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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 PROPOSALS: LIBYAN ARAB JAMAHIRIYA

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

Fumigant

- Phase-out of methyl bromide in horticulture: tomatoes, cucumbers, peppers and others UNIDO, Spain

Halon

- Plan for the phase-out of import and net consumption of halons in the fire fighting sector UNIDO

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**PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS
LIBYAN ARAB JAMAHIRIYA**

PROJECT TITLE		BILATERAL/IMPLEMENTING AGENCY
(a)	Phase-out of methyl bromide in horticulture: tomatoes, cucumbers, peppers and others	UNIDO
(b)	Phase-out of methyl bromide in horticulture: tomatoes, cucumbers, peppers and others	Spain

NATIONAL CO-ORDINATING AGENCY	National Committee for Climate Change
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LATEST REPORTED CONSUMPTION DATA FOR ODS ADDRESSED IN PROJECT**A: ARTICLE-7 DATA (ODP TONNES, 2004, AS OF SEPTEMBER 2005)**

Annex E	96		
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B: COUNTRY PROGRAMME SECTORAL DATA (ODP TONNES, 2004, AS OF SEPTEMBER 2005)

ODS Name	Sub-sector/quantity	Sub-sector/quantity	Sub-sector/quantity	Sub-sector/quantity.
Methyl bromide	96			

CFC consumption remaining eligible for funding (ODP tonnes)	N/A
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CURRENT YEAR BUSINESS PLAN: Total funding (UNIDO) US \$ 537,500: total phase-out 37.5 ODP tonnes.

PROJECT DATA		2005	2006	2007	2008	2009	2010	Total
Methyl bromide (ODP tonnes)	Montreal Protocol limits							
	Annual consumption limit	96	96	75	55	30	0	
	Annual phase-out from ongoing projects							
	Annual phase-out newly addressed	0	0	21	20	25	30	96
	Annual unfunded phase-out							
TOTAL ODS CONSUMPTION TO BE PHASED OUT								
Project cost as originally submitted (US \$)		1,415,697						
Final Project costs (US \$):		1,243,000						
Funding for lead agency UNIDO		743,000	0	0	0	0	0	743,000
Funding for Spain		0	0	500,000	0	0	0	500,000
Total project funding		743,000	0	500,000	0	0	0	1,243,000
Final Support costs (US \$)								
Support cost for lead agency UNIDO		55,725	0	0	0	0	0	55,725
Support cost for Spain		0	0	65,000	0	0	0	65,000
Total support costs		55,725	0	65,000	0	0	0	120,725
TOTAL COST TO MULTILATERAL FUND (US \$)		798,725	0	565,000	0	0	0	1,363,725
Final project cost effectiveness (US \$/kg)		12.95						

FUNDING REQUEST: Approval in principle of total ODS phase-out, total project funding and total support costs, and approval of funding for first tranche (2005) as indicated above.

SECRETARIAT'S RECOMMENDATION	For individual consideration
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PROJECT DESCRIPTION

1. On behalf of the Government of Libya, the Government of Spain and UNIDO have submitted for consideration by the Executive Committee at its 47th Meeting a project proposal to phase out 96.0 ODP tonnes of methyl bromide (MB) used as a soil fumigant in horticulture (tomatoes, cucumbers, peppers and others) by the end of 2009. This represents the total consumption of controlled uses of MB in Libya.

2. The total cost of the project, as submitted, is US \$1,415,697 (US \$14.75/kg). The project will be jointly implemented by the Government of Spain (as a bilateral contribution to the Multilateral Fund) and UNIDO. The total funding is being requested in two tranches: US \$915,697 at the 47th Meeting, representing the total cost of the UNIDO component, and US \$500,000 by the end of 2007.

3. Libya's MB baseline for compliance is 94.1 ODP tonnes.

MB consumption

4. MB has been used in Libya during the last ten years as a soil fumigant. MB consumption in Libya has decreased from 117.0 ODP tonnes in 1996 to 77.8 ODP tonnes in 2002. However, consumption increased to 90.0 ODP tonnes in 2003, with a further increase to 96.0 ODP tonnes in 2004. The distribution of current MB consumption by surface area is as follows: 340 ha for production of tomatoes; 85 ha for the production of cucumbers; and 5 ha each for the production of peppers and melons.

National policy

5. Libyan legislation regulates the use of MB for quarantine purposes (about 5 per cent of the total amount of MB imported into the country) and for pest control in agricultural production and stored products. Until 1994, only one State-owned company was allowed to import MB; since then, import permits have been opened up to any interested company. However, authorization is only granted to companies that have obtained a license issued by the Environment Commission and meet specific regulatory requirements. The current legislation in Libya emphasizes that MB can only be applied by well-trained and qualified technicians. However, this rule is not always followed by all farmers.

