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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Thirty-seventh Meeting
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2002 WORK PROGRAMME AMENDMENTS OF UNIDO

COMMENTS AND RECOMMENDATIONS FROM THE FUND SECRETARIAT

1. UNIDO is requesting approval from the Executive Committee for US \$497,000 as amendments to its 2002 Work Programme with agency support costs of US \$64,610.
2. The activities proposed in the UNIDO 2002 Work Programme Amendments are presented in Table 1 below:

Table 1: UNIDO 2002 Work Programme Amendments

Country	Activity/Project	Amount Requested US \$	Amount Recommended US \$
I. Institutional strengthening			
	ODP tonnes		
Mexico	Renewal institutional strengthening project: phase 6	247,000	247,000
II. Halon banking			
Macedonia	Technical assistance in preparation of the national halon management plan	25,000	25,000
III. Methyl bromide			
Brazil	Preparation of a sectoral phase-out plan in the methyl bromide sector	100,000	Issue
South Africa	Preparation of a sectoral phase-out plan in the methyl bromide sector	125,000	Issue
Subtotal		497,000	
Agency support costs:		64,610	
Total:		561,610	

I. Institutional strengthening

Mexico: Renewal of the institutional strengthening project (US \$247,000)

Project description

3. The description of the institutional strengthening project for the above country is presented in Annex I to this document.

Fund Secretariat's recommendation

4. The Fund Secretariat recommends blanket approval of the above project at the funding level shown in Table 1. The Executive Committee may also wish to express the following views to the Government of Mexico:

5. The Executive Committee has reviewed the information presented in the institutional strengthening project for Mexico and notes with appreciation the fact that Mexico's achievements have enabled the country to reduce its Annex A substances significantly, freeze levels for the reporting period 2000-2002. The Executive Committee also notes that Mexico has taken significant steps over the years to phase out its ODS consumption in numerous sectors

including developing official standards in domestic and commercial refrigeration equipment, implementing a licensing system to assist in controlling the use of ODS; implementing demonstration projects in methyl bromide and adopting control measures for importers and distributors in the same sector. These and other activities are encouraging and the Executive Committee appreciates the efforts of Mexico to reduce the consumption of controlled substances under the Montreal Protocol. The Executive Committee expressed the expectation that in the next two years, Mexico will introduce specific controls and ban on products and activities in more industries such as aerosols and solvents; prepare a strategy with the refrigerant distribution system for training purposes and start a retrofit programme; and continue its efforts in the phase out of methyl bromide.

II. Halon banking

Macedonia: Technical assistance in preparation of the national halon management plan (US \$25,000)

Project description

6. No halon has been registered as imported into Macedonia since 1997. However, the latest annual report submitted by the Ozone Unit in January 2002 shows that there is still a significant number of maintained fire fighting systems and portable extinguishers charged with these highly Ozone depleting substances. According to the report, the identified quantities of Halons installed in various sectors are as follows: 28 ODP tonnes of Halon-1211 and 55 ODP tonnes of Halon-1301.

7. This project involves the review and analysis of data on the installed Halon capacity in various sectors, the verification of the qualifications and competence of the staff involved in and procedures applied for Halon equipment maintenance and inspection, the identification of respective training/re-training requirements and adjustments, and advice and recommendations on the design of and activities to be implemented under the Halon Management Plan including the relevant rules and regulations to be introduced. An institution will be selected to perform the role of a focal point for co-ordination of the overall project implementation and the follow-up activities to be carried out under the Halon Management Plan. A working group will be established comprising representatives of respective Government authorities, business and industrial communities and other parties concerned to deal with the issues of Halon stock management. The project will also have an awareness component and workshops on training and alternative fire protection technology.

8. The project will be completed six months after its approval.

Secretariat's comments

9. The Secretariat asked UNIDO to verify that Macedonia understood that this project would be the final project it would receive in the halon sector. The Government of Macedonia informed the Secretariat of its agreement to receive only a one time funding for this sector.

