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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Thirty-fifth Meeting  
Montreal, 5-7 December 2001

### **PROJECT PROPOSAL: ZIMBABWE**

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

Fumigant:

- Phase-out of non-essential/non-critical use of methyl bromide in grain storage (maize) UNDP

**PROJECT EVALUATION SHEET  
ZIMBABWE**

SECTOR: Fumigant ODS use in sector (2000): 370.7 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

**Project Title:**

(a) Phase-out of non-essential/non-critical use of methyl bromide in grain storage (maize)

<b>Project Data</b>	<b>Methyl bromide</b>
Enterprise consumption (ODP tonnes)	
Project impact (ODP tonnes)	27.20
Project duration (months)	24
Initial amount requested (US \$)	645,153
Final project cost (US \$):	
Incremental capital cost (a)	387,958
Contingency cost (b)	30,846
Incremental operating cost (c)	
Total project cost (a+b+c)	418,804
Local ownership (%)	100%
Export component (%)	0%
<b>Amount requested (US \$)</b>	<b>418,804</b>
Cost effectiveness (US \$/kg.)	15.40
Counterpart funding confirmed?	
National coordinating agency	Ministry of Mines, Environment and Tourism
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**

### Phase-out of non-essential/non-critical use of methyl bromide in grain storage (maize)

1. In 2000, about 10.2 ODP tonnes of methyl bromide (MB) were used in Zimbabwe for the fumigation of grains. However, the average amount of MB used for storage fumigation between 1992 and 1999 was 27.2 ODP tonnes.
2. The Grain Marketing Board (GMB) is the main purchaser and storer of maize in the country. The total storage capacity of maize is estimated at 5 million tonnes; however, only about half of this capacity is utilised as maize production varies annually, depending on the rainfall.
3. The GMB has 68 grain depots. The government contracts strategic storage of stacks of maize for one to two years in case of a draught or crop failure (a stack of maize contains 2,000 bags of 50 kg each). Usually, the stacks are put on a concrete slab outdoors. Each stack is fumigated with MB, 2 to 4 times per year, using tarps. The tarps are moved by the fumigation crew from one stack to the other. Without fumigation, 70% or more of the stored maize can be lost to insects/vermin in one year.
4. The project is to phase out all uses of MB in 68 grain depots in Zimbabwe, through the use of phosphine. This technology has been selected on the basis of the results from the demonstration project on alternatives to the use of MB on stacked bags of maize under gas proof PVC sheets and plastic cocoons in Zimbabwe, approved by the Executive Committee at its 27<sup>th</sup> Meeting (UNDP, US \$212,850). It was demonstrated that phosphine is the immediate replacement for MB in terms of cost, effectiveness, availability, safety, and familiarity. A second alternative is the use of pirmiphos methyl in combination with permethrin to protect the grain stacks from re-invasion.
5. The project proposal includes procurement of 150 tarps (30 m by 15 m), fumigation and spraying equipment, fumigants (phosphine and pirmiphos methyl), at a total cost of US \$355,503, a training programme at a cost of US \$123,000, and a request for personnel and travel (US \$108,000).
6. The project will be implemented by UNDP in co-operation with the Grain Marketing Board. Upon approval of the project, the Government is committed to reduce the aggregate consumption of MB by 27.2 ODP tonnes by the end of 2004, and to ban the use of MB as a grain storage fumigant once the project has been implemented.

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

### **COMMENTS**

7. The Secretariat pointed out that the current MB consumption in the country for storage is 10.2 ODP tonnes and not 27.2 ODP tonnes as reported in the project document. UNDP indicated that during the preparation of the investment project, local experts advised UNDP's consultant

that the average consumption for 1992-1999 is a more appropriate basis for calculating MB consumption in the grain sector because grain stores, weather and other conditions change every year.

8. The Secretariat and UNDP discussed issues regarding the number of tarps required to treat the 670 stacks of maize and their cost. UNDP informed the Secretariat that the tarps which are worn out cannot be used with phosphine because it will increase the phosphine resistance problem, increase product loss to insects and rodents, and render phosphine treatment useless in future years. The tarps proposed for use in the project are manufactured in Harare by a national-owned company which supplies tarps to the Grain Marketing Board and other fumigators (the unit price of a tarp is US \$1,147). The proposed number of tarps was based on the location of the 68 maize depots in the country and the need to fumigate large amounts of grain in a limited time frame. Subsequently, it was agreed to supply two tarps for each grain depot at a cost of US \$1,000/tarp.