Project proposal

6. Local authorities and farmers requested UNIDO's assistance to design and implement a national MB phase-out plan that takes into consideration the particular conditions in Libya. This project represents the only investment project that will be submitted by the Government of Libya for the complete phase-out of controlled uses of MB.

7. The alternative technologies proposed to phase out MB are: solarization in combination with low-dose chemicals (mainly telone and chloropicrin); soilless "enarenado" system (in this system, a layer of washed sand is laid on top of a 3-5 cm layer of manure; the plants are planted in the sand between the layers of manure and sand; every 3-4 years, the sand and the manure are

replaced); grafting for cucumber production; and biofumigation. In order to gain farmers' confidence in the use of the alternative technologies and adapt the technologies to the local environment, the project will be implemented in pilot sites during the first year.

8. The total capital cost of the project is US \$947,735. The project also includes training programmes (US \$184,000); international consultants (US \$45,000); 10 per cent contingency (US \$979,803); and overall operating costs (US \$121,288). The total cost of the project is US \$1,415,697.

9. The estimated project implementation time frame is four years

10. The project will be implemented jointly by UNIDO and the Government of Spain, under national coordination by the Ozone Unit located within the National Committee for Climate Change, in close cooperation with the Pest Control Centre, the Agriculture Faculty and the Agriculture Research Institute from the Ministry of Agriculture.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

Non-compliance issue

11. According to the project proposal, the MB baseline consumption for Libya is 94.1 ODP tonnes and its current (2004) MB consumption is 96.0 ODP tonnes. It would, therefore, appear that Libya is in non-compliance with the 2002 control measure for MB. In this regard, the Secretariat drew UNIDO's attention to a letter sent by the Ozone Secretariat to the Government of Libya on 3 August 2005, requesting the Government to submit to the 35th Meeting of the Implementation Committee an explanation of the cause of the deviation in MB consumption. The Secretariat also suggested that if the requested explanation had not yet been submitted to the Ozone Secretariat, UNIDO could provide assistance to the Government in preparing the requested information for its consideration by the Implementation Committee.

12. Subsequently, UNIDO indicated that Libya ratified the Copenhagen amendment to the Montreal Protocol in September 2004. Prior to that date, the Government was not committed to imposing any control on the consumption of MB. In 2003, Libya submitted an investment project to phase out its MB consumption. However, in accordance with the relevant decisions taken by the Executive Committee, the project was not eligible for funding since Libya was not yet a Party to the Copenhagen amendment. In spite of such a constraint, the deviation of less than 2.0 ODP tonnes from the MB baseline consumption (i.e., less than 2 per cent of the total consumption), is an indication of Libya's efforts to control the consumption of MB. UNIDO would offer its assistance to the Government of Libya in preparing an explanation for the deviation from the MB baseline. Furthermore, UNIDO was expecting that the project proposal would constitute the plan of action to put Libya in compliance with its obligation under the Protocol and achieve the complete phase-out of all controlled uses of MB.

13. The Secretariat, noting that MB is used for quarantine purposes in Libya (i.e., about 7.8 ODP tonnes were imported by the Plant Protection for Phytosanitary Quarantine), sought a clarification from UNIDO on whether or not this amount of MB was considered as part of the total MB consumption reported by Libya under Article 7 of the Protocol. According to UNIDO's best knowledge, the 2004 consumption reported to the Ozone Secretariat (96.0 ODP tonnes) did not include uses for quarantine applications.

Technical and cost issues related to the flower and horticultural sectors

14. For the first time, the use of soilless "enarenado" was being proposed as an alternative technology for MB soil fumigation. In this regard, the Secretariat requested more information on this technology. UNIDO explained that the main advantage of this technology is the water saving (because of the capillarity of the sand, the water does not evaporate as fast as in normal soils), which is a very important advantage for the conditions in Libya. This technology can be implemented using typical agricultural implements.

15. One of the alternative technologies selected by all stakeholders was solarization in combination with telone and chloropicrin. In this regard, the Secretariat noted that if these chemicals had not yet been registered in the country, the long-term sustainability of the proposal could not be ensured. UNIDO stated that these chemicals were not yet registered in Libya. However, according to the competent authorities, the registration process would not be lengthy and a combination of solarization and a nematicide ("mocap") which is already registered in Libya, could be used in the meantime.