Fund Secretariat's recommendation

10. The Fund Secretariat recommends blanket approval of the above project at the funding level shown in Table 1.

III. Methyl bromide

- (a) Brazil: Preparation of a sectoral phase-out plan in the methyl bromide sector (US \$100,000)

Project description

11. UNIDO is proposing to assist the Government of Brazil in the preparation of a sector phase-out plan in the methyl bromide (MB) sector which will cover the remaining consumption in the tobacco sub-sector, the consumption in the horticulture sub-sector, the grain fumigation sub-sector and all other non-critical uses of this fumigant.

Secretariat's comments

12. The Secretariat sought a clarification from UNIDO on the estimated amount of MB used in each application. In this regard, UNIDO advised the Secretariat that a consumption breakdown for MB is not available for Brazil. However, the MB consumption in 2000 was 431 ODP tonnes; of this amount, 271.8 ODP tonnes were used for the production of tobacco seedlings; therefore, the remaining consumption (about 159.2 ODP tonnes) is used in horticulture, structures and commodities fumigation. UNIDO stated that "as this data is very preliminary, the need for a extensive survey on the MB in Brazil is of utmost importance"

13. The Secretariat also pointed out that the level of funding requested for this activity was high taking into account that:

- (a) The approved demonstration project on alternatives to the use of MB (at a total cost of US \$393,800), included a survey of MB consumption in the country;
- (b) The investment project for the phase out of 421.8 ODP tonnes of MB used as a fumigant in the tobacco sub-sector (approved at the 28th Meeting). While the project was partially approved (20 per cent of the project budget to phase out 20 per cent of the consumption), there is no need to develop a new project proposal, for the remaining consumption. Pursuant to Decision 28/38, UNIDO submitted a progress report on the implementation of this investment project (attached as Annex II to this document). The report is submitted following a request of the Multilateral Fund Secretariat in order to provide the Executive Committee with information on the status of the project, as well as on the present consumption of MB in the tobacco sector in Brazil;
- (c) The MB consumption data for 1999 and 2000 (275 and 431 ODP tonnes, respectively) which are lower than the baseline (711.6 ODP tonnes). Based on the

2000 data, Brazil has already achieved the 20 per cent reduction in the MB baseline.

14. UNIDO indicated that taken into consideration the size of Brazil, the number of sectors involved, the need to update the tobacco project for the remaining 80 per cent of the consumption, and growth rate in horticulture, the minimum funding required for conducting a sectoral phase out plan would be US \$75,000.

15. Regarding the progress report on the implementation of the MB phase-out project in the tobacco sub-sector, the Secretariat noted that AFUBRA and SINDIFUMO decided to phase out the consumption of MB at a faster rate than the schedule proposed in the approved project. In this regard, all farmers have been trained in the use of the floating tray system (the alternative technology selected to replace the use of MB); furthermore, at the beginning of the 2002 campaign, about 334.8 ODP tonnes of MB has already been phased out by 85,400 farmers.

16. The Secretariat also noted that, according to the progress report, the investment made by the farmers that are not using MB has been close to US \$16.5 million, excluding training costs; from the point of view of farmers, the operational savings were non-existent because most of savings came from labour time (i.e., more free time for the growers but not necessarily monetary savings as such).

Fund Secretariat's recommendation

17. The Executive Committee may wish to consider the project proposal in light of the above comments. The Executive Committee may also wish to take note of the progress report submitted by UNIDO.

- (b) South Africa: Preparation of a sectoral phase-out plan in the methyl bromide sector (US \$125,000)

Project description

18. UNIDO is proposing to assist the Government of South Africa in the preparation of a sectoral phase-out plan in the MB sector in soil fumigation and treatment of commodities.

