45. Mwimba Farm Institute	130	
46. Mwimba Research	30	18 (6 ponds)
47. Mando	120	
48. Madalitso	30	
49. Msambaimfa	20	
50. Songwe Wood Barn	-	6 (2 ponds)
51. Kamuzu Academy	300	60 (20 ponds)
Sub-Total	**9176**	**1060 (353.5 ponds)**

TABLE 3: Distribution of Nursery Seedbeds Adopting Alternatives (Southern Region)

ESTATES – Southern Region	BASAMID	SOILLESS CULTURE
1. Mafisi Estate	1000	147 (49 Ponds)
2. Conforzi Estate	30	12 (4 Ponds)
3. Chiwale Estate	10	12 (4 Ponds
4. Ndata Farm	200	-
5. Chipale Estate	15	90 (30 ponds)
6. Chimpeni Estate	15	48 (16 ponds)
7. Mpira/Lisale Estate	430	30 (10 ponds)
8. Chakanika	15	-
9. Ipani	15	-
10. Namigwere	15	-
11. Grain	15	-
12. Southern End	-	90 (30 ponds)
13. Msamba	-	30 (10 ponds)
14. Kapalasa	-	15 (5 ponds)
15. Chitumba	15	150 (50 ponds)
16. Tambala Estates	-	21 (7 ponds)
17. Namizimu Estate	50	18 (6 ponds)
18. NASFAM – Dzaone	-	-
19. Namasuwi	100	-
20. Matambo Estates	-	12 (4 ponds)
21. Hamboli Estate	45	18 (6 ponds)
22. Makande Estate	45	18 (6 ponds)
23. Kamponje Estates	-	18 (6 ponds)
SUB-TOTAL	**2015**	**729 (243 Ponds)**

TABLE 4: Distribution of Nursery Seedbeds Adopting Alternatives (Northern Region)

ESTATES – Northern Region	BASAMID	SOILLESS CULTURE
1. Chilimdongo Estate	100	-
2. Mafeni Estate	-	15 (5 ponds)
3. Admarc Estates (6)	1600	120 (40 ponds)
4. Bachivinya	50	54 (18 ponds)
5. Katonthowolo Estate	200	30 (10 ponds)
6. Kabwafu (Limbe Leaf)	2883	114 (38 ponds)
7. Mbalachanda – Limbe	-	30 (10 ponds)
8. NASFAM – Nkhamanga	-	18 (6 ponds)
9. Nkhozo (Rumphi)	80	-
10. Khuyu (Rumphi)	80	-
11. Nisungani (Mzimba	70	-
12. Funda (Rumphi)	100	-
13. Pokani (Mzimba)	88	-
SUB-TOTAL	**5251**	**399 (133 ponds)**

5. IMPLEMENTATION METHODOLOGIES

The main responsibility for implementation of the project lies with the Agricultural Research and Extension Trust (ARET), since 99% of methyl bromide use is for soil sterilization in tobacco nurseries and this is sector managed by this organisation. Project implementation is guided by the Project Steering Committee (PSC) which is chaired by the Ministry of Agriculture and Irrigation Development. Other members of the PSC include the Environmental Affairs Department as secretariat, ARET as executing agency, Tobacco Association of Malawi (TAMA), Pesticide Association of Malawi, ADMARC, the Ministry

of Finance, Bunda College of Agriculture, Coordination Unit for Rehabilitation of Environment (CURE), National Smallholder Farmers Association of Malawi (NASFAM), the Pesticides Control Board and UNDP.

Phase I of the project acted as a demonstration phase and covered 17.4% of the total hectarage under tobacco production. This involved training leading farmers and extensionists on the use of alternative technologies such as soilless culture (hydroponics), basamid and other chemicals, within the context of an integrated pest management (IPM) approach.

Phase II is designed as a full tobacco sector methyl bromide phase-out programme that will address use on 180,000 ha, representing about 83% of the tobacco sector hectarage. This phase will concentrate on adoption of the most cost effective and efficient alternative(s) to methyl bromide using the same personnel trained in 2001.

