



**United Nations
Environment
Programme**

Distr.
LIMITED

UNEP/OzL.Pro/ExCom/38/32
26 October 2002

ORIGINAL: ENGLISH



EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Thirty-eighth Meeting
Rome, 20-22 November 2002

PROJECT PROPOSAL: EGYPT

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

Fumigant

- National phase-out of methyl bromide in horticulture and commodities fumigation (first tranche)

UNIDO

**PROJECT EVALUATION SHEET
EGYPT**

SECTOR: Fumigant ODS use in sector (2001): 377.7 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

Project Title:

(a) National phase-out of methyl bromide in horticulture and commodities fumigation (first tranche)

Project Data	Methyl bromide
Enterprise consumption (ODP tonnes)	377.70
Project impact (ODP tonnes)	185.6
Project duration (months)	84
Initial amount requested (US \$)	1,500,000
Final project cost (US \$):	
Incremental capital cost (a)	2,336,715
Contingency cost (b)	233,672
Incremental operating cost (c)	1,815,799
Total project cost (a+b+c)	4,386,186
Local ownership (%)	100%
Export component (%)	0%
Amount requested (US \$)	1,500,000
Cost effectiveness (US \$/kg.)	23.60
Counterpart funding confirmed?	
National coordinating agency	Egyptian Environmental Affairs Agency (EEAA)
Implementing agency	UNIDO

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

PROJECT DESCRIPTION

1. The project is to phase out 185.6 ODP tonnes of methyl bromide (MB) used for soil fumigation in strawberry, flowers, cucumber, pepper, melon, medicinal plants and lettuce crops and fumigation of commodities and structures in Egypt, representing 49 per cent of the total MB consumption in the country. Implementation of the project will achieve the 20 per cent reduction in MB baseline consumption by 2005.

2. The selected alternative technologies, for each of the crops and applications where MB is currently used, including the estimated costs (capital and operating costs) are presented below:

Crop or application	ODP tonnes	Area (ha)	Alternative technology	Capital cost (US\$)	Operating cost (US \$)	Total cost (US\$)
Medicinal and lettuce	9.9	33.2	Soilless and substrates	12,432	1,353,226	1,365,658
Cut flowers	28.0	95.8	Steam pasteurisation	701,000	(527,835)	173,165
Strawberry	89.1	296.9	Bio-fumigation	302,015	1,359,172	1,661,187
Strawberry nursery	32.8	109.2	Steam pasteurisation	1,073,585	(480,655)	592,930
Melon and cucumber	38.7	129.0	Grafting	176,744	(414,971)	-238,227
Pepper	16.1	53.6	Soilless and substrates	41,958	1,603,288	1,645,246
Tomato	13.1	43.6	Bio-fumigation	44,880	199,932	244,812
Total (soil fumigation)	227.7	761.3		2,352,614	3,092,157	5,444,771
Commodities fumigation	114.0		Phosphine fumigation	1,277,780	554,289	1,832,069
Structural fumigation	36.0		Sulphuryl fluoride	500,000	51,720	551,720
Total (commodities/structural)	150.0			1,777,780	606,009	2,383,789
Training (horticulture)				365,200		365,200
Training (commodities)				223,500		223,500
Training (structural)				40,000		40,000
Total (training)				628,700		628,700
Grand total	377.7	761.3		4,759,094	3,698,166	8,457,260

3. The equipment to be procured for the replacement of the alternative technologies include steaming equipment for cut flowers and strawberry nurseries; mixing and blending equipment for tomato and strawberry production; grafting equipment for melon and cucumber; equipment for expanding bio-antagonist inoculums; phosphine and sulphuryl fluoride fumigation equipment.

4. The Government of Egypt is committed to a permanent reduction in aggregate consumption of controlled uses of MB, through import restrictions and controlled uses of MB for all non-exempt uses. The Government is also committed to complete phase-out the use of MB in Egypt by 2009, through the implementation of the project.

5. The project will be implemented by UNIDO, under the co-ordination of the Ozone Office Unit under the Environmental Affairs Agency, which will establish the co-ordination mechanisms with the National Panel for MB phase out and the MB Implementation Committee.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

6. The Government of Egypt submitted for the consideration of the Executive Committee at its 37th Meeting a project proposal for the phase out of 114 ODP tonnes of MB used for the fumigation of commodities and structures, at a total cost of US \$1.5 million. The project proposed implementation time and reductions in consumption of MB that would not meet the 2005 Montreal Protocol compliance target (20 per cent reduction in the MB baseline consumption). Subsequently, the Executive Committee decided (Decision 37/20):

- (a) “pending any decision by the Meeting of the Parties that project proposals in which a country would be in non-compliance with the control measures of the Montreal Protocol should not be approved by the Executive Committee until the underlying issue of non-compliance had been dealt with by the Parties, through the Implementation Committee; and
- (b) Not to approve the project for the phase-out of the use of methyl bromide in grain storage in Egypt”.

Implementation of Decision 37/20

7. The Implementation Committee at its 28th Meeting (July 2002) heard a presentation from the representative of Egypt concerning its request to revise its baseline consumption level for MB, since the data submitted earlier (pursuant to Article 7) had not taken into account a number of small users and large-scale use by the army. The representative stated that Egypt could return to compliance quickly if the baseline was revised and if the Executive Committee approved the proposed phase-out plan for MB, which envisaged complete phase out by 2007 (The Secretariat noted that the complete phase out reported in the project proposal is in 2009).

8. Members of the Implementation Committee noted that, technically, Egypt was not yet in a state of non-compliance since data on consumption of MB for 2002 were not yet available.

