



**United Nations
Environment
Programme**

Distr.
LIMITED

UNEP/OzL.Pro/ExCom/36/25
19 February 2002



ORIGINAL: ENGLISH

EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Thirty-sixth Meeting
Montreal, 20-22 March 2002

PROJECT PROPOSAL: CHILE

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

Fumigant

- Phase-out of methyl bromide in tomatoes and peppers production World Bank

**PROJECT EVALUATION SHEET
CHILE**

SECTOR: Fumigant ODS use in sector (1998): 198 ODP tonnes

Sub-sector cost-effectiveness thresholds: n/a

Project Title:

(a) Phase-out of methyl bromide in tomatoes and peppers production

Project Data	Methyl bromide
Enterprise consumption (ODP tonnes)	139.20
Project impact (ODP tonnes)	139.20
Project duration (months)	48
Initial amount requested (US \$)	3,060,250
Final project cost (US \$):	
Incremental capital cost (a)	2,588,324
Contingency cost (b)	136,000
Incremental operating cost (c)	335,926
Total project cost (a+b+c)	3,060,250
Local ownership (%)	100%
Export component (%)	0%
Amount requested (US \$)	3,060,250
Cost effectiveness (US \$/kg.)	21.98
Counterpart funding confirmed?	
National coordinating agency	CONAMA
Implementing agency	World Bank

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 tomatoes and peppers production

1. The Government of Chile is submitting a project to phase out 139.2 ODP tonnes of methyl bromide (MB) used for soil fumigation in tomato and pepper crops (produced in greenhouses and open-fields), equivalent to 60 per cent of the total consumption in the country, excluding essential and critical uses of MB. The total production of tomatoes and peppers is for local consumption.
2. The project is to replace MB with alternative chemicals (metam sodium) and steam pasteurisation of substrates used in greenhouses for the production of seedlings. These technologies have been selected on the basis of the results from the demonstration project on alternatives to the use of MB in horticulture approved by the Executive Committee at its 25th Meeting (World Bank, US \$348,130).
3. The use of metam sodium requires modification of the irrigation systems currently available in greenhouses (estimated at US \$880,000) and injection systems for open field production without irrigation systems (US \$220,000). The steam technology requires 12 steam generators (at US \$30,000/unit for a total cost of US \$396,000). The project also includes a training programme at a total cost of US \$1,228,324. Incremental operating costs have been estimated at about US \$335,926. The cost effectiveness of the project, as submitted, is US \$21.98/kg. The estimated time for the implementation of the project is 4 years.
4. The national agencies responsible for the implementation of the project are the Agricultural Research Institute (INIA), the Agricultural Development Institute (INDAP), private extension agents and other institutions. Farmer associations will have to be established and/or promoted to utilise the steaming and metam sodium dosing equipment. The Ozone Unit, at the National Commission of the Environment, will be in charge of co-ordinating and monitoring all the activities related to the Montreal Protocol.
5. The Government of Chile will be responsible for providing the legal framework for phasing out MB in tomato and pepper crops, the infrastructure for reaching the farmers involved and the necessary institutional support for implementing and following up on the project.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

6. The Secretariat discussed with the World Bank the level of consumption of MB in Chile eligible for funding from the Multilateral Fund. At its 32nd Meeting, the Executive Committee approved an investment project for the phase out of MB in the tree replant and tree nursery sectors in Chile, with a total phase out of 76.2 ODP tonnes. The project proposal was approved together with an agreement between the Government of Chile and the Executive Committee, through which, among others, Chile commits to reduce its total national consumption of controlled uses of methyl bromide to no more than the following levels: 198 ODP tonnes

by 2002; 170 ODP tonnes by 2003 and 121.8 ODP tonnes by 2006 (UNEP/OzL.Pro/ExCom/32/44, Annex IX).

7. In accordance with the agreement, the total amount of MB in Chile eligible for funding from the Multilateral Fund would be 121.8 ODP tonnes. Therefore, the eligible incremental cost of the project should be based on the agreed maximum remaining consumption of 121.8 ODP tonnes.

8. The Secretariat pointed out that sterilisation of substrate for greenhouse or seedling production is an unusual practice world-wide because of its higher cost compared with artificial media and the greater incidence of problems associated with disease. Furthermore, soil used as the media can be sterilised with alternative chemicals (i.e., 1-3 dichloropropane or metam sodium), which would be cheaper than the proposed steam sterilisers.

9. The Secretariat and the World Bank discussed issues related to:

- (a) costs of the equipment required for the application of metam sodium in both greenhouses and open-fields (additional pipes and injection Venturi devices with storage tank and agitator).
- (b) level of operating costs requested, on the basis of the surface area fumigated with MB, the average dosage used for chemicals, labour costs and operating costs of equipment.
- (c) cost for training programme which is very expensive (US \$1,228,300) taking into consideration that the project is only for replacing the soil fumigant which is applied only once a year, for a very short period of time (less than one month), and that the surface area where MB is applied is very small (1,000 ha).

10. The Secretariat and the World Bank are still discussing issues related to MB consumption in Chile and cost issues. The outcome of the discussion will be communicated to the Executive Committee prior to the 36th Meeting.

11. In the meantime, the World Bank is assisting the Government of Chile in drafting a proposal for a revised agreement between the Government and the Executive Committee with the commitments proposed and action plan for the phase out of MB in tomato and pepper crops in Chile, taking into account the current agreement covering the phase out of MB in the tree replant and tree nursery sectors, approved at the 32nd Meeting of the Executive Committee. The draft agreement will be finalised prior to the 36th Meeting of the Executive Committee.

RECOMMENDATION

12. Pending.
