



**United Nations
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Executive Committee of
the Multilateral Fund for the
Implementation of the Montreal Protocol
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PROJECT PROPOSAL: LEBANON

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

Fumigant

- Demonstration project of alternative to methyl bromide for soil fumigation (greenhouse) UNDP

PROJECT EVALUATION SHEET LEBANON

SECTOR: FUMIGANT ODS use in sector (1997): 159 ODP tonnes

Sub-sector cost-effectiveness thresholds: N/A

Project Titles:

Demonstration projects on alternatives to methyl bromide for soil fumigation (greenhouse)

Project Data	Methyl Bromide
	Ozone Office, Ministry of Environment
ODS phase-out (ODP tonnes)	-
Proposed project duration (months)	24
Incremental capital cost (US \$)	328,200
- including contingency (%)	10
Incremental operational cost (US \$)	328,200
Total project cost (US \$)	
Local ownership (%)	100
Export component (%)	-
Amount requested (US \$) {Original}	404,000
{Revised}	328,200
Cost effectiveness (US \$/kg)	-
National Coordinating Agency	Ozone Unit, Ministry of Environment
Implementing Agency	UNDP
Technical review completed?	Yes

Secretariat's Recommendations:	
Amount recommended (US \$)	328,200
Project impact (ODP tonnes)	N/A
Cost effectiveness (US \$/kg)	N/A
Implementing Agency support cost (US \$)	42,666
Total cost to Multilateral Fund (US \$)	370,866

PROJECT DESCRIPTION

Demonstration projects on alternatives to methyl bromide for soil fumigation (greenhouse)

1. According to a recent survey by UNDP, methyl bromide use in Lebanon has increased from 227 metric tonnes in 1994 to 280 tonnes in 1997, mainly in greenhouses for soil sterilization to control soil pests and diseases in cucumbers, tomatoes, strawberries, and eggplants. The main pests controlled by methyl bromide are nematodes, soil fungi, bacteria, and weeds.
2. Growers have already explored alternatives to methyl bromide such as soil solarization and use of metam sodium, but they need more work to select the most suitable and effective alternative.
3. This project is to demonstrate the following alternatives to methyl bromide for soil fumigation for vegetable production under greenhouse conditions: combination of soil solarization and manure; bio fumigation (oil radish and rapeseed as green manure crops; use of available resistant varieties; and use of other pesticides (1,3D, metam sodium, Mocap, Vydate).
4. Initial demonstration trials will be done on cucumbers (cucurbits), tomatoes, strawberries, and eggplants. Implementation of the project will involve providing adequate equipment, as well as training in all alternatives. Farm demonstration trials will be similar in size to those of the local average farms and will be carried out under the same local conditions. Plot trials will be carefully evaluated. To assess the alternative in terms of efficacy, marketable yields, costs, and profit, it will be compared with methyl bromide applied under the same climate conditions.
5. A major component of this project will include activities to promote a policy dialogue and policy development through workshops and forming a working group between all agencies and institutions. It will also include the preparation of a technical and economic assessment of the technologies used and dissemination of the results among qualified specialists from Article 5 countries.
6. The project will produce technical manuals for farmers on the best alternative techniques identified by the demonstrations.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The project concept follows the Executive Committee's guidelines. The Government of Lebanon has not yet ratified the Copenhagen Amendment. However, based on an official communication by the Government indicating its intent to complete the ratification within a period of 9 months, the Committee approved at its 25th Meeting a request for preparation of this demonstration project by UNDP.

2. The Secretariat and UNDP discussed the range of tasks and the professional and supervisory structure proposed in the project, including the number of international and national consultants and experts. Subsequently, UNDP reduced these costs by US \$29,000.

3. The Secretariat and UNDP discussed issues regarding cost of laboratory analyses of soil samples, rental of facilities for testing the alternatives and basic equipment requested. Subsequently, UNDP agreed to adjust the costs of laboratory analysis and equipment according to similar requests approved so far and removed the request for renting facilities to conduct the tests (a total reduction of US \$42,000 was agreed).

RECOMMENDATION

Taking into consideration the above comments, the Fund Secretariat recommends blanket approval of the project with associated support costs at the funding level shown in the table below:

Project Title	Project Cost US \$	Support Cost US \$	Implementing Agency
Demonstration projects on alternatives to methyl bromide for soil fumigation (greenhouse)	328,200	42,666	UNDP