In 2001, Mr. Andy Mills and Peter Roberts, consultants recruited by the project, conducted training of ARET professionals and extension staff in order to launch the demonstration phase. These same ARET professionals and extension staff continued to conduct the training in 2002, in spite of the fact that additional external experts were not recruited. In addition, ARET assigned a focal point who coordinated all project activities prior to the National Project Manager being recruited.

A total of 11 demonstrations were conducted. These focused on proper pond construction, preparation growing medium, filling the floating tray cells, general management of the soil less culture and proper application methods for basamid. Demonstrations were conducted on the following estates: Mafisi, Makandi, Makoka Valley, Tambala, Kawele, Mukundi EPA, NASFAM (Kasungu), Janet Farm, Songwe Wood Barn, Kanthowole and Bachiviya. Other estates surrounding these demonstration sites also attended the demonstrations.

Ten field days were also conducted in 2002. They targeted commercial farmers, extension officers and, from an information and outreach perspective, journalists. Commercial and smallholder farmers, stakeholders from government and non-governmental organizations, members of the Tobacco Association of Malawi (TAMA), as well as members of the press attended the field days. Total participation in 2002 came to 586 attendees. During the field days, participants were sensitized to the dangers of methyl bromide use in relation to ozone depletion and the commitment made by the Government of Malawi to phase-out its use by the end of 2004. Field days provided the opportunity to promote the alternatives to MeBr use supported by project and were very practical in nature. Given that they were held on farms and estates participating in the project, practical demonstrations of application of the alternative materials were presented by farmers.

Other activities that were in 2002 work programme included the following:

- Trials and field days
- Training of farmers
- Procurement and distribution of materials
- Evaluation of the project results (it is a requirement that an evaluation be conducted with ARET as a lead agency at the end of one and half years when harvest is done).
- Awareness materials – Brochures and leaflets containing information about the dangers of methyl bromide and the availability of alternatives were produced, in association with CURE.
- Consultations with stakeholders
- Field visits - Field visits were conducted to all the three regions of Malawi to monitor the progress of the project. Specifically, the visits were aimed at getting feedback from the farmers on the performance of the technologies, monitor use of

the distributed materials and conduct field days. The field visits also presented an opportunity of getting preliminary requests and ideas for the coming season.

6. INDICATORS – PHASE-OUT

Although most farmers have expressed willingness to use the floating tray system, the reality of its application in event of late delivery of the materials resulted in most of them opting for basamid as it is similar in its mode of application. It is hoped that in 2003 the number of farmers utilizing this technology will increase. The table below summaries the field days conducted, the technologies demonstrated and levels of attendance.

Table 5: Field days conducted in 2002

NAME OF ESTATE	DISTRICT	DATE OF THE FIELD DAY	ATTENDANCE	TECHNOLOGY
Mafisi	Thyolo	14/10/2002	37	Floating tray Basamid
Chisamba	Nkhotakota	30/10/2002	87	Floating tray
Tikondwe	Nkhotakota	07/11/2002	93	Basamid
Kapuku	Nkhotakota	15/11/2002		Floating tray
Songwe Wood Barn	Ntheu/Bwanje	15/11/2002	39	Floating tray
NASFAM	Kasungu	19/11/2002	56	Floating tray Basamid
Mikundi EPA	Mchinji	20/11/2002	143	Floating tray Basamid
Makoka valley	Zomba	12/11/2002	4	Floating tray
Tiyamike	Ntchisi	26/11/2002	51	Floating tray
Katonthowolo	Mzimba	29/11/2002	76	Basamid

Table 5: Other field activities

Date	Place	Officers	Activity
July 2002	Thyolo, Zomba, Machinga	Kavalo, E. Mwale, E.	Distribution of materials and arrange for demonstrations
August 2002	Kasungu, Lilongwe, Salima, Mchinji, Dowa	Kavalo, E.	Demand assessment
September 2002	Thyolo, Zomba, Mangochi and Machinga	Mwale, E. Dumbo	Follow up monitoring visit
September 2002	Mzimba, Kasungu	Salifu, P (EAD) Dumbo	Monitoring
1- 5 October 2002	Thyolo, Zomba, Machinga	Kavalo, E. Changaya, A	Monitoring, organizing a field day
7 –12 October	Kasungu, Mzimba, Rumphi	Kavalo, E. Changaya, A.	Monitoring
October 2002	Mzimba, Kasungu	Kavalo, E.	Monitoring and demand assessment for 2003
September 2002	Lilongwe, Mchinji, Kasungu	Mwale, E. Banda	Monitoring
October 2002	Mzimba, Salima, Kasungu, Ntchisi, Nkhotakota	Mwale, E.	Monitoring

