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EXECUTIVE COMMITTEE OF
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PROJECT PROPOSAL: PERU

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

Fumigant

- Phase-out of methyl bromide in soil fumigation in Peru

UNDP

**PROJECT EVALUATION SHEET
PERU**

SECTOR: Fumigant ODS use in sector (1999): 4.0 ODP tonnes

Sub-sector cost-effectiveness thresholds: N/A

Project Titles:

(a) Phase-out of methyl bromide in soil fumigation in Peru

Project Data	Methyl bromide
Enterprise consumption (ODP tonnes)	
Project impact (ODP tonnes)	4
Project duration (months)	36
Initial amount requested (US \$)	259,765
Final project cost (US \$):	
Incremental capital cost (a)	190,700
Contingency cost (b)	19,070
Incremental operating cost (c)	
Total project cost (a+b+c)	209,770
Local ownership (%)	100%
Export component (%)	0%
Amount requested (US \$)	209,770
Cost effectiveness (US \$/kg.)	52.50
Counterpart funding confirmed?	
National coordinating agency	OTO
Implementing agency	UNDP

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 soil fumigation in Peru

Background

1. The Government of Peru is submitting a project to phase out 4 ODP tonnes of methyl bromide (MB) used in nursery beds for paprika, onions, potatoes and tobacco, representing most of the use of MB in soil applications in the country. The project also proposes to eliminate the use of MB in strawberry and flower crops, a common past practice amongst a number of farmers.

Consumption of MB

2. Imports of MB vary from year to year according to pest pressures and other factors. The 1995-1998 consumption (baseline) was 7.65 ODP, according to data provided by the National Service of Agrarian Sanitation (SENASA), Ministry of Agriculture. Higher than normal imports occurred in 1995 (10.3 ODP tonnes) and 1997 (9.2 ODP tonnes). In 1999, MB import was estimated at 3.6 ODP tonnes. Based on a survey carried out in 1998, about 58 per cent of the total MB consumption is for soil disinfestation, 17 per cent for storage and the remaining for quarantine applications.

3. The level of consumption of MB in Peru is lower compared to other Latin American countries. However there are pressures to increase its use particularly for strawberries, tomatoes, asparagus and flowers, where investment is increasing significantly.

4. MB is applied manually by farmers and farm labourers under plastic sheets at a rate of 0.023 kg/m² for paprika and onions, 0.23kg m³ for potatoes and between 0.023 to 0.23 kg/m² for tobacco seedbeds.

Alternatives selected

5. The project is to demonstrate the efficacy and economic feasibility of the following five techniques (a large number for a very low consumption of MB): (i) tray method (soil is replaced with a substrate); (ii) steam heat (application of steam at 70-80°C); (iii) soil solarization (to trap heat from the sun under plastic sheets); (iv) biological controls (organisms such as *Trichoderma* that control or suppress certain soil-borne pests and diseases); (v) a reduced use of chemicals. These techniques will be demonstrated under an integrated pest management (IPM) framework.

Implementation modalities

6. Under the supervision of the Ozone Technical Office, a directive committee composed of SENASA, a representative of MB users and a representative of NGOs, will be established. At the provincial level, a coordination group will be constituted for project implementation.

7. The project will commence in demonstration plots in leading farms as the basis for demonstration and training. The training programme will be implemented through a two-stage process: training of trainers followed by training of farmers. Training modules and teaching materials will be developed by technicians and experts together with MB users. Training will take place at farm level (farmer field schools), and will include farm visits, field workshops and tuition from technicians. In the follow up process, field workshops will be held to demonstrate partial results and to share successful experiences between farmers. Simultaneously, through targeted communication channels, information on demonstrative plots and shared experiences will be disseminated to other MB users. The best alternatives to MB will be transferred to other farmers through training programmes and subsequently developed fact sheets.

8. The project includes a set of indicators that can be objectively monitored to verify the achievement of project milestones and demonstrate results. Fund disbursement would be made conditional on the realization of the project milestones.

