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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Forty-third Meeting  
Geneva, 5-9 July 2004

**PROJECT PROPOSALS: MALAWI**

This document consists of the comments and recommendations of the Fund Secretariat on the following project proposals:

Fumigant

- Phase-out of all non-essential and non-QPS methyl bromide (fourth tranche) UNDP

Refrigeration

- Refrigerant management plan update: refrigeration and air-conditioning sector Germany

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**PROJECT EVALUATION SHEET  
MALAWI**

SECTOR: Fumigant ODS use in sector (2003): 68.5 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

**Project Title:**

(a) Phase-out of all non-essential and non-QPS methyl bromide (fourth tranche)

<b>Project Data</b>	<b>Fumigant</b>
	<b>Phase-out</b>
Enterprise consumption (ODP tonnes)	n/a
Project impact (ODP tonnes)	29.7
Project duration (months)	12
Initial amount requested (US \$)	849,824
Final project cost (US \$):	
Incremental capital cost (a)	849,824
Contingency cost (b)	n/a
Incremental operating cost (c)	n/a
Total project cost (a+b+c)	849,824
Local ownership (%)	100%
Export component (%)	0%
<b>Amount requested (US \$)</b>	849,824
Cost effectiveness (US \$/kg.)	n/a
Counterpart funding confirmed?	n/a
National coordinating agency	Agricultural Research and Extension Trust
Implementing agency	UNDP

<b>Secretariat's Recommendations</b>	
Amount recommended (US \$)	
Project impact (ODP tonnes)	
Cost effectiveness (US \$/kg)	
Implementing agency support cost (US \$)	
Total cost to Multilateral Fund (US \$)	

## PROJECT DESCRIPTION

### Background

1. At its 32<sup>nd</sup> Meeting, the Executive Committee approved in principle US \$2,999,824 as the total funds that will be available to phase out 111 ODP tonnes of methyl bromide (MB) used in tobacco seedlings in Malawi. Through a separate project (not supported by the Multilateral Fund), the Government of Malawi committed to phase out an additional 21 ODP tonnes of MB used in grain storage by the end of 2004. An additional US \$25,000 was approved for UNEP for a proposal to enhance the awareness of local agricultural organizations and NGOs on issues related to MB. So far, the Executive Committee has approved three funding tranches totalling US \$2.15 million for the implementation of the project.

2. UNDP has submitted for the consideration of the Executive Committee at its 43<sup>rd</sup> Meeting, a 2003 progress report on the implementation of the project for the phase-out of MB used in tobacco seedlings in Malawi together with a request for US \$849,824 corresponding to the 4<sup>th</sup> tranche (and last payment) of the project.

### Progress report

3. In 2003, a regional expert in floating tray systems was engaged to conduct training and run field days. Scientists from the Agricultural Research and Extension Trust (ARET) of the Environmental Affairs Department of Malawi (national implementing agency) and extension staff continued to conduct training workshops for tobacco growers. Over 780 stakeholders from government, non-governmental organizations, the Tobacco Association of Malawi, farmers and members of the press attended the field days and demonstrations. The demonstrations focused on pond construction, preparation and filling of growing medium in the cells, management of the soil-less culture and application of the other chemical alternatives (basamid and metham sodium).

4. The field days and demonstrations were organized jointly with companies that supply alternatives to MB in order to allow farmers to evaluate their respective effectiveness and use prior to selecting the alternative of their choice. The field days took place in situ on producing farms and estates. All the farmers that used the alternatives to MB and followed the right procedures were convinced that the alternatives perform as well as if they had continued to use MB in fumigating their nurseries.

5. In 2003, the project intensified research to produce pine bark locally. A local company (Wood Industries Corporation) was consulted and showed interest in producing the pine bark required as a substrate. Legal consultants, engaged to review the legal framework, proposed amendments that would facilitate the phase-out of MB and ensure that the ban is enforced after 31 December 2004. The Ministry of Natural Resources and Environmental Affairs submitted the amendments to the Ministry of Justice in December 2003. Training will be provided to customs officers from all the border posts to provide them with necessary skills to prevent illegal entry of MB.