7. SUMMARY OF THE CUMULATIVE PROJECT PROGESS

The table below highlights activities implemented in 2002 and indicates achievements, contributions made by project partners, as well as an indication of activities that have been re-scheduled for the 2003 season:

Table 6: Workplan implementation

Task name	Achievement	Start date	End date	Remarks
Project evaluation consultancy	A local consultant was engaged and produced an evaluation report	June 02	July 02	Done
Obtaining tenders from suppliers	Tenders obtained and orders were made	April 02	May 02	Done by Government
Advertise for external consultants to provide training and monitoring in on-going use of alternatives	Candidates were identified, invited to apply and short-listing conducted	April 02	May 02	Done by Government
Launch greenhouse construction	One greenhouse constructed at ARET	June 02	August 02	Constructed by C.H. Greenery.
Submission of Annual Progress Report to UNDP	Progress report submitted	April 02	April 02	Done
First Monitoring and Evaluation mission (southern region)	Help the project management (ARET) to evaluate results at ground level	May 02	May 02	UNDP facilitated the trip
Monitoring and Evaluation mission (northern and central regions)	Help the project management (ARET) to evaluate results at ground level	July 02	July 02	Included participation of new National Project Coordinator to introduce him to project
Follow-up training of farmers (southern region)	On-going through ARET extension staff	-	-	On-going
Follow-up training of farmers (Central region)	On-going through ARET extension staff	-	-	On-going
Follow-up training of farmers (northern region)	On-going through ARET extension staff	-	-	On-going
Study tour	Proposed to be conducted to South Africa to assist in evaluation of adoption of alternatives	-	-	Scheduled for 2003
Public awareness activities	Increase awareness of issues associated with use of MeBr and promote adoption of alternatives	Oct. 02	Oct. 02	Ongoing and continuing in 2003
Recruitment of consultants	Short-list of candidates was reviewed and an agreement on recruitment was made	-	-	External regional experts missions postponed to early 2003 due to delays in arrival of materials

Tender evaluation / procurements	Done as planned	May 02	May 02	Done as scheduled
Procurement of materials	Materials procured	July 02	July 02	Done by Government
Distribution of materials	Materials distributed to all the three regions	July 02	Sept. 02	Some late delivery experienced by ARET due transport problems
6 Monitoring and Evaluation missions	10 visits completed during the 6 M&E missions conducted by Ntl Project Mgr	July-Nov	July-Nov	10 visits conducted
Awareness meeting for journalists	Outreach activity was planned to take place in August 2002	-	-	Rescheduled to 2003. Activity postponed in order to take advantage of 2nd year results
Field days	These were practical demonstrations of the application of the technologies by the farmers	Aug. 02	Dec. 02	10 field days were conducted
Training on ODS regulations	Draft training outline developed	-	-	Training rescheduled to 2003
Follow up on ODS regulations enforcement	Legal consultant to advise Steering Committee on adoption and enforcement of regs	-	-	Rescheduled to 2nd quarter of 2003
Regular meetings of the National Project Steering Committee	Report on technical progress and discuss policy mechanisms to support elimination efforts	several	several	The NPSC met 4 times
Evaluation workshop with trainers	External technical experts will assist national trainers to properly evaluate in-field results	-	-	Rescheduled to 2003
Regional workshops with farmers	To review status of implementation and adoption	-	-	To be conducted in February 2003
Study tour to Argentina – phase-out project in tobacco sector	Allow for South-South exchange of experience in adoption of alternatives in the sector	-	-	Scheduled for late 03