Secretariat's comments

19. The Secretariat sought a clarification from UNIDO on the estimated amount of MB used in each application. In this regard, UNIDO advised the Secretariat that according to the data reported by the Government of South Africa to the Ozone Secretariat, the total annual consumption in the country is 604.2 ODP tonnes, with the following distribution by application: 75 per cent for soil fumigation, 17 per cent for structural treatment and 8 per cent for durables. UNIDO estimated that 40 per cent of the MB consumption for soil fumigation is for growing apple trees, and indicated that since the data is based on a survey made in 1998, an updated survey would be required.

20. The Secretariat also pointed out that the 9th Meeting of the Parties accepted the classification of South Africa as a developing country for the purpose of the Montreal Protocol noting that South Africa thus far complied with the requirements of the existing amendments to the Montreal Protocol and undertakes not to revert to producing or consuming substances that have already been phased out and are controlled by these Amendments, and that South Africa has undertaken not to request financial assistance from the Multilateral Fund for fulfilling commitments undertaken by developed countries prior to the 9th Meeting of the Parties (Decision IX/27).

21. UNIDO informed the Secretariat that the Ozone Office of South Africa sought a clarification from the Ozone Secretariat regarding the possibility of financial support for the MB sector. The Ozone Secretariat replied that “financial restrictions are not relevant to the MB sector, as the Decision IX/27 was referring to the list of products under the Annex I, which does not include the MB sector”. Based on this advice, the Government of South Africa contacted UNIDO for assistance

Fund Secretariat’s recommendation

22. The Executive Committee may wish to consider the eligibility of South Africa to receive assistance from the Multilateral Fund for methyl bromide related-projects.

Annex I

INSTITUTIONAL STRENGTHENING PROJECT PROPOSAL

Mexico: Renewal of institutional strengthening

Summary of the Project and Country Profile	
Implementing Agency:	UNIDO
Amount originally approved:	
Phase I: Jun. 1992 (US\$)	285,000
Phase II: Jul 1995 (US\$)	47,500
Phase III: Oct. 1996 (US\$)	190,000
Phase IV: Jul. 1998 (US\$)	190,000
Phase V: Jul. 2000 (US\$)	190,000
Amount requested for renewal (US \$):	247,000
Date of approval of country programme	February 1992
ODS consumption reported in country programme (1989), (ODP tonnes)	10,184.0
Latest reported ODS consumption (2001) (ODP tonnes)	3,926.41*
Baseline (1995-1997) (ODP tonnes of CFCs)	4,624.9
Amount approved (US \$)	36,336,252
Amount disbursed (as at December 2001) (US \$):	29,533,429
ODS to be phased out (ODP tonnes)	3,411.9
ODS phased out (as at December 2001) (ODP tonnes)	3,067.12

*1,529.12 ODP tonnes of MB was consumed.

1. The following activities have been approved and funded by the Executive Committee:

	<u>US \$</u>
(a) Country programme preparation	64,061
(b) Project preparation	2,104,947
(c) Training	900,792
(d) Technical assistance	1,121,991
(e) Demonstration	2,076,093
(f) Investment projects	28,966,919
Total:	35,234,803

Progress report

2. The main achievements mentioned in the progress report include: developing official standards in domestic and commercial refrigeration equipment, a licensing system to assist in controlling the use of ODS in all sectors; discouraging illegal trade by making trade and handling of ODS a federal crime; co-developing report on RMP with UNIDO for approval; and working with the CFC production plant, Quimobasicos, to develop a phase-out project. The methyl bromide demonstration projects have been implemented with seven national growers and three wheat mills; control measures were introduced to importers and distributors, and it is expected that the level of consumption will be under the established baseline due to limits set upon methyl bromide importers. A national enterprise has been appointed to implement the halon bank. Based on Mexico's experience acquired from previous years, the country has noted the importance of

the continuity of staff, activities, and objectives as well as the progress made in the development of the Ozone Protection Unit Co-ordination.

3. The Ozone Protection Unit Co-ordination has been appointed by the Government of Mexico to implement the Montreal Protocol. It reports to the Pollution Management Department of the Secretariat of the Environment. The Unit makes recommendations on legislative matters to Mexico's Congress which is the official entity that can accept or ratify the amendments.

Plan of action

4. The plan of action for the next period includes: implementation of the production and import permit system; the introduction of specific controls and ban on products and activities in other aerosol and solvent industries; preparation of a strategy with the refrigerant distribution system for training purposes and start a retrofit programme; preparation of plant closure (Quimobasicos); discussion with methyl bromide industry to control its consumption; demonstrate the results from the demonstration projects in methyl bromide, and prepare investment projects with the alternatives selected by the growers in order to meet the methyl bromide freeze. It is expected that the Montreal and Beijing amendments will be ratified in 2003, and the usual data reporting to the Multilateral Fund and Ozone Secretariats is also anticipated.

Annex II

**PROGRESS REPORT ON THE IMPLEMENTATION OF THE PROJECT FOR
PHASING OUT MB IN THE TOBACCO SECTOR IN BRAZIL**

(PREPARED BY UNIDO)

1. Establishment of the system and logistics

The purchase of equipment and on-site distribution and delivery were, logistically, very complicated tasks. Irrespective of who purchased the equipment, the items listed below had to be delivered to about 20% of the 145,000 farmers, and cultivating 48,000 hectares, if effective phase out had to be achieved. This represents about 48,000 micro-tunnels sets.

Item	Description	Total to be delivered
1.1	18 galvanised steel rod arches, diameter 6.3 mm. Total 68.4 meters	864,000
1.2	100 expanded polystyrene trays with 200 cells measuring 360x700x60 mm. Density 0.28 g/l.	4,800,000
1.3	44 m ² of 150 micron black polyethylene sheet for the pool	2,112,000
1.4	63 m ² of 200 micron transparent UV protected polyethylene sheet for covering tunnel	3,024,000
1.5	2.2 meters, 4 mm. wide elastic bidders	105,600
1.6	3 meters, 5 mm. nylon rope	144,000
1.7	1/20 of a substrate compacting tool	2400
1.8	1/20 of a manual seeder	2400

Items 1.3 to 1.6 were purchased in form of rolls, which had to be cut in the desired length before delivery. This represented a relatively impressive cost, taking into account that the 29,000 farmers were spread over three large Brazilian states namely Santa Catarina, Rio Grande do Sul and Parana.

Furthermore, expanded polystyrene trays were very bulky and therefore required large areas of covered storage, to prevent them from being blown-up by strong winds prevailing in the area.

In order to set the objective of delivering the equipment to all farmers involved, SINDIFUMO, AFUBRA and UNIDO set up a task force, which prepared a purchase plan and set up the logistics of the system. The following steps were agreed and put into operation:

- Considering that the amount approved for the project did not cover the total cost of equipment to be purchased (due to the negative operational costs), whereas in any case the total equipment had to be purchased, the following was agreed. UNIDO would purchase the maximum possible amount of trays (the amount required was 4.8 millions) and SINDIFUMO/AFUBRA would purchase the rest of the equipment.

- In view of the nature of incentive of the project and following consultation with the MLF Secretariat, it was decided to go ahead with the above mention scheme of purchase.
- Trays were to be purchased through international competitive bidding and delivered to temporary warehouses, according to an established schedule. Tobacco Companies, members of SINDIFUMO agreed to offer their warehouses for this purpose.
- SINDIFUMO/AFUBRA had to purchase the rest of the equipment and organise its delivery to temporary warehouses in established quantities, once the price and hence the number of trays was known.
- Once the equipment had been delivered, a team of SINDIFUMO/AFUBRA workers had to cut the plastics and prepare a set with all necessary items to build-up one complete micro-tunnel with a pool of 25.2 m².
- The individualised and extensive database run by SINDIFUMO/AFUBRA made it possible to establish, for each farmer, the number of necessary sets to cover the entire surface. It was, however, decided to give to each selected farmer just one set in the first year and the rest in the following years after the confirmation, that the floating system was fully installed and operational.
- It had been also decided that the transport costs from the temporary warehouses to the farmer's premises should be borne by the farmers themselves. In fact, most of them collected the sets on occasional trips to deliver tobacco or purchase other inputs.

1.2 Purchases made by the project

UNIDO organised a competitive international bidding in April 2000 and purchased 2,013,000 expanded polystyrene trays at a unitary price of US\$ 1,1479 including delivery to the sites. The total costs of 2,310,723 practically exhausted the project budget. US\$ 12,244 were spent in small items mainly for locally made prototypes to identify a cheap and effective device for clipping. The original idea of sharing the latter amongst 20 farmers was found unworkable (SINDIFUMO members agreed to make their warehouses available for storage of trays).

1.3 Purchases made by the counterpart SINDIFUMO/AFUBRA

The biggest and most important problem encountered by many tobacco projects is the need to cover the negative operational costs. While the farmers admit that future savings may occur, they always argue that the total investment will be implemented immediately, in order to phase out MB and then recover their own investment with these savings. Therefore only powerful tobacco associations would be able to undertake such investment up to the amount of

operational savings. The amount of the investment made by SINDIFUMO and AFUBRA has been the following:

EQUIPMENT PURCHASED BY SUNDIFUMO/AFUBRA

Item	Amount purchased	Unitary costs	TOTAL US\$
Galvanised steel rod arches, diameter 6.3 mm., totalling 68.4 m	864,000	1.58	1,365,120
Expanded polystyrene trays with 200 cells measuring 360x700x60 mm. Density 0.28 g/l.	2,187,000	1.147	2,508,489
150 micron black polyethylene sheet for the pool (m ²)	2,112,000	0.27	570,240
200 micron transparent UV protected polyethylene sheet for covering tunnel (m ²)	3,024,000	0.25	756,000
Elastic bidders (m)	105,600	0.205	21,648
Nylon rope (m)	0	0	0
Compacting tools	2400	8.49	20,376
Manual seeders	2400	28.5	68,400
TOTAL			5,310,273

2. Training

SINDIFUMO/ AFUBRA in co-operation with UNIDO estimated a budget of US \$3.48 million to train 143,700 farmers on the installation and operation of the floating tray system. SINDIFUMO/ AFUBRA offered to implement the training programme and to cover its costs.

In spite of the fact that the incentive project was approved for only 20% of the farmers, SINDIFUMO/ AFUBRA in agreement with UNIDO, decided to proceed with the training programme for all (143,700) farmers cultivating tobacco. This decision was made during a joint meeting where both organisations decided to proceed with the whole phase out programme, as explained later.

Presently, 1,017 trainers were trained in 30 workshops with an average duration of five days each. Also, 100% of the farmers have been trained, out of whom 80% are no longer using Methyl Bromide.

Growers were grouped according to their locality and group leaders were selected. Each group was trained in a two-days workshops at the group leader's farm and were visited at least six times over the three years.

A refresher-training scheme was held at least twice a year before the seedlings production period. Reported failures were studied and remedial actions were undertaken. Causes of failure were discussed and studied in detail at the end of the seedlings period. The number of incidents reported averaged less than two per thousand and were basically due to either temperature control failures, improper water quality or germination problems.

The whole programme has now been completed and has become an integral part of the regular technical information given to the farmers by SINDIFUMO/AFUBRA. As a result of this, no further training programme will be needed in the future for this specific technology.

3. Implementation and lessons learned

The magnitude of the project required close co-ordination between all institutions involved. SINDIFUMO/AFUBRA designated a project manager and established an implementation committee. Project managers at UNIDO and SINDIFUMO/AFUBRA met eight times during the first two years in order to co-ordinate all logistics and training activities. The NOU was kept informed on a regular basis and on many occasions attended these meetings.

