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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Seventy-third Meeting
Paris, 9-13 November 2014

PROJECT PROPOSALS: SUDAN (THE)

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

Fumigant

- Technical assistance for the final phase-out of methyl bromide in the post-harvest sector — UNIDO

Phase-out

- HCFC phase-out management plan (stage I, second tranche) — UNIDO

PROJECT EVALUATION SHEET – NON-MULTI-YEAR PROJECTS

SUDAN (THE)

PROJECT TITLE		BILATERAL/IMPLEMENTING AGENCY
(a)	Technical assistance for the final phase-out of methyl bromide in the post-harvest sector	UNIDO

NATIONAL CO-ORDINATING AGENCY	National Ozone Unit

LATEST REPORTED CONSUMPTION DATA FOR ODS ADDRESSED IN PROJECT

A: ARTICLE-7 DATA (ODP TONNES, 2014, AS OF SEPTEMBER 2014)

Annex E, Methyl bromide	0.7		

B: COUNTRY PROGRAMME SECTORAL DATA (ODP TONNES, 2013, AS OF SEPTEMBER 2014)

ODS Name	Sub-sector/quantity	Sub-sector/quantity	Sub-sector/quantity	Sub-sector/quantity
Methyl bromide	0.7			

CFC consumption remaining eligible for funding (ODP tonnes)	n/a

CURRENT YEAR BUSINESS PLAN ALLOCATIONS	Funding (US $)	Phase-out ODP tonnes
2014	109,000	1.2

ODS to be phased out (ODP tonnes):	1.2
Project duration (months):	12
Initial amount requested (US $):	272,360
Final project cost:	
Incremental capital cost (US $)	165,100
Contingency (10%) (US $)	16,510
Incremental operating cost (US $)	0
Total project cost (US $)	181,610
Local ownership (%):	100
Export component (%):	n/a
Requested grant (US $):	181,610
Cost-effectiveness (US $/kg):	n/a
Implementing agency support cost (US $):	16,345
Total cost of project to Multilateral Fund (US $):	197,955
Status of counterpart funding (Y/N):	n/a
Project monitoring milestones included (Y/N):	Y

SECRETARIAT'S RECOMMENDATION	Blanket approval

PROJECT DESCRIPTION

1. On behalf of the Government of the Sudan, UNIDO as the designated implementing agency has submitted to the 73rd meeting a request for funding for technical assistance to phase out 1.2 ODP tonnes of methyl bromide (MB) in the post-harvest sector at the amount of US $272,360, plus agency support costs of US $19,065, as originally submitted. This technical assistance programme will assist the Government of the Sudan to completely phase out all controlled uses of MB by 1 January 2015.

Background

2. The agriculture sector contributes fifty per cent to the gross domestic product (GDP) of the country, and represents 48 per cent of its total exports. Sorghum in different varieties is the main and most important crop grown in the country and is the staple food of most Sudanese. As a seasonal durable food grain, sorghum is stored in different storage facilities after harvest. These include warehouses, concrete/metal silos and temporary traditional shelters. The national strategic food reserves are managed, regulated, and operated by the Strategic Resource Corporation (SRC) of the Agriculture Reserve Bank (ABS). The SRC has a storage capacity of 750,000 tonnes, a third of which is kept in three concrete silos: one each in Gedaref and Rabak with a capacity of 100,000 tonnes; and a third one in the Port of Sudan with a storage capacity of 50,000 tonnes. The two concrete silos in Gedaref and Port Sudan are treated with MB.

3. A large percentage of the grain is still stored at the farm level, in warehouses. Fumigations of these warehouses are often carried out using phosphine; however the market and commercial application of this fumigant is not fully regulated resulting in heavy losses due to pest infestation and increased pest resistance to the product.

4. The National Pesticide Committee (NPC) under the Ministry of Agriculture is responsible for regulating the use and/or import of MB into the Sudan for controlled uses as well as for quarantine and pre-shipment (QPS) applications. Presently, a single formulation of MB (containing 98 per cent MB and 2 per cent chloropicrin) is imported, and exclusively distributed locally by one chemical company (Central Trading Company), registered for use as a fumigant in post-harvest applications. ABS is the only permitted user of MB in the country.

5. MB consumption in the country has declined from 1.8 to 1.2 ODP tonnes between 2009-2012. This consumption dropped further to 0.7 ODP tonnes in 2013. Its consumption for 2014 is estimated at 1.5 ODP tonnes.

Project proposal for the complete phase-out of MB

6. This technical assistance project is aimed to phase out a consumption of 1.2 ODP tonnes of MB, (2011-2013 average consumption), resulting in the complete phase-out of all controlled uses of MB.

7. The phase-out will be achieved by replacing MB fumigation in concrete silo bins located in Gedaref and Port Sudan with a phosphine gas re-circulation technology (closed loop system, CLF) and modifications to the existing infrastructure, combined with an integrated pest management (IPM) approach, which will ensure a sustainable phase-out of MB. It will also provide technical assistance and training to improve phosphine fumigation techniques and IPM procedures to fumigators/farmers using phosphine treat grain under tarp.