8. PROJECT EXPENDITURES and COMMITMENTS (US $)

Table 7: Project Expenditures and Pending Obligations

Budget Line	Disbursements in 2001/2002	Funds obligated during 2002	TOTAL
Personnel (local & external)	74,673	155,700	230,373
Sub-contract	26,422	35,000	61,422
Training	17,454	80,692	98,146
Equipment	921,280	68,000	989,280
Miscellaneous	8,616	11,500	20,116
Exchange Differentials	663	-	663
TOTAL	**1,049,108**	**350,892**	**1,400,000**[3]

Table 8: Breakdown of the expenditure on equipment

Equipment	Disbursements in 2001/2002	Funds obligated during 2002	TOTAL
Trays	95,029	20,000	115,029
Substrate Bark	45,389	0	45,389
Black Plastic	74,932	0	74,932
Chemicals	677,876	25,000	702,876
Greenhouse	28,054	23,000	51,054
TOTAL	921,280	68,000	989,280

9. YEAR 2003 WORKPLAN

OUTPUTS:

- Technical and socio-economic analysis of the use of alternatives (floating tray system & basamid) to MeBr as they contribute to elimination of 81.3 ODP T by December 2003;
- 30 national agronomists and agricultural specialists and 200 commercial growers fully trained in alternative technologies;
- Production of targeted training and information materials, and dissemination of project results to stakeholder audience;
- Adoption of national plan for phase-out of methyl bromide use in Malawi tobacco production, including development of appropriate policy mechanisms

ACTIVITIES:

- Procurement of materials and equipment required to allow for further phase-out of 41.1 ODP T;
- Distribution of materials and equipment to participating farmers;
- Organisation of training sessions for farmers participating in the 2003 programme;
- On-going implementation of field days to maintain interest and momentum;
- Conduct 16 monitoring and evaluation visits and prepare quarterly mission reports;
- Construction of greenhouses in Zomba and Kasunga;
- Engage external experts, as required, to provide training support;
- Conduct study tour to South Africa and launch south-south cooperation with MeBr elimination project in tobacco in Argentina;
- Produce training and promotional materials;
- Host Steering Committee meetings on a quarterly basis, and as required.

[3] US $ 1,400,000 is the total of US $ 400,000 and US $ 1,000,000 first and second tranche funding respectively

ANNEX 1: DISTRIBUTION OF PROJECT MATERIALS PER SEEDBED (by region)

PARTICPATING ESTATES, ORGANISATIONS	ALTERNATIVES TO METHYL BROMIDE										
	BASAMID			SOILLESS MEDIA						*Metam Sodium*	
	NO. OF BEDS	QUANTITY (KGS)	FUMIGATION SHEETS	NO. OF PONDS	NO, OF FLOATING TRAYS	PINE BARK (BAGS)	PLASTIC SHEETS	FERTILIZER (KGS)	MICRO-NUTRIENTS	*NO. OF BEDS*	*QUANTITY (L)*
CENTRAL REGION											
1. KAKUYU INVESTMENT	-	-	-	30	3000	400	29	-	-		
2. LISANDWA FARM	-	-	-	30	3000	-	-	-	-		
3. CHITIPI ESTATES	100	160	20	10	1000	-	-	-	-		
4. KANDIYA FARM	80	120	8	2.5	200	16	2	25	200		
5. MAWANO ESTATE	-	-	-	15	1500	80	8	-	-		
6. LIKASE ESTATES	-	-	-	15	1500	87	8	-	-		
7. MBADZI ESTATES	-	-	-	10	1000	60	5	-	-		
8. TAMAMALOWO	-	-	-	10	1000	60	5	100	400		
9. CHINESE T. MISSION	30	40	4	5	-	40		100	400		
10.THANDIZANI ESTATE	30	45	4	16	1600	80	8	-	-		
11.MIKUNDI EPA	-	-	5	4	400	25	1	-	-		
12.NKUSA NKHOMA	2	3	1	2	200	12	1	-	-		
13.TIYAMIKE ESTATES	-	-	-	5	500	40	3	-	-		
14.NASFAM KASUNGU	10	60	2	26	2600	120	6	-	-		
15.DR. MGOMEZULU	-	-	-	5	500	25	3	-	-		
16.P.M. BANDA	-	-	-	4	400	25	2	-	-		
17.JA TEWETE	-	-	-	4	400	25	2	-	-		
18.MR. CHIKALIRA	-	-	-	4	400	25	2	-	-		
19.Lupachi Estate	30	40	2	3	300	20	2	-	-		
20.Kapuku Estate	30	40	2	2	200	15	1	-	-		
21.Chisambo Estate	-	-	-	4	400	35	2	-	-		
22.MR. PHIKISO	-	-	-	3	300	25	2	-	-		
23.LIWELEZI ESTATE	1860	2000	100	-	-	-	-	-	-		
24.LINGADZI ESTATE	105	155	8	20	2000	120	10	-	-		
25.NSANGU ESTATE	12	20	2	-	-	-	-	-	-		
26.KHAMA ESTATE	12	20	2	-	-	-	-	-	-		
27.TIYENI TSOGOLANI	50	80	40	10	1000	80	10	100	400		
28.CHMWEMWE ESTATE	660	820	50	-	-	-	-	-	-		
29.CHIMWMKANGO	350	420	30	-	-	-	-	-	-		
30.KWAMBA ESTATE	25	40	5	-	-	-	-	-	-		
31.Eden Farms	10	20	2	-	-	-	-	-	-		
32. General Farming	3000	2400	10	10	1000	-	-	-	-	*2220*	*6660*
33. Baron	-	-	-	10	1000	-	-	-	-		
34. McPherson	-	-	-	4	400	-	-	-	-		
35.KTFT (Limbe Leaf)	1700	-	-	20	2000	-	-	-	-		
36. Press Farming	-	-	-	15	1500	-	-	-	-		