9. In the final report of the 22nd Meeting of the Open-ended Working Group of the Parties to the Montreal Protocol (UNEP/OzL.Pro/WG.1/22/6), under other matters, it was reported that “the Committee had heard a presentation from the representative of Egypt concerning its request to revise its baseline consumption level for methyl bromide. It was expected that Egypt could return to compliance quickly if the baseline was revised and also if suitable projects were submitted to the Executive Committee of the Multilateral Fund for its consideration and approval”.

Soil disinfestation

10. The Secretariat pointed out that the application of MB depends, *inter alia*, on the type of crop, pest to be controlled, type of soil and climatic conditions. However, a fixed dose rate of 500 kg of MB was used in the project proposal for each hectare treated with MB. Some of the dosage rates that have been reported in investment projects for the same type of crops are lower than the rate used in Egypt. Therefore, MB consumption in Egypt would be less than the amount reported in the project proposal. The Secretariat was informed that UNIDO's team who prepared the project was also surprised by the uniformity of the MB application dosage rates and checked the data with the farmers and farmers associations. All of them confirmed that this is the dose recommended by the suppliers and that MB suppliers were not guaranteeing results at lower doses. MB suppliers do also recommend fumigating the whole surface and not only the planting lines. Apparently, since many years ago, MB suppliers did a good job persuading farmers to consume as much as possible (this dose was quite common before MB phase out took effect in Italy and Spain).

11. The Secretariat sought a clarification for the selection of grafting as the MB alternative technology for melon and cucumber crops, taking into consideration that alternative chemicals (such as metam sodium) would be more cost-effective. Grafting was selected in two projects in Central American countries to control the melon necrotic spot virus, a soil-borne pest which is not present in Egypt. The Secretariat also pointed out that implementation of the grafting technology would require new greenhouses for production of seedlings, grafting and healing. However, considering that the production of melons in Egypt is currently under greenhouses, these installations could be retrofitted at a minimum or no extra cost to the Multilateral Fund. The Secretariat was informed that UNIDO's mission detected growing incidences of the "sudden death" of melon plants. In UNIDO's opinion, any alternative other than grafting would be unsustainable in the short term and if failed the phase out achievements would be at risk. A grafting facility comprises a climate-controlled greenhouse for seedlings, a workshop for grafting and a healing greenhouse; these facilities cannot be established in small units in each farm. They require more sophisticated greenhouses than the ones used in seedlings production, especially for the grafting workshops and healing greenhouses. Moreover, melons and cucumbers are produced all year around and farmer's greenhouses are permanently used.

12. The Secretariat noted that the incremental operating costs for peppers (\$29,968/ha) and for lettuce and medicinal plants (US \$39,568/ha) were extraordinarily high (i.e., a total requested amount of US \$1.96 million). Therefore, the alternative technology selected was not economically viable or sustainable. Also, the sustainability of the technologies proposed for strawberries and tomatoes was in doubt taking into consideration the high incremental operating costs (US \$4,586/ha per year for each crop).

13. UNIDO indicated that the issue of incremental costs was discussed with farmers associations and with lettuce and pepper growers. In general it was strongly emphasised that the real sustainability can only be achieved using more environment friendly techniques and banning the use of any chemical. The annual incremental costs for tomatoes and strawberries (below US \$1,400/ha) does not cause any problem and represents less than 5 per cent of the average world-wide investment (US \$25,000) for planting one hectare of strawberries. It has been discussed with selected farmers and they are ready to absorb this cost even from the beginning.

14. Lettuce growers are large companies and co-operatives that dominate the domestic market. In the discussions with these producers, they request to include a substrate production facility that would reduce costs. UNIDO pointed out that most probably, such a facility would not qualify under the Multilateral Fund rules. This issue was further discussed with producers who agreed to reduce the level of operating costs to US \$104,704 (NPV for four years). Concerning pepper production, UNIDO also proposed to follow the same approach as for the lettuce growers where operating costs were reduced to US \$350,104 (NPV for four years).

15. The Secretariat solicited additional information regarding the request for the production of inoculums for the replacement of MB in strawberries and tomatoes. The Secretariat pointed out that according to reports presented at a recent plant pathology meeting in the United States, the trichoderma and other beneficial organisms that are present in composted animal and plant waste are as effective in colonising the soil as are the inoculums produced in laboratories. Therefore, the extra cost of the lab-organisms has not been justified in commercial production in the United States. UNIDO informed the Secretariat that the funds requested for the production of inoculum was related to the costs for increased production in the existing facility in Egypt. In the light of the results of the demonstration project, this component is essential to phase out MB successfully. Trichoderma and other beneficial antagonists have been identified in organic manure at low concentration but only if the manure has been produced under controlled fermentation processes. This is not the case in Egypt where small amounts are collected by each farmer and the fermentation process is not controlled.

Commodities fumigation

16. The Secretariat informed UNIDO that the total incremental cost for the phase out of 114 ODP tonnes of MB used for fumigation of commodities was US \$1,500,000, as it was agreed when the project was submitted for the consideration of the Executive Committee at its 37th Meeting.

Status of the discussion

17. The project proposal included a draft agreement between the Government of Egypt and the Executive Committee with the commitments proposed and action plan for the phase out of MB bromide in the country.

18. The Secretariat and UNIDO are finalising discussions on the project cost. The results of the discussions including a revised draft agreement will be finalised prior to the 38th Meeting of the Executive Committee.

RECOMMENDATION

19. Pending.