16. The Secretariat and UNIDO also discussed cost-related issues, including the high cost of the equipment required for implementing the grafting technology (estimated at US \$4,131/ha, over three times the cost of similar facilities in Honduras or Guatemala), the high cost of the material required for soilless technology and solarization, and the relatively high cost of the training programme given the situation in the country. Subsequently, UNIDO adjusted the costs of the project to US \$1,243,000. The cost-effectiveness of the revised project is US \$12.95/kg.

Agreement between the Government of Libya and the Executive Committee

17. A draft agreement between the Government of Libya and the Executive Committee on the modalities for implementing the MB phase-out project is contained in Annex I to the present document.

RECOMMENDATION

18. The Executive Committee may wish to consider:

- (a) Approving in principle the project for the phase-out of methyl bromide (MB) used as a soil fumigant in horticulture (tomatoes, cucumbers, peppers and others) at a total cost of US \$743,000 plus agency support costs of US \$55,725 for UNIDO, and US \$500,000 plus agency support costs of US \$65,000 for the Government of Spain, on the understanding that no more funding will be provided from the Multilateral Fund for the phase-out of controlled uses of MB in Libya, and

without prejudice to the operation of the Montreal Protocol's mechanism for dealing with non-compliance;

- (b) Approving the draft agreement between the Government of Libya and the Executive Committee for the phase-out of methyl bromide used as a soil fumigant in horticulture contained in Annex I; and
- (c) Approving US \$743,000 plus support costs of US \$55,725 for UNIDO, for implementation of the first tranche of the project.

COUNTRY: LIBYAN ARAB JAMAHIRIYA**PROJECT TITLES****BILATERAL/IMPLEMENTING AGENCY**

(a)	Plan for the phase-out of import and net consumption of halons in the fire fighting sector	UNIDO
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NATIONAL CO-ORDINATING AGENCY	National Committee for Climate Change
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LATEST REPORTED CONSUMPTION DATA FOR ODS ADDRESSED IN PROJECT**A: ARTICLE-7 DATA (ODP TONNES, 2004, AS OF SEPTEMBER 2005)**

Annex A, Group II	Halon: 714.5		
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B: COUNTRY PROGRAMME SECTORAL DATA (ODP TONNES, 2004, AS OF SEPTEMBER 2005)

ODS Name	Halon	Sub-sector/quantity	Sub-sector/quantity	Sub-sector/quantity.
	Halon-1211: 4.5			
	Halon-1301: 710			

CFC consumption remaining eligible for funding (ODP tonnes)	
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CURRENT YEAR BUSINESS PLAN ALLOCATIONS		Funding US \$ million	Phase-out ODP tonnes
	(a)	484,000	715

PROJECT TITLE:	(a)
ODS use at enterprise (ODP tonnes):	
ODS to be phased out (ODP tonnes):	653.91
ODS to be phased in (ODP tonnes):	
Project duration (months):	36
Initial amount requested (US \$):	343,500
Final project cost:	
Incremental Capital Cost (US \$)	302,500
Contingency (10%) (US \$)	23,000
Incremental Operating Cost (US \$)	18,000
Total Project Cost (US \$)	343,500
Local ownership (%):	100
Export component (%):	0
Requested grant (US \$):	343,500
Cost-effectiveness (US \$/kg):	n/a
Implementing agency support cost (US \$):	25,763
Total cost of project to Multilateral Fund (US \$):	369,263
Status of counterpart funding (Y/N):	TBD
Project monitoring milestones included (Y/N):	Y

SECRETARIAT'S RECOMMENDATION	Blanket approval at the costs indicated above
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PROJECT DESCRIPTION

19. The project aims at establishing and implementing the national halon management programme which will support Libyan Arab Jamahiriya (Libya) in meeting its obligations under the Montreal Protocol.

20. UNIDO is requesting US \$343,500 plus support costs of US \$25,763 to undertake the following activities:

- Establishment of the national halon reclamation and banking facility;
- Establishment of halon users database, installed halon inventory and critical halon needs predictions;
- Establishment of a halon management advisory panel/steering committee;
- Development and implementation of technical training on halon management, halon alternative fire fighting technologies and environmentally safe halon equipment maintenance for fire protection industries, main end users and fire protection authorities;
- Development and implementation of technical training for the halon reclamation and banking facility equipment operators;
- Providing technical assistance and consultancy services to main halon end-users and regulatory authorities; and
- Development and implementation of public awareness and education activities.