PARTICPATING ESTATES, ORGANISATIONS	ALTERNATIVES TO METHYL BROMIDE										
	BASAMID			SOILLESS MEDIA						*Metam Sodium* [4]	
	NO. OF BEDS	QUANTITY (KGS)	FUMIGATION SHEETS	NO. OF PONDS	NO, OF FLOATING TRAYS	PINE BARK (BAGS)	PLASTIC SHEETS	FERTILZER (KGS)	MICRO-NUTRIENTS	*NO. OF BEDS*	*QUANTITY (L)*
CENTRAL Region (cont'd)											
37. Chilipa Estate	10	15	2	3	300	24	3				
38. FULAHA	100	75	-	2	200	16	1				
39.CHINSEU BANDA	-	-	-	10	1000	80	5				
40. KACHITA ESTATE	-	-	-	2	200	16	1				
41. TALIMBANAZO ESTATE	250	300	3	6	600	48	3				
42.VIOLE ESTATE	30	40	1	-	-	-	-				
43MDYANKHANGA	30	40	1	4	400	30	1	-	-	-	
44.TENGANI ESTATE	30	40	2	-	-	-	-				
45.MWIMBA FARM INST.	130	200	10	-	-	-	-				
46.MWIMBA RESEARCH	30	20	2	6	600	16	1				
47.MANDO ESTATE	120	180	8	-	-	-	-				
48.MADALITSO ESTATE	30	45	4	-	-	-	-				
49.MSAMBA IMFA	20	20	2	-	-	-	-				
50. Songwe Wood barn	-	-	-	2	200	16	1				
51.KAMUZU ACADEMY	300	185	3	20	2000	90	10			*80*	*250*
TOTAL	**9,176**	**7,643**	**33**	**353**	**34800**	**1749**	**132**	**125**	**1400**	***2300***	***6910***

[4] Metam sodium contribution on the part of the government because the stakeholders had requested that it be included in the trial phase. Use represents balance of 2001 stock.

