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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Forty first Meeting
Montreal, 17 -19 December 2003

PROJECT PROPOSALS: LEBANON

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

Fumigant:

- Sector phase-out of methyl bromide in vegetable, cut flower and tobacco production (third tranche)
- Phase-out of methyl bromide for soil fumigation in strawberry production (third tranche)

UNDP

UNIDO

**PROJECT EVALUATION SHEET
LEBANON**

SECTOR: Fumigant ODS use in sector (2002): 197.3 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

Project Titles:

- (a) Sector phase-out of methyl bromide in vegetable, cut flower and tobacco production (third tranche)
 (b) Phase-out of methyl bromide for soil fumigation in strawberry production (third tranche)

Project Data	Methyl bromide	
	(a)	(b)
Enterprise consumption (ODP tonnes)		
Project impact (ODP tonnes)	54	14.2
Project duration (months)	24	12
Initial amount requested (US \$)	500,000	450,000
Final project cost (US \$):		
Incremental capital cost (a)		
Contingency cost (b)		
Incremental operating cost (c)		
Total project cost (a+b+c)	500,000	450,000
Local ownership (%)	100%	100%
Export component (%)	0%	0%
Amount requested (US \$)	500,000	450,000
Cost effectiveness (US \$/kg.)		
Counterpart funding confirmed?		
National coordinating agency	Ministry of Environment	
Implementing agency	UNDP	UNIDO

Secretariat's Recommendations		
Amount recommended (US \$)	500,000	450,000
Project impact (ODP tonnes)	54	14.2
Cost effectiveness (US \$/kg)		
Implementing agency support cost (US \$)	37,500	33,750
Total cost to Multilateral Fund (US \$)	537,500	483,750

PROJECT DESCRIPTION

1. At its 34th Meeting, the Executive Committee approved in principle US \$4,421,945 as the total funds that would be available to the Government of Lebanon to achieve the complete phase-out of methyl bromide (MB) used as a soil fumigant in the production of vegetables, cut flowers, tobacco and strawberries (236.5 ODP tonnes).
2. In accordance with the agreed conditions, the Executive Committee has so far allocated US \$1,400,000 for UNDP to phase out 57.6 ODP tonnes used in the production of vegetables, cut flowers and tobacco, and US \$771,946 for UNIDO to phase out 16.1 ODP tonnes in the production of strawberries.
3. The Government of Lebanon has submitted a funding request for implementation of the third phase of the project, as follows:
 - (a) US \$500,000 to phase out an additional 54.0 ODP tonnes used in the production of vegetables, cut flowers and tobacco, under UNDP's implementation. The proposed activities include, inter alia:
 - (i) Follow-up training of the trainers on alternative techniques related to the cut flower and tobacco sectors and on-going organization of farmers training sessions in all sectors;
 - (ii) On-going administration of field operations that commenced in 2003 by the project site engineers with respect to: monitoring of activities launched in the vegetables sector; determination of farms to be included in the next phase of the programme; selection of the alternatives by farmers; and supervision of farmers hired in 2003 to ensure proper application of alternatives at individual sites;
 - (iii) Procurement of alternatives for phase III through a request for bids at both the local and international levels; and
 - (iv) Finalization of the terms of reference and initiation of an international call for bids for the procurement of steam equipment to be used in the cut flower sector and initiation of production of tobacco seedlings by the floating trays technique in the major tobacco production areas of Lebanon;
 - (b) US \$450,000 to phase out an additional 14.2 ODP tonnes used in the production of strawberries, under UNIDO's implementation. The proposed activities include, inter alia:
 - (i) Purchase of additional soil steaming equipment;

- (ii) Continuation of the training and awareness programmes on new methods related to the implementation of steam and integrated pest management systems; and
 - (iii) Continuation of the collaboration started with the Government of Lebanon in order to assure project sustainability in the future; and
- (c) Coordination with the Ministry of Agriculture and the Ozone Office of the Ministry of Environment for the finalization of the new legislation in respect to the controlled and decreasing import of MB in the next four years.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

4. The Government of Lebanon submitted a comprehensive report on the implementation of Phase II of the project. The Secretariat noted that the efforts of all stakeholders involved in the implementation of the MB phase out projects have resulted in larger amounts of MB being phased out than originally planned.

5. As reported in the progress report, in 2003, a total of 36 ODP tonnes of MB were phased out over 147.2 ha of vegetables (10.4 per cent over the proposed phase out for 2002). Project activities extended over 683 greenhouse sites distributed in the different agricultural areas of the country. A total of 2,049 farmers were trained on the application of the alternative methods proposed by the project. The MB phase out was supported by, *inter alia*, the train the trainers programme and the farmers training sessions in North and South Lebanon and in the Beka'a region; procurement of farm material/equipment and coordination with the Ministry of Agriculture for the establishment of new legislation in respect to the control and regulation of MB.

6. It was also reported that in 2003, a total of 10.1 ODP tonnes of MB used in strawberry farms were phased out through the application of integrated pest management principles (IMP), rather than the use of steam, due to some technical and cost limitations encountered during the implementation of steam technology. Twenty seven farmers from the North, South, and Beka'a production regions participated in the training programme; awareness campaigns on alternatives to MB and demonstration sessions on soil steaming application were organized for the farmers in parallel to the phase out plan. Capacity building activities were also implemented at the level of representatives from the Ministries of Environment and Agriculture and from the Lebanese Agricultural Research Institute (the involvement of these representatives in project progress contributes to achieving a better project sustainability in the future).

7. For the next project tranche, it is proposed to address the problem with steam technology by introducing, *inter alia*, modifications to the boilers and modifications to the steam technology to reduce treatment time and fuel consumption. The Secretariat pointed out that through the actions proposed, some of these issues might be resolved, however, it appears that a number of the fundamental conditions adding to the operating costs such as the fluctuating cost of fuel, the

increased number of personnel needed to apply steam, the limited availability of farm workers, the down time related to boilers' break-down and the lack of good water quality, will always be present. Thus, the long-term sustainability (e.g., after the project funds are completely disbursed) of the proposed technology is in doubt, and should be re-assessed prior to purchasing additional boilers.

8. In this regard, UNIDO informed the Secretariat that UNIDO believes that this first experience in Lebanon using steam is of fundamental importance. The mastering of equipment is yet to be achieved, and the number of farmers will increase after the good results achieved in treating the soil are demonstrated. The only main issue that needs to be addressed is the price fluctuation of fuel, which was in any case foreseen. However, farmers are highly interested in this technique since it is both ozone and environment friendly. UNIDO said it considered the results so far achieved to be very encouraging and to justify an extension of the steam pasteurization.

RECOMMENDATIONS

9. The Fund Secretariat recommends blanket approval of the two project sub-components (UNDP and UNIDO) with associated support costs at the funding levels shown in the table below:

	Project Title	Project Funding (US\$)	Support Cost (US\$)	Implementing Agency
(a)	Sector phase-out of methyl bromide in vegetable, cut flower and tobacco production (third tranche)	500,000	37,500	UNDP
(b)	Phase-out of methyl bromide for soil fumigation in strawberry production (third tranche)	450,000	33,750	UNIDO