9. The Secretariat and UNDP also discussed issues related to the spraying equipment, which should be part of the baseline. UNDP stated that the equipment currently used in MB applications is not compatible with the equipment needed for applying pirimiphos methyl in combination with permethrin (to protect the grain stacks from re-invasion).

10. The Secretariat and UNDP also discussed other cost issues related to personnel and travel, the size of the training programme and the need for international travel. Subsequently, UNDP agreed to reduce the costs of these project components by US \$171,500.

11. At its 31st Meeting, the Executive Committee approved an investment project in the MB sector in Zimbabwe which included an agreement between the Government of Zimbabwe and the Executive Committee to reduce national consumption of controlled uses of MB from the reported 1999 consumption level of 598 ODP tonnes. However, in 2000 the Government of Zimbabwe reported to the Ozone Secretariat a MB consumption of 370.7 ODP tonnes, that is, 228 ODP tonnes less than the consumption level on which the agreement was based. The lower figure did not arise through phase-out from a Multilateral Fund project. The Secretariat is seeking guidance from the Executive Committee on how to reflect the impact of the project in the current agreement with Zimbabwe (a copy of the current agreement is attached to this document).

## **RECOMMENDATION**

12. The Fund Secretariat and UNDP have agreed on the total cost of the project (US \$418,804). Based on the above considerations, the Executive Committee may wish to consider approval of the project for Zimbabwe.

13. The Executive Committee may also wish to request UNDP to disburse the funds allocated in tranches according to the proposed MB phase-out schedule indicated in the project proposal. If Zimbabwe does not meet the reduction requirements outlined in the proposal, the Multilateral Fund, through UNDP will withhold funding for the subsequent tranche until such time as the required reduction has been met.

**Agreed conditions for funding methyl bromide phase-out project in Zimbabwe  
(UNEP/OzL.Pro/ExCom/31/61 Annex IX)**

1. The Executive Committee agrees to approve US \$904,200 as the total funds that will be available to achieve commitments noted in this document for the phase reduction in the use of methyl bromide in Zimbabwe, subject to the following understandings and considerations:

2. As reported to the Ozone Secretariat, and consistent with information in the project document presented to the Executive Committee, Zimbabwe had a consumption of 598 ODP tonnes of methyl bromide in 1999. In accordance with the data submitted to the Ozone Secretariat by Zimbabwe for the years 1995-1998, Zimbabwe has a methyl bromide baseline of 557 ODP tonnes. Accordingly, Zimbabwe must reduce its 1999 consumption of methyl bromide by at least 41 ODP tonnes to achieve compliance with the Protocol's 2002 freeze obligation. Reductions in accordance with the terms of this project, and the other commitments presented in the project document, will ensure that Zimbabwe meets that requirement, and exceeds subsequent phase out requirements of the Montreal Protocol.

3. Specifically, Zimbabwe commits to reduce total national consumption of controlled uses of methyl bromide to no more than the following levels during the 12-month period of the following listed years:

2000 - 2001	598 ODP tonnes
2001 - 2002	557 ODP tonnes (reduction of 41 ODP tonnes from 2000 level as in project document)
2002 - 2003	517.4 ODP tonnes (reduction of 39.6 ODP tonnes from 2001 level as in project document)
2003 - 2004	415.4 ODP tonnes (reduction of additional 66 ODP tonnes as in project document)

4. In addition, Zimbabwe commits to sustain this phase-out of methyl bromide through the use of bans in the use of methyl bromide for, at least, the uses covered by this project. The specific reductions in consumption noted above will be those achieved through this project. Zimbabwe may have additional projects approved that will add to the reductions noted above.

5. UNIDO shall report back to the Executive Committee annually on the progress in meeting the reductions required by this project, as well as on annual costs related to the use of the steam boilers being purchased with the project funds. Following initial disbursement of 33 per cent in the year 2000-2001, funding for later years in the project will be disbursed by UNIDO in accordance with the following schedule, and with the understanding that a subsequent year's funding will not be disbursed until the Executive Committee has favourably reviewed the prior years progress report:

2002	33%
2003	34%

6. Finally, UNIDO agrees to manage the funding for this project in a manner designed to ensure that the specific annual reductions agreed are met.

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