SINDIFUMO/AFUBRA on-line computerised databases were permanently updated and all aspects concerning equipment delivery, training and results were added to the already existing individual farmers records.

A pre-emptive alert system was established with the purpose of reporting any incidents in terms of technology failure or pest infestation. A special team was also formed to react to any irregularities that may arise. In general, the local trainers solved most of the incidents and there was no need for further actions. During the first year, two cases of severe infestation in the floating trays were reported and investigated. In both cases, it was revealed that the water quality was the cause.

Initially, it was difficult to convince farmers to shift to a new technology. However, once the system was established for about 5,000 growers, already during the first year their perception changed and the number of farmers volunteering for the new technology rapidly increased.

Ecological awareness of farmers was higher than expected and in spite of the economic cost, the project was able to phase-out earlier than expected.

The main lesson learned is the need for a strong and respected institution trusted by the farmers, that has the financial strength to advance, funds needed to cover the negative operational costs.

The second lesson learned is that from the point of view of farmers the operational savings were non-existent, because most of savings came from labour time. In the case of Brazil, it meant more free time for the growers, but not necessarily monetary savings as such. SINDIFUMO and AFUBRA were extremely efficient in passing the message to the farmers, that their contribution to complete the purchase of equipment was their contribution to preserving the environment.

The third lesson learned is the need to spend ample and sufficient time in discussing the various aspects during the project preparation. This costly and time-consuming exercise is a major key to the future success.

A final and important point is that the technology, once accepted and established, is a very reliable one. Above all, farmers appreciated its reliability. Not a single farmer requested to go back to the traditional system. Moreover, in view of the large amount of growers involved, the risk of reverting back to Methyl Bromide is inexistent.

4. Policies

As agreed in the project document, the Government of Brazil has established a register of importers and sellers of Methyl Bromide. A consumption ceiling of 562 tonnes in the tobacco sector has been established. However, as explained earlier, the real consumption in the tobacco sector is very much lower today.

Thanks to the databases established by SINDIFUMO/AFUBRA, the tobacco sector is presently closely monitored and both associations in co-operation with the NOU enforce effective control.

5. Consumption of MB and future plans

In view of the success of the first year phase out, AFUBRA in co-operation with SINDIFUMO decided to expand the scope and to accelerate the phase-out of Methyl Bromide well ahead of the objectives of the project. Since 1999 until to-date, the farmers, integrated in AFUBRA, have accomplished the phase-out given below:

Year	MB consumption in ODP tonnes	Aggregate MB phased-out	Surface free of MB	No. of farmers not using MB
1999	421.8	0	0 %	0
2000	271.8	150	42,3 %	14,371
2001	126,8	295	71%	60,745
2002/2003 **	87.0	334,8	93.8 %	107,992
2004 **	0	421.8	100%	143,715

(**) If future project is approved

At the beginning of the 2001 campaign the farmers would have been able to phase out a total of 334.8 tonnes within a few months. However, as the project had only covered the cost for phasing out 84.4 tonnes, the remaining 250.4 tonnes had been done at their own expense. In other words, an extra 142,000 hectares of open field tobacco are now planted with seedlings produced without methyl bromide. At present, another 85,389 farmers are not using Methyl Bromide for the production of seedlings. The net investment made by these 85,389 farmers, excluding training costs, but including negative operational costs has been close to US \$16.5 million. This figure represents a disbursement of about US \$195 per farmer.

Notwithstanding the above, in the 2002/2003 tobacco campaign, 87 ODP tonnes will still be used. Besides this, and since 1998, Methyl Bromide consumption in Brazil is increasing in the sector of flowers and horticulture. The total consumption is not precisely known and the

Government of Brazil believes, that it is time to prepare a national phase out plan, to address the above issues and to stop any further increase in Methyl Bromide consumption.