6. The implementation of the awareness campaign started in 2003. Because of the project's potential for outreach in rural areas, field days and other awareness activities are also being used, at no cost to the Multilateral Fund, to assist a UNDP funded programme to fight HIV/AIDS, an extremely pressing social and economic issue in Malawi.

#### Work programme for 2004

7. For the 2004 work programme, UNDP is proposing, *inter alia*:
- (a) To continue distribution of materials and equipment to farmers to achieve the complete phase-out of MB by end of 2004;
  - (b) Training programmes for major stakeholders and customs officers to ensure that they are equipped with necessary skills to enforce the MB ban after 31 December 2004;
  - (c) Continue liaising with chemical suppliers to ensure the availability of alternatives in the country and with floating tray manufacturers on the possibility of establishing a manufacturing plant in Malawi;
  - (d) Monitoring visits to follow-up on training and assist farmers in the management of the new technologies;
  - (e) Continue with the awareness programme, maintaining synergy between the MB phase-out project and UNDP's HIV/AIDS project; and
  - (f) A study tour to Argentina by 4 stakeholders to liaise with the MB phase-out project in Argentina under current implementation.

### **SECRETARIAT'S COMMENTS AND RECOMMENDATION**

#### **COMMENTS**

8. Implementation of the first three tranches of the project resulted in the phase-out of 77.5 ODP tonnes of MB. According to the agreement between the Government of Malawi and the Executive Committee, the MB phase-out target for 2003 was 41.1 ODP tonnes; however, the actual amount of MB phased-out was 34.71 ODP tonnes. The reason for not achieving the 2003 phase-out target was that the third tranche funding was received in early September 2003 and it was too late to procure equipment for the 2003 growing season. In this regard, the Secretariat noted that the final tranche of the project might be approved by the Executive Committee in the month of July (the same month when the third tranche was approved) and, therefore, it could be expected that the funds might not be available for procurement of additional equipment for the 2004 growing season. UNDP indicated that the project team is confident that this shortfall will be made up over the course of 2004 thereby ensuring compliance with the overall project completion target of 31 December 2004 (i.e., a total phase-out of 33.5 ODP tonnes), for the following reasons:

- (a) The importation of MB in Malawi will be banned as of 1 January 2005. The amendments to Malawi's Environmental Management Act that have been submitted to the Ministry of Justice would also assist in enforcing the MB ban;
- (b) Farmers have expressed interest in buying the alternatives;
- (c) Chemical suppliers have assured the availability of all alternative technologies to MB for the project from 2005; and,
- (d) In 2003, specific measures were established to overcome the problem experienced in 2003 and to ensure that there is a sustainable phase-out of MB. For example, cognizant of the fact that disbursement of the 4<sup>th</sup> tranche might be received too late to allow for inputs to be received for the 2004 season, the project steering committee requested that the Government issue purchase orders for materials in good time and on credit. Based on the trust between the project implementation team and its suppliers, they agreed to accept the orders for materials on the understanding that they are to be paid as soon as funding has been received.

9. Upon a request by the Secretariat for additional information on the local production of pine bark and installation of a tray manufacturing plant in Malawi, UNDP reported that currently, the company interested in supplying pine bark is carrying out research to determine whether the local pine bark can perform satisfactorily. Potential investors with the know-how to establish a floating tray manufacturing plant in Malawi have also been consulted as well as local companies that manufacture plastics and products similar to floating trays in order to solicit their advice and input on local manufacture of trays. In addition, the project management team, through ARET, has made contact with the body responsible for the implementation of Argentina's tobacco sector phase-out project, to solicit the experiences of the group.