ANNEX 1: DISTRIBUTION OF PROJECT MATERIALS PER SEEDBED (by region)

PARTICPATING ESTATES, ORGANISATIONS	ALTERNATIVES TO METHYL BROMIDE										
	BASAMID			SOILLESS MEDIA						*Metam Sodium* [5]	
	NO. OF BEDS	QUANTITY (KGS)	FUMIGATION SHEETS	NO. OF PONDS	NO, OF FLOATING TRAYS	PINE BARK (BAGS)	PLASTIC SHEETS	FERTILIZER (KGS)	MICRO-NUTRIENTS	*NO. OF BEDS*	*QUANTITY (L)*
SOUTHERN REGION											
1. MAFISI ESTATE	1000	1225	10	49	3000	200	30	150	3000	-	
2. CONFORZI ESTATE	30	40	-	4	400	-	-	-	-	-	
3. CHIWALE ESTATE	10	15	-	4	400	-	-	-	-	-	
4. NDATA FARM	200	150	-	-	-	-	-	-	-	-	
5. CHIPALE ESTATE	15	20	-	30	3000	130	15	√	√	-	
6. CHIMPENI ESTATE	15	20	-	16	1600	210	18	-	-	-	
7. MPIRA ESTATE/Lisale	430	240	-	10	1000	-	-	-	-	-	
8. CHAKANIKA	15	20	-	-	-	-	-	-	-	-	
9. IPANI ESTATE	15	20	-	-	-	-	-	-	-	-	
10.NAMIGWERE ESTATE	15	20	-	-	-	-	-	-	-	-	
11.GRAIN ESTATE	15	20	-	-	-	-	-	-	-	-	
12.SOUTHERN END	-	-	-	30	3000	120	10	250	5000	-	
13.MSAMBA ESTATE	-	-	-	10	1000	40	5	-	-	-	
14.KAPALASA ESTATE	-	-	-	5	500	20	3	-	-	-	
15. Chitumba Estate	15	20	-	-	-	-	-	-	-	-	
16. Tambala Estate	-	-	-	50	5000	-	-	-	-	-	
17. Namizimu Estate	50	45	-	7	700	-	-	-	-	*90*	*300*
18. NASFAM – Dzaone	-	-	-	6	600	-	-	-	-	-	
19. Namasuwi (Namwera)	100	-	-	-	-	-	-	-	-	-	
20. Matambo (Zomba)	-	-	-	4	400	-	-	-	-	-	
21. Homboli (AD)	45	-	-	6	600	-	-	-	-	-	
22. Makande (AD)	45	-	-	6	600	-	-	-	-	-	
23. Kamponje (TO)	-	-	-	6	600	-	-	-	-	-	
TOTAL	2015	1855	10	243	22400	720	81	400	8000	*90*	*300*

[5] Metam sodium contribution on the part of the government because the stakeholders had requested that it be included in the trial phase. Use represents balance of 2001 stock.

ANNEX 1: DISTRIBUTION OF PROJECT MATERIALS PER SEEDBED (by region)

PARTICPATING ESTATES, ORGANISATIONS	ALTERNATIVES TO METHYL BROMIDE										
	BASAMID			SOILLESS MEDIA						*Metam Sodium* [6]	
	NO. OF BEDS	QUANTITY (KGS)	FUMIGATION SHEETS	NO. OF PONDS	NO, OF FLOATING TRAYS	PINE BARK (BAGS)	PLASTIC SHEETS	FERTILIZERR (KGS)	MICRO-NUTRIENTS	*NO. OF BEDS*	*QUANTITY (L)*
NORTHERN REGION											
1. CHILIMDONGO EST.	100	140	10								
2. MAFENI ESTATE	-	-	-	5	500	40	3				
3. ADMARC ESTATES (6)	1690	1935	15	40	4000	60	5				
4. MR. ZIMBA	50	75	5	18	1800	130	10				
5. KATONTHOWOLO EST.	200	300	-	38	1000	-	-				
6. LIMBE LEAF ESTATEs(Kabwafu)	2883	1900	-	10	3800	-	10			*400*	*1050*
7. L Leaf (Mbalachanda)	-	-	-	6	1000	-	-				
8. NASFAM (Nkhamanga)	-	-	-	6	600	-	-				
9. Khuyu (Rumphi)	80	100	-	-	600	-	-				
10. Nkhozo (Rumphi)	80	100	-	-	-	-	-				
11. Nisungani (Mzimba)	70	80	-	-	-	-	-				
12. Funda (Rumphi)	100	-	-	-	-	-	-				
13. Pokani (Mzimba)	88	-	-	-	-	-	-				
TOTAL	**5251**	**4630**	**30**	**133**	**13300**	**230**	**28**	**-**	**-**	***400***	***1050***

[6] Metam sodium contribution on the part of the government because the stakeholders had requested that it be included in the trial phase. Use represents balance of 2001 stock.