8. The Gedaref silo consists of four storage blocks, with a total capacity of 100,000 tonnes. It has three receiving lines handling 175 tonnes of grain per hour. The silo located in Port Sudan has its own dock and consists of two storage blocks with an overall capacity of 50,000 tonnes. This silo mainly handles grain for exports, and also receives imports.

9. At present, the MB circulation system is present in only three stars in each block, to serve the block where it is located. To properly use the phosphine technology under CLF and ensure that the same volume of grain is treated as with the MB treatment (i.e. to make up for the longer fumigation period required for phosphine), the fumigation capacity needs to be increased.

10. The project will also assist all grain storage owners, by providing training where phosphine fumigation is being done under tarpaulins. This will be implemented by demonstrating the good practices in phosphine application at two warehouses located in two major sorghum producing regions. Both facilities belong to ABS.

11. The total cost of the project, as originally submitted, is US $272,360 which includes material and equipment (US $247,600) required for the application of the proposed alternative technologies, including training and technical assistance to farmers, and contingencies (US $24,760).

12. The project will be implemented by UNIDO in coordination with the Ozone Unit under the Higher Council for Environment and Natural Resources. The estimated time frame for implementation of the project is twelve months.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

Issues related to MB consumption

13. The 2013 MB consumption reported by the Government of the Sudan of 0.7 ODP tonnes is 2.3 ODP tonnes below the baseline consumption of the country. However, the estimated consumption for 2014 is an amount higher than the 2013 consumption. UNIDO reported that this estimate is based on forecasts provided by the main MB user, ABS, in view of the expected grain harvests and the difficulties experienced with phosphine use in some warehouses. UNIDO further indicated that 70 per cent of this estimated amount had already been imported as at September 2014.

14. UNIDO reported that the current fumigation practice in the two concrete silos that are part of the project, is applying MB through a circulation system. The staff from the quality laboratory of each silo is responsible for the fumigation. Treatments are carried out 2-3 times per calendar year on the infested areas, and do not follow a pest-monitoring scheme.

15. With regard to regulations controlling MB import and use in the country, UNIDO explained that the MB use is regulated by the national pesticide legislation and regulatory system under the Pesticides and Pest Control Act of 1994. The NPC approved imports of the chemical as well as determined who can use it. Recognizing that MB is to be completely phased out by 1 January 2015, the Government has committed to completely phasing out this consumption through a strict implementation of a licensing system and through the completion of this project.

16. In responding to the Secretariat's concern on how the 2015 MB phase-out target will be met taking into account that the project is just being submitted, UNIDO provided an official communication from the Government of the Sudan confirming that there is a clear and effective legislation in place which will ban the import of MB from 2015, and that this project will contribute to ensuring compliance with the total phase-out of MB.

Technical Issues

17. The Secretariat discussed with UNIDO issues regarding the fumigation of the two concrete silos operated by ABS. UNIDO reported that the modification of these silos are related to enhance sealing to improve gas concentration and ensure complete disinfestation.

18. UNIDO also provided more details on the technical assistance to be provided to fumigators. It was explained that this sub-component will include training on better fumigation techniques with phosphine, the provision of insect resistance testing kits, and the development of fumigation protocols at the farm level which would also support sustainability of this component.

19. The Secretariat and UNIDO also discussed cost issues related to eligibility and equipment, all of which have been taken into consideration in the revised project proposal submitted to the 73rd meeting. Subsequently, the cost of the project was revised to US $165,100 with some adjustments in the cost and number of equipment.

RECOMMENDATION

20. The Secretariat recommends blanket approval of the technical assistance for the final phase-out of methyl bromide (MB) in the post-harvest sector for the Sudan with associated support costs at the level indicated in the table below, on the understanding that no additional funding will be provided for the Sudan for the phase-out of controlled uses of MB in the country; and that the Government of the Sudan is committed to meeting the complete phase-out of MB by 1 January 2015 by banning imports for controlled MB uses.

	Project title	Project funding (US $)	Support cost (US $)	Implementing agency
(a)	Technical assistance for the final phase-out of methyl bromide in the post-harvest sector	181,610	16,345	UNIDO

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

SUDAN (THE)

(I) PROJECT TITLE	AGENCY
HCFC phase out plan (Stage I)	UNIDO (lead)

(II) LATEST ARTICLE 7 DATA (Annex C Group l)	Year: 2013	51.24 (ODP tonnes)

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)									Year: 2013
Chemical	Aerosol	Foam	Fire fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-141b		39.9							39.9
HCFC-22					11.4				11.4

(IV) CONSUMPTION DATA (ODP tonnes)			
2009 - 2010 baseline:	52.7	Starting point for sustained aggregate reductions:	50.6
CONSUMPTION ELIGIBLE FOR FUNDING (ODP tonnes)			
Already approved:	11.87	Remaining:	34.45

(V) BUSINESS PLAN		2014	2015	2016	2017	Total
UNIDO	ODS phase-out (ODP tonnes)	1.2	0.0	0.0	0.4	1.6
	Funding (US $)	118,250	0	0	43,000	161,250

(VI) PROJECT DATA			2010	2011	2012	2013	2014	2015	2016	2017	Total
Montreal Protocol consumption limits			n/a	n/a	n/a	52.7	52.7	47.4	47.4	47.4	n/a
Maximum allowable consumption (ODP tonnes)			n/a	n/a	n/a	52.7	52.7	47.4	42.1	36.9	n/a
Agreed funding (US $)	UNIDO	Project costs	1,056,341	0	250,000	0	110,000	0	0	40,000	1,456,341
		Support costs	79,226	0	18,750	0	7,700	0	0	2,800	108,476
Funds approved by ExCom (US $)		Project costs	1,056,341	0	250,000	0		0	0	0	1,306,341
		Support costs	79,226	0	18,750	0		0	0	0	97,976
Total funds requested for approval at this meeting (US $)		Project costs	0	0	0	0	110,000	0	0	0	110,000
		Support costs	0	0	0	0	7,700	0	0	0	7,700

Secretariat's recommendation:	Blanket approval

PROJECT DESCRIPTION

21. On behalf of the Government of the Sudan, UNIDO as the designated implementing agency, has submitted to the 73rd meeting a request for funding for the second tranche of stage I of the HCFC phase-out management plan (HPMP)[1], at the amount of US $110,000, plus agency support costs of US $7,700. The submission includes a progress report on the implementation of the first tranche of the HPMP and the tranche implementation plan for 2015 and 2016.

Progress report on the implementation of the first tranche of the HPMP

22. Following the approval of the HPMP, the Government of Sudan reviewed the legal framework to incorporate additional control measures for HCFCs, *inter alia*, the establishment of an HCFC and HCFC-blend sales quota system; a ban on the import of HCFC-based products and equipment; lower duties on imports of non-HCFC-based equipment; a ban on the establishment of new enterprises manufacturing HCFC-based refrigeration and/or air-conditioning equipment, or using HCFCs as foam blowing agents; a ban on the release of HCFCs and HCFC-blends during servicing of equipment; a ban on imports of HCFC-blends; compulsory reporting and registration of HCFC importers; and establishment of an electronic system for issuing quotas and permits to import HCFCs.

Status of the foam sector project

23. Implementation of the project approved at the 62nd meeting for the conversion of four enterprises (Modern Refrigerator Co., Amin Company, Akadabi Steel, Co. and Coldair Engineering) using HCFC-141b in rigid polyurethane foam manufacturing to pentane is progressing well. The equipment has been procured and is under installation. Training, commissioning and certification will be completed by the end of 2014. The implementation status of the main activities in each company is summarized in Table 1.

Table 1. Implementation status of the umbrella foam project

Activity	Modern Refrigerator Co.	Amin Company	Akadabi Steel, Co.	Coldair Engineering
Delivery of main equipment	Delivered	Delivered	Delivered	Delivered
Delivery of local supplies	Delivered	Delivered	In progress	In progress
Engineering and technical support	Provided	Provided	Provided	Provided
Installation, training commissioning, certification	Sep-Dec 2014	Sep-Dec 2014	Sep-Dec 2014	Sep-Dec 2014

24. Table 2 below provides information on HCFC consumption and funds approved to the foam enterprises, as well as the counterpart funding provided per enterprise.

Table 2: Consumption and counterpart funding provided by foam enterprises for conversion to pentane

Beneficiary	Consumption of HCFC-141b (mt) (2013)	Funding approved* (US$)	Counterpart funding provided (U$)
Modern Refrigerator Co.	30.6	299,498	32,232
Coldair Engineering	23.5	230,006	24,443
Akadabi Steel, Co.	38.8	379,755	21,837
Amin Company	15.0	147,082	21,488
Total	107.9	**1,056,341**	100,000

*All funds have been disbursed.

[1] The HPMP for the Sudan was approved by the Executive Committee at its 66th meeting to reduce HCFC consumption by 30 per cent of the baseline by 1 January 2017.

25. Completion of the above projects will result in a phase-out of 107.9 mt (11.87 ODP tonnes) of HCFC-141b, representing over 23 percent of the total HCFC consumption in 2013. Once the enterprises are converted, the Government will issue a ban on the imports of HCFC-141b pure and/or contained in imported pre-blended polyols.

Activities in the refrigeration and air-conditioning servicing sector

26. Thirty-three trainers were trained, who have in turn trained 335 service technicians in good practices in refrigeration and air-conditioning, including recovery and recycling operations. Capacity of the Sudan University for Science and Technology (SUