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PROJECT PROPOSALS: TURKEY

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

Fumigant:

- Phase-out of methyl bromide in protected tomato, cucumber and carnation crops — UNIDO

Solvent:

- Umbrella project for 21 enterprises: phase-out of MCF used as solvent by water cleaning — World Bank

PROJECT EVALUATION SHEET
TURKEY

SECTOR: Fumigant ODS use in sector (2000): 430 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

Project Title:

(a) Phase-out of methyl bromide in protected tomato, cucumber and carnation crops

Project Data	**Methyl bromide**
Enterprise consumption (ODP tonnes)	606.40
Project impact (ODP tonnes)	364.00
Project duration (months)	60
Initial amount requested (US $)	800,000
Final project cost (US $):	
Incremental capital cost (a)	5,088,810
Contingency cost (b)	378,979
Incremental operating cost (c)	1,560,962
Total project cost (a+b+c)	7,028,751
Local ownership (%)	100%
Export component (%)	0%
Amount requested (US $)	800,000
Cost effectiveness (US $/kg.)	19.30
Counterpart funding confirmed?	
National coordinating agency	Ozone Office, Ministry of Environment
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

Phase-out of methyl bromide in protected tomato, cucumber and carnation crops

1. The Government of Turkey is submitting a project to phase out 364 ODP tonnes of methyl bromide (MB) used for soil disinfestation in tomatoes, cucumber and carnation crops equivalent to 85 per cent of the total consumption in the country.

2. The project is to replace MB with solarization in combination with alternative chemicals, bio-fumigation, soil-less media and negative pressure steam pasteurisation, in combination with an integrated pest management (IPM) programme. These technologies have been selected on the basis of the results from the demonstration project on alternatives to the use of MB in protected horticulture and ornamental crops approved by the Executive Committee at its 25th Meeting (UNIDO, US $314,600).

3. The use of chemical alternatives requires modification of the irrigation systems currently available in farms, including the installation of a metam sodium storage tank, a Venturi-injector (for a uniform distribution of the chemical) and additional piping (at a total cost of US $1,682,600). The negative pressure steam technology (for carnations) requires installation of perforated pipes in the soil, electric fans and 10 steam generators that will be shared among growers (at a cost of US $1,547,590). The soil-less culture technology requires installation of inert media (at a cost of US $492,000).

4. The project also includes a training programme and project management at a total cost of US $1,310,000. Incremental operating costs have been estimated at about US $1,299,000.

5. The project will be implemented by UNIDO in co-operation with the Citrus and Green House Crop Research Institute, under the national co-ordination of the Ozone Unit. The Government of Turkey will be responsible for providing the legal framework for phasing out MB in vegetables and cut flower production; the infrastructure for reaching all farmers involved; and the institutional support for implementing and monitoring progress.

6. The estimated time for the implementation of the project is 5 years.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

7. The Fund Secretariat sought clarification from UNIDO on the export component of final products to non-Article 5 countries. The project proposal indicates that Turkey is the largest producer and exporter of agricultural products in the Near East and North-African region. The Turkey Methyl Bromide Action Plan (prepared by the Ministry of Agriculture and Rural Affairs) reported an increase in the export of protected crops (i.e., tomato, beans, eggplant, strawberry and parsley between 54% and 256% in the period 1993-1997. Over the same period, export of cut flowers (mainly to Western Europe countries) ranged between 74 and 81% of the total

production. UNIDO informed the Secretariat later on that less than 14% of the total production of vegetables (mainly tomato, cucumber, eggplant and green pepper), are exported to both Article 5 and non-Article 5 countries. Between 1994 and 1998, export of cut flowers ranged from 58 to 81%; since then, the level of export of cut flowers was below 32%.

8. The Fund Secretariat pointed out that the amount of MB used as a soil fumigant for the production of vegetables and cut flowers in 2000 was 292 ODP tonnes; however, the project document indicated a total phase out of 364 ODP tonnes. UNIDO indicated that the 364 ODP tonnes represented the average consumption of the last three years.

9. The Secretariat sought a clarification from UNIDO on the calculation of the surface area currently treated with MB and the associated equipment required for the implementation of the alternative technologies. The Secretariat pointed out that the cost for the modification of the irrigation systems was about US $1,450/ha (rather than US $2,000/ha) and raised issues related to the calculation of the training programme and the operating costs, including the difference in surface area fumigated with MB and the alternative technologies, labour associated with irrigation, costs of plastics, and operating costs of equipment.