ANNEX 1: DISTRIBUTION OF PROJECT MATERIALS PER SEEDBED (SMALL HOLDERS)

PARTICPATING CLUBS,	ALTERNATIVES TO METHYL BROMIDE										
	BASAMID			SOILLESS MEDIA						*Metam Sodium* [7]	
	NO. OF BEDS	QUANTITY (KGS)	FUMIGATION SHEETS	NO. OF PONDS	NO, OF FLOATING TRAYS	PINE BARK (BAGS)	PLASTIC SHEETS	FERTILIZER (KGS)	MICRO-NUTRIENTS	*NO. OF BEDS*	*QUANTITY (L)*
1. CHIGODI CLUB (KU)	2	3	1								
2. MPHATSO CLUB (KU)	2	3	1								
3. MWITHA (KU)	2	3	1								
4. TAGWIRIZANA (KK)	40	60	2								
5. CHILASA (KK)	20	30	2								
6. CHIMIMBE (MC)	2	3									
7. CHITINTHI (MC)	1	3									
8. ULONGWE (MC)	1	3									
9. KATAPILA (MC)	2	3									
10. TAKOMANA (MC)	2	3									
11. KAYELAYELA (MC)	2	3									
12. MZUMACHARO (MC)	10	15									
13. JIMU (MC)	2	3									
14. MAUMBAKO ESTATE	1	3									
15. MKUSAMALE EST.	12	18									
16. MWAMBIYA EST.	100	120									
17. MR. F. BANDA (SA)	15	22.5									
18. KAPATSA CLUB (LL)	70	85	2								
19. ARET DZ & NU	30	45	3								
20. ARET KU	150	180	3	-	-	-	-				
21. ARET KK	690	850	1	-	-	-	-				
22. ARET SA	770	935	30	16	1550	64	8				
23. ARET MCHINJI	30	37.5	10	-	-	-	-				
24. ARET LIWONDE	65	80	-	-	-	-	-				
25 ARET MPONELA	-	-	-	-	-	-	-				
TOTALS	2021	2458	56	16	1550	64	8	-	-	-	-

[7] Metam sodium contribution on the part of the government because the stakeholders had requested that it be included in the trial phase. Use represents balance of 2001 stock.

ANNEX 2: SUMMARY DISTRIBUTION OF PROJECT MATERIALS PER SEEDBED - 2002

PARTICPATING ESTATES, ORGANISATIONS AND CLUBS	ALTERNATIVES TO METHYL BROMIDE										
	BASAMID			SOILLESS MEDIA						*Metam Sodium* [8]	
	NO. OF BEDS	QUANTITY (KGS)	FUMIGATION SHEETS	NO. OF PONDS	NO, OF FLOATING TRAYS	PINE BARK (BAGS)	PLASTIC SHEETS	FERTILIZER (KGS)	MICRO-NUTRIENTS	*NO. OF BEDS*	*QUANTITY (L)*
ESTATES SOUTHERN R. (17) CENTRAL R. (45) NORTHERN R. (11)	2015 9176 5251	1855 7643 4630	10 316 30	243 353 133	22400 34800 13300	720 1749 230	81 132 28	400 225 -	8,000 1,400 -	*90* *2300* *400*	*300* *6910* *1050*
SUB -TOTAL (73)	**16442**	**14128**	**364**	**729**	**70500**	**2699**	**241**	**625**	**9,400**	***2790***	***8260***
SMALLHOLDER	**2021**	**2458**	**56**	**16**	**1550**	**64**	**8**	-	-	-	-
SUB-TOTAL	**2021**	**2458**	**65**	**16**	**1550**	**64**	**8**	-	-	-	-
GRAND TOTALS	**18463**	**16586**	**420**	**745**	**72050**	**2763**	**249**	**625**	**9400**	***2790***	***8260***

[8] Metam sodium contribution on the part of the government because the stakeholders had requested that it be included in the trial phase. Use represents balance of 2001 stock.