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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Forty-seventh Meeting  
Montreal, 21-25 November 2005

**PROJECT PROPOSAL: ISLAMIC REPUBLIC OF IRAN**

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

Fumigant

- Total phase-out of methyl bromide in soil fumigation in olive seedlings and fruit tree nurseries (first tranche)

UNIDO

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**PROJECT EVALUATION SHEET – NON-MULTI-YEAR PROJECTS  
ISLAMIC REPUBLIC OF IRAN**

PROJECT TITLE		BILATERAL/IMPLEMENTING AGENCY
(a)	Total phase-out of methyl bromide in soil fumigation in olive seedlings and fruit tree nurseries (first tranche)	UNIDO

<b>NATIONAL CO-ORDINATING AGENCY:</b>	Ozone Office and Plant Protection Organization
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**LATEST REPORTED CONSUMPTION DATA FOR ODS ADDRESSED IN PROJECT  
A: ARTICLE-7 DATA (ODP TONNES, 2003, AS OF SEPTEMBER 2005)**

Annex E, Methyl bromide	14.4		
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**B: COUNTRY PROGRAMME SECTORAL DATA (ODP TONNES, 2003, AS OF SEPTEMBER 2005)**

ODS Name	Sub-sector/quantity	Sub-sector/quantity	Sub-sector/quantity	Sub-sector/quantity
Methyl bromide	QPS: 38.7			
	Non-QPS: 14.4			

<b>CFC consumption remaining eligible for funding (ODP tonnes)</b>	N/A
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CURRENT YEAR BUSINESS PLAN ALLOCATIONS		Funding US \$	Phase-out ODP tonnes
(a)		261,600	10.0

PROJECT TITLE:	(a)
<b>ODS use at enterprise (ODP tonnes):</b>	14.4
<b>ODS to be phased out (ODP tonnes):</b>	14.4
<b>ODS to be phased in (ODP tonnes):</b>	
<b>Project duration (months):</b>	60
<b>Initial amount requested (US \$):</b>	277,450
<b>Final project cost:</b>	
Incremental Capital Cost (US \$)	678,500
Contingency (10%) (US \$)	67,850
Incremental Operating Cost (US \$)	(518,400)
Total Project Cost (US \$)	227,950
<b>Local ownership (%):</b>	100
<b>Export component (%):</b>	N/A
<b>Requested grant (US \$):</b>	227,950
<b>Cost-effectiveness (US \$/kg):</b>	15.83
<b>Implementing agency support cost (US \$):</b>	20,516
<b>Total cost of project to Multilateral Fund (US \$):</b>	248,466
<b>Status of counterpart funding (Y/N):</b>	
<b>Project monitoring milestones included (Y/N):</b>	Y

<b>SECRETARIAT'S RECOMMENDATION</b>	For individual consideration
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## PROJECT DESCRIPTION

### Background

1. On behalf of the Government of the Islamic Republic of Iran, UNIDO has submitted for consideration by the Executive Committee at its 47th Meeting, a project proposal to phase out 13.5 tonnes of methyl bromide (MB) used in soil fumigation for olive seedlings and fruit-tree nurseries. This represents the total consumption of controlled uses of MB in Iran. An additional 39 ODP tonnes of MB were consumed in 2003 for quarantine and pre-shipment (QPS) applications.
2. The total cost of the project, as submitted, is US \$277,450 (US \$20.55/kg). The project will be implemented by UNIDO.
3. Iran's MB baseline for compliance is 26.7 ODP tonnes.

### MB consumption

4. In 1998, about 13.8 ODP tonnes of MB (64 per cent of all controlled uses of MB) were used for fumigation of commodities. As a result of completion of the project for the phase-out of MB used for treatment of dried fruits and vegetables, nuts, grains and seeds that was approved by the Executive Committee at its 29th Meeting (US \$260,698), the consumption of MB in post-harvest treatment has been completely phased out in Iran.
5. Currently, 13.5 ODP tonnes of MB is used as a soil fumigant of olive seedlings and fruit-tree nurseries. MB is applied to the rooting beds (perlite or another inorganic substrate); after rooting, the cuttings are transplanted into soil-filled bags which were previously fumigated with MB, in which the plants are hardened. The dosage application rate is 50 to 70 grams of MB per cubic meter of substrate.

### MB regulations

6. The Government of the Islamic Republic of Iran has an official policy to control all imports and uses of all pesticides, including MB. At present, the use of MB for commodity fumigation is firmly regulated. Only licensed professionals and official commodity storage specialists can use MB in post-harvest fumigations.

### Project proposal

7. The project is to phase out all controlled uses of MB through the application of steam sterilization of the substrate in combination with an integrated pest management system. The total capital cost of the project is US \$795,850, including US \$742,500 for the purchase of 150 small-capacity boilers (400 kg/hr) with water softener and power generator, and US \$53,350 for training programmes. Operating savings have been estimated at US \$518,400. The total incremental cost of the project is US \$277,450, with a cost-effectiveness of US \$20.55/kg.

8. The project will be implemented by UNIDO in coordination with the Ozone Unit, the Ministry of Environment, the Plant Protection Organization (which decides the types and quantities of pesticides needed), and the Plant Pests and Diseases Research Institute. The estimated time frame for implementation of the project is five years.

## SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

### COMMENTS

#### Selection of alternative technology

9. The project proposes the replacement of MB with steam for the treatment of substrate used in olive-tree nurseries. The Secretariat noted that the sustainability of the proposed technology had been discussed with major stakeholders in Iran. Steam was selected as the alternative technology to MB based on the specific technical and economic circumstances prevailing in the agricultural sector in the Islamic Republic of Iran. These specific circumstances included familiarity with steam technology already used in the country, fuel subsidies that make the technology less expensive than importing alternative fumigants, and the fact that, though effective elsewhere, solarization is not suitable for olive-tree nurseries.

#### Technical and cost-related issues

10. The Secretariat pointed out that the request of 150 boilers, one for each nursery using MB, for the fumigation of substrate cannot be justified, taking into consideration the small volume of substrate to be fumigated (an average of 270 m<sup>3</sup>/nursery) and the treatment capacity of the boilers (20 m<sup>3</sup> of substrate per day). UNIDO informed the Secretariat that this issue was thoroughly discussed with major stakeholders in Iran. It was concluded that it would be practically impossible to share boilers among farmers for the following reasons:

- (a) Growers are scattered throughout the country;
- (b) The roads between farms are not always adequate;
- (c) Farmers cannot wait for more than 14 days (the time required for the treatment); and
- (d) Farmers are not well organized and thus, nobody would take full responsibility of the equipment.

11. The Secretariat also discussed with UNIDO issues related to costs associated with the use of locally-made boilers to apply the steam technology. The cost of the project was subsequently adjusted to US \$227,950.

### Project implementation and agreement

12. The Secretariat noted that the proposed time frame for implementation of the project is very long (5 years), taking into consideration the willingness of the Government to phase out MB, the small amount of MB used in the entire country, and the fact that MB is used in only one application (fumigation of substrate) by a very small number of farmers (150 nurseries). In this regard, UNIDO indicated that since the Government wished to implement the project gradually, these costs would be offset by the fact that many nurseries would commence using the alternative technology once operational savings were realized (at least four years after project approval).

13. A draft agreement between the Government of the Islamic Republic of Iran and the Executive Committee on the modalities for implementation of the MB phase-out project is contained in Annex I to the present document.

### **RECOMMENDATIONS**

14. The Executive Committee may wish to consider:

- (a) Approving the project for the total phase-out of methyl bromide in soil fumigation in olive seedlings and fruit tree nurseries, at a total cost of US \$227,950 plus agency support costs of US \$20,516 for UNIDO; and
- (b) Approving the draft revised agreement between the Government of the Islamic Republic of Iran and the Executive Committee for the total phase-out of methyl bromide in soil fumigation in olive seedlings and fruit tree nurseries contained in Annex I.



## Annex I

### AGREED CONDITIONS FOR PHASE-OUT OF METHYL BROMIDE IN THE ISLAMIC REPUBLIC OF IRAN (DRAFT)

1. The Executive Committee:
  - (a) at its 29th Meeting, approved US \$260,698 (UNIDO) as the total funds available to the Islamic Republic of Iran to achieve the complete phase-out of methyl bromide (MB) used in all major non-critical, non-essential uses in post harvest treatments (12.4 ODP tonnes); and
  - (b) at its 47th Meeting, approved an additional US \$227,950 (UNIDO) as the total funds available to the Islamic Republic of Iran to achieve the complete phase-out of MB used for soil fumigation in olive seedlings and fruit tree nurseries (14.4 ODP tonnes).
  
2. As reported to the Ozone Secretariat, and consistent with information in the project document presented to the Executive Committee, the MB baseline for the Islamic Republic of Iran has been established at 26.7 ODP tonnes. The Islamic Republic of Iran has also reported MB consumption of 14.4 ODP tonnes for 2003, excluding quarantine and pre-shipment applications. Accordingly, the Islamic Republic of Iran is in compliance with the 2005 Montreal Protocol 20 per cent reduction.
  
3. Reductions in accordance to the terms of the above-mentioned project and other commitments presented in the project document will ensure that the Islamic Republic of Iran meets the reduction schedule presented below. In this regard, the Islamic Republic of Iran will reduce the national consumption of controlled uses of MB to no more than the following levels of consumption in the years listed below:

Year	ODP tonnes
2006	14.4
2007	12.4
2008	10.4
2009	7.6
2010	5.6
2011	0

4. Disbursement of the funding approved for UNIDO will be 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 year's progress report:

2008	US \$100,000
2009	US \$27,950

5. The Government of the Islamic Republic of Iran has reviewed the consumption data identified in this project and is confident that it is correct. Accordingly, the Government is

entering into this agreement with the Executive Committee on the understanding that, should additional MB consumption of controlled uses be identified at a later date, the responsibility to ensure its phase-out will lie solely with the Government.

6. Funding disbursement for the project will be conditional to the project's achievement of milestones programmed and the individual reduction schedule listed above. In case of unjustified delays, UNIDO will inform the Executive Committee and will cancel any further release of funds until all problems are solved and the schedule is brought back on track. If unjustified delays continue, the project may be cancelled.

7. The Government of the Islamic Republic of Iran, in agreement with UNIDO, will have flexibility in organizing and implementing the project components which it deems to be most important in order to meet the MB phase-out commitments noted above. UNIDO agrees to manage the funding for the project in a manner designed to ensure the achievement of the specific MB reductions. UNIDO shall report back to the Executive Committee annually on the progress made in meeting the reductions required by this project.

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