21. In Libya, halon 1211 is used in portable fire extinguishers and halon 1301 is used in fixed fire fighting systems protecting installations and valuable property in various sectors of the national economy including oil refineries, petrochemical plants, iron and steel industries and defence.

22. Libya does not produce halons and fully depends on the import from other countries. Halon 1211 is imported in bulk quantities, and then used to refill portable fire extinguishers by local fire fighting equipment distributors. Portable halon 1211 extinguishers are also imported. Halon 1301 is imported for the fixed fire fighting systems.

23. In July and August 2005, a comprehensive survey of Libya's fire fighting sector was conducted for the preparation of the halon consumption phase-out plan. The proposal indicated that Libya has an established fire protection industry with a significant market for fire fighting equipment. There are several importers, distributors and servicing companies involved in the supply, installation and servicing of mainly imported fire fighting equipment.

24. The installed capacity is estimated at 446.7 ODP tonnes for halon 1211 and 7,665 ODP tonnes for halon 1301. Libya's latest halon consumption as reported pursuant to Article 7 was 714.5 ODP tonnes in 2004 exceeds its baseline of 633.07 ODP tonnes.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

25. This project is consistent with the halon banking guidelines pursuant to decision 18/22.
26. The Secretariat enquired regarding the sustainability of the operation, and suggested that this should be addressed in the design of the project. UNIDO agreed to use remaining project preparation funds to redesign the programme to ensure its long term sustainability without any cost to the project. In this respect, UNIDO agreed that funds should not be disbursed for the project until it had been redesigned and the issue of sustainability resolved and incorporated.
27. UNIDO planned to use project preparation to elaborate a sustainable business model for the proposed halon bank in Libya. The business model would replicate previous successful halon banking business models. A key aspect of the plan for sustainability would be the location of a host enterprise.

RECOMMENDATIONS

28. The project is recommended for blanket approval at the level of funding, including agency support costs of 7.5 percent, indicated in the table below with the understanding that no funds will be disbursed until UNIDO has completed a plan to ensure the sustainability of the project utilizing remaining project preparation funds already approved:

	Project Title	Project Funding (US\$)	Support Cost (US\$)	Implementing Agency
(a)	Plan for the phase-out of import and net consumption of halons in the fire fighting sector	343,500	25,763	UNIDO

Annex I

AGREED CONDITIONS FOR THE PHASE-OUT OF METHYL BROMIDE IN LIBYAN ARAB JAMAHIRIYA (DRAFT)

1. The Executive Committee at its 47th Meeting approved in principle, without prejudice to the operation of the Protocol's mechanism for dealing with non-compliance, US \$1,243,000 (US \$743,000 for UNIDO and US \$500,000 for the Government of Spain) plus agency support costs of US \$120,725 (US \$55,725 for UNIDO and US \$65,000 for the Government of Spain) as the total funds available to Libya to phase-out 96.0 ODP tonnes of methyl bromide (MB) used as a soil fumigant in horticulture (tomatoes, cucumbers, peppers and others), representing the total consumption of MB, excluding quarantine and pre-shipment applications.

2. As reported to the Ozone Secretariat, and consistent with information in the project document presented to the Executive Committee, the MB baseline for Libya has been established at 94.1 ODP tonnes. Libya has also reported a MB consumption of 96.0 ODP tonnes for the year 2004, excluding quarantine and pre-shipment applications. As established by the Montreal Protocol, Libya is not in compliance with the 2002 freeze. Therefore, Libya must reduce its MB consumption by 2 ODP tonnes and by 21 ODP tonnes by 2005 to achieve compliance with the Montreal Protocol freeze and 20 per cent reduction, accordingly.

3. Reductions in accordance with the terms of this project, together with other commitments presented in the project document, would ensure that Libya would meet the reduction schedule listed below. In this regard, Libya 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
2005	96.0
2007	75.0
2008	55.0
2009	30.0
2010	0.0

4. The Government of Libya 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.

5. Funding for the project will be requested in the following two tranches:

Year	US \$
2005	743,000
2007	500,000

6. Funding disbursement for the project will be conditional upon that project achieving its milestones and the individual reduction schedule listed above. In case of unjustified delays,

UNIDO and the Government of Spain 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 Libya, in agreement with UNIDO and the Government of Spain, will have flexibility in organizing and implementing all project components it deems to be most important in order to meet MB phase-out commitments noted above. UNIDO and the Government of Spain agree to manage the funding for the project in a manner designed to ensure the achievement of the specific MB reductions agreed upon.

8. UNIDO and the Government of Spain shall report back to the Executive Committee annually on the progress in meeting the reductions required by this project.

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