10. The Fund Secretariat and UNIDO are still discussing these issues as well as the inclusion of this project in the current agreement between the Government of Turkey and the Executive Committee decided at the 31st Meeting (UNEP/OzL.Pro/ExCom31/61 Annex VIII). Results of the discussions and a draft agreement will be finalised prior to the 35th Meeting of the Executive Committee, and the Sub-Committee on project review will be informed of the outcome.

PROJECT EVALUATION SHEET
TURKEY

SECTOR: Solvent ODS use in sector (1999): 231.4 ODP tonnes

Sub-sector cost-effectiveness thresholds: US $38.50/kg

Project Titles:

(a) Umbrella project for 21 enterprises: phase-out of MCF used as solvent by water cleaning

Project Data	**Multiple solvents**
Enterprise consumption (ODP tonnes)	15.40
Project impact (ODP tonnes)	15.40
Project duration (months)	24
Initial amount requested (US $)	579,887
Final project cost (US $):	
Incremental capital cost (a)	914,500
Contingency cost (b)	91,450
Incremental operating cost (c)	463,297
Total project cost (a+b+c)	1,469,247
Local ownership (%)	100%
Export component (%)	0%
Amount requested (US $)	518,693
Cost effectiveness (US $/kg.)	33.75
Counterpart funding confirmed?	
National coordinating agency	Technology Development Foundation
Implementing agency	IBRD

Secretariat's Recommendations	
Amount recommended (US $)	518,693
Project impact (ODP tonnes)	15.40
Cost effectiveness (US $/kg)	33.75
Implementing agency support cost (US $)	67,056
Total cost to Multilateral Fund (US $)	585,749

SECTOR BACKGROUND

11. The latest consumption reported by Turkey for the solvent sector in its reports on implementation of its country programme is 231.4 ODP tonnes in 1999. Of this total, the consumption of TCA was 44 ODP tonnes. There are no projects for phase-out of TCE currently under implementation.

PROJECT DESCRIPTION

Terminal umbrella project for 21 enterprises: Phase-out of MCF used as solvent by water cleaning

12. The World Bank has submitted for consideration at the 35th Meeting of the Executive Committee one project for the solvent sector in Turkey. The project covers 21 enterprises manufacturing a variety of products and represents approximately 15% of the total ODS consumption in the country's solvent sector.

13. The 21 enterprises covered by the project report a consumption of 15.4 ODP tonnes of TCA for the year 2000 in the cleaning of metal parts. The enterprises all use TCA cleaning equipment and have wastewater management systems in the baseline.

14. Under the current project, the consumption of TCA will be phased out by replacing the existing solvent cleaning systems with ultrasonic water-based systems.

15. The main capital cost items are 21 ultrasonic washing units of various sizes ranging in price from US $10,000 to US $250,000 (US $782,000 in total). Other costs include additional wastewater treatment systems (US $100,000) and training and commissioning (US $33,000). No incremental operating costs are requested.

SECRETARIAT'S COMMENT AND RECOMMENDATION

COMMENT

16. The project was initially submitted with costs calculated under the guidelines pertaining to terminal umbrella projects. The World Bank subsequently confirmed that it is not a terminal umbrella project and adjusted the costing to ensure that the sub-project for each enterprise did not exceed the cost-effectiveness threshold. One project has a substantially greater consumption than the remaining 19 and consequently much more costly capital equipment requirements. The Secretariat discussed and confirmed the cost and eligibility requirements for this equipment. The World Bank also provided additional information to demonstrate that the sub-projects have incremental operating costs not savings. The incremental operating costs were not included in the requested funding. The incremental costs for each enterprise were calculated taking into account the proportion of exports to non-Article 5 countries, which ranged from zero to 60 per cent.

RECOMMENDATION

17. Blanket approval of this project is recommended with project and support costs as indicated in the table below:

	Project Title	Project Funding (US$)	Support Cost (US$)	Implementing Agency
(a)	Umbrella project for 21 enterprises: phase-out of MCF used as solvent by water cleaning	518,693	67,056	IBRD