9. The estimated time for the implementation of the project is 3 years. The cost effectiveness of the project is US \$64.94/kg.

Policy measures

10. A package of policy measures will be developed to ensure that by the end of 2002, MB consumption will be reduced to the baseline level, and will be completely phased out by the end of 2005. Additionally, measures taken to ensure that MB is not re-introduced after users have stopped using it.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

Consumption of MB

1. The Secretariat requested clarification from UNDP regarding the 4 ODP tonnes of MB to be phased out by the project in light of the fact that only 3.8 ODP tonnes was imported in 1999, of which only 2.2 ODP tonnes was for soil treatment.

2. UNDP responded that the consumption of 4 ODP-tonnes of MB was based on data collected by a national consultant with assistance from the stakeholders.

Selection of alternatives

3. The Secretariat pointed out that the project appears to be more of a demonstration project than an investment project and indicated that demonstration projects to phase out MB application in nursery beds for paprika, onions and potatoes have never been submitted before.

4. UNDP informed the Secretariat that the original objective was to prepare a demonstration project; however, this project proposal is for a phaseout project which includes a demonstration component through farm demonstration trials, which are necessary and justified for the following reasons: (i) no demonstration work has been done to-date on paprika, onions and potato nursery beds. Thus, it is not possible to establish effective and economically feasible alternatives for these crops (farm demonstrations are the simplest way to generate this information); (ii) the crops under consideration are attacked by a very wide spectrum of soil pests, so it is not possible to use only one alternative technology; (iii) there is a need to identify alternative technologies which would be technically and economically viable for Peru's conditions to secure a complete phaseout of MB.

Incremental costs

5. The Secretariat and UNDP discussed several issues regarding the cost of the project. The personnel (a project co-ordinator and three technicians) would be hired on the basis of 14 months/year, although MB is applied only during a very short period of time over a small surface area. The Secretariat also sought further clarification on the objectives of the training programmes and the number of farmers to be trained; the purpose of technical and specialist meetings and document production for trial plans, work coordination and review, and field validation workshops which were included in the project proposal.

6. UNDP stated that the project coordinator will be responsible for, among others, organizing working groups of stakeholders; farm demonstrations for each crop; a policy dialogue process for development of the policy package; development of information materials and publicity; organizing together with the technicians, train the trainers programme, farm visits and training of farmers. The technicians will organize the purchase and borrowing of equipment and materials; and design and implement training programmes for farmers. UNDP also informed the Secretariat that the percentage cost for the personnel seems relatively high primarily because a considerable amount of equipment and material items needed for the demonstration trials would be provided by the Government (e.g., although steam technology will be used during demonstration, purchase of a steam boiler is not requested). Furthermore, equipment required when the alternative technologies are adopted on a wide-scale would be purchased by the stakeholders

7. Regarding the technical and specialist meetings, UNDP indicated that the objective is to provide and coordinate necessary technical input for the work on each crop/region, decide on technical details, resolve technical issues and guide all the technical components of the work (e.g., farm demonstrations, laboratory work, development of training programmes, farm visits). These meetings are necessary for proper decisions on technical activities and will draw on all available expertise, helping to leverage the relatively small amount of time earmarked for

consultants. The field validation workshops are necessary to verify the effectiveness of the training modules and to address issues at the beginning of the training programmes.

8. After further to discussions on this issue, UNDP agreed to adjust the cost of the project to US \$209,770.

RECOMMENDATIONS

1. The Fund Secretariat and UNDP have agreed on the total cost of the project. Based on the above considerations, the Executive Committee may wish to consider approval of the project in the amount of US \$209,770. The Executive Committee may also wish to request UNDP to disburse the funds approved in tranches according to the proposed MB phase out schedule indicated in the project proposal; if Peru does not meet the reduction requirements outlined in the proposal, the Multilateral Fund, through UNDP, will withhold funding for the subsequent tranche of funding until such time as the required reduction has been met.

2. The Executive Committee may also wish to request UNDP to submit an annual progress report on the implementation of the project to the Fund Secretariat.