10. The Secretariat noted that a study tour to Argentina for four people is proposed in 2004. The project in Malawi has achieved the implementation of three alternative technologies and the phase-out of a large amount of MB (i.e., 77.5 ODP tonnes). Under these circumstances, there appear to be few benefits associated with the study tour. Therefore, the Secretariat suggested utilizing those resources to continue enhancing the adaptation of the alternative technologies to the local conditions (i.e., development of a local substrate, production of trays in Malawi). UNDP appreciated the suggestion by the Secretariat but believes that the organization of this study tour will enhance the adoption of the alternatives in Malawi. The study tour will focus on issues considered vital to ensure sustainability of the phase-out (*inter alia*, alternatives to MB in Argentina; local production of floating trays and pine bark; legal framework to ensure the ban on MB is enforced; research activities on alternatives).

## RECOMMENDATION

11. Noting the measures that have been taken to achieve compliance with the project's overall phase-out schedule, the Executive Committee might wish to approve the final tranche of the project at the funding level of US \$849,824, with agency support costs of US \$63,737.

**PROJECT EVALUATION SHEET  
MALAWI**

SECTOR: Refrigeration ODS use in sector (2003): 18.7 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

**Project Title:**

(a) Refrigerant management plan update: refrigeration and air conditioning sector

<b>Project Data</b>	<b>Refrigeration</b>
	<b>RMP update</b>
Enterprise consumption (ODP tonnes)	
Project impact (ODP tonnes)	n/a
Project duration (months)	36
Initial amount requested (US \$)	100,000
Final project cost (US \$):	
Incremental capital cost (a)	100,000
Contingency cost (b)	
Incremental operating cost (c)	
Total project cost (a+b+c)	100,000
Local ownership (%)	100%
Export component (%)	0%
<b>Amount requested (US \$)</b>	<b>100,000</b>
Cost effectiveness (US \$/kg.)	n/a
Counterpart funding confirmed?	
National coordinating agency	National Ozone Office, Environmental Affairs Department
Implementing agency	Germany

<b>Secretariat's Recommendation</b>	
Amount recommended (US \$)	100,000
Project impact (ODP tonnes)	n/a
Cost effectiveness (US \$/kg)	n/a
Implementing agency support cost (US \$)	13,000
Total cost to Multilateral Fund (US \$)	113,000

## PROJECT DESCRIPTION

12. In 2003, the total CFC consumption in Malawi was estimated at 18.7 ODP tonnes used for servicing refrigeration systems. The CFC baseline for Malawi is 57.7 ODP tonnes.

13. According to the survey conducted for the preparation of the RMP update for Malawi, the majority of the CFC consumption is for servicing domestic refrigerators and freezers (about 10,000 units) and commercial and industrial refrigeration systems (1,200 units). Most of the air conditioner systems are based on HCFC-22 refrigerant.

14. There are 21 formally registered refrigeration service workshops and a large number of electrical and household appliance sellers who are also involved in servicing refrigeration equipment. There are 50 qualified service technicians in Malawi and an additional 50 technicians who work in the informal sector with minimal qualifications.

15. The current prices of refrigerants per kg are: US \$5.90 for CFC-12, US \$12.20 for HFC-134a and US \$5.50 for HCFC-22.

### ODS regulations

16. Regulations for controlling trade and use of ODS in Malawi have been in place since 1998 and are part of the Environmental Management Act. The regulations ban the import of ODS-based equipment into the country, it is mandatory for ODS importers to have a permit issued by the Government and only registered importers are allowed to import ODS.

17. The Government of Germany has advised that, given the price differential between CFC-12 and HFC-134a refrigerants, all stakeholders agree that the Government of Malawi must ensure that CFCs become more expensive in comparison to non-ODS refrigerants by imposing additional duties on imports of ODS refrigerants and/or a subsidy for non-ODS refrigerants.

### Refrigerant management plan (RMP)

18. The Malawi RMP was approved at the 26<sup>th</sup> Meeting of the Executive Committee as a German bilateral project. The RMP was developed as a national/regional project involving 14 South and East African countries. The activities covered under the RMP were related to legislation/policy, training of refrigeration servicing technicians and training of customs officers.

19. The training of customs officers was held as part of the regional training programme; 4 customs officers and the Ozone Officer from Malawi were trained as trainers and an additional 16 officers have also been trained. Currently, ODS training is part of the regular training curriculum of the customs officers.

20. Two refrigeration technicians were trained in Germany as trainers in good refrigeration servicing practices. The training centre received the necessary tools and equipment to provide training courses to other refrigeration technicians. In December 2003, the trainers conducted a training course for 15 technicians as part of the RMP activity.

21. Under the recovery and recycling sub-project (approved for UNDP at the 19<sup>th</sup> Meeting of the Executive Committee), two training workshops on recovery and recycling operations were conducted. Thirty recovery units and 2 recycling machines were distributed among service workshops. However, the amount of CFC-12 recovered has been minimal mainly due to the low price of CFC-12. Germany has indicated that, with the changes in the import duty structure and enforcement of ODS regulations by customs officers, and an increase in the price of CFC-12 would make the recovery of refrigerants more profitable.

#### RMP update

22. The RMP update proposal, as submitted, includes assistance for changing the import duty structure (US \$4,750), additional training for refrigeration servicing technicians including tool kits (US \$32,800); an incentive programme for end-users (US \$30,800); ODS identification kits (US \$23,700); and additional assistance for the recovery and recycling programme (US \$7,950).

23. The Malawi RMP update project was submitted with an official letter from the Government of Malawi, signed by the Director of Environmental Affairs Department, stating the Government's commitment to achieve, without further requests for funding, at least the 50 per cent reduction in consumption of CFCs by 2005 and the 85 per cent reduction by 2007.

### **SECRETARIAT'S COMMENTS AND RECOMMENDATION**

#### **COMMENTS**

24. The Secretariat notes that the 2003 CFC consumption in Malawi of 18.7 ODP tonnes is 39 ODP tonnes below Malawi's CFC baseline consumption (e.g., 57.7 ODP tonnes). The Secretariat also notes that the project proposal has been submitted in accordance with the provisos of Decision 31/48 and subsequent decisions taken by the Executive Committee regarding RMP proposals, including the level of funding requested.

25. Based on the results so far achieved in the implementation of recovery and recycling programmes (e.g., much lower amounts of CFCs recovered than the amount originally estimated) and the limited number of end-users that could benefit from the small incentive programme that was proposed in the RMP update, the Secretariat suggested that the Government of Germany examines the merits of combining all the activities proposed under one overall budget dedicated to the provision of a mix of training and equipment/service tools to be selected on the basis of the needs identified during the project implementation time-frame. Thus, the objective would be to continuously monitor and survey the needs of the technicians and adapt the project accordingly.

26. Subsequently, the Government of Germany agreed to adopt this approach and indicated that the Ozone Unit of Malawi is fully aware that they can decide on how and where they would utilize the funds available to them to achieve the most effective CFC phase-out programme.

**RECOMMENDATION**

27. The Fund Secretariat recommends blanket approval of the project with associated support costs at the funding level shown in the table below, on the understanding that:

- (a) The Government of Malawi would have flexibility in utilizing the resources available under the RMP update, to address specific needs that might arise during project implementation;
- (b) To the extent possible, the project would be implemented in stages so that resources can be diverted to other activities, such as additional training or procurement of service tools, if the proposed results are not achieved; and
- (c) The Government of Germany would provide appropriate monitoring throughout project implementation.

	<b>Project Title</b>	<b>Project Funding (US\$)</b>	<b>Support Cost (US\$)</b>	<b>Implementing Agency</b>
(a)	Refrigerant management plan update: refrigeration and air conditioning sector	100,000	13,000	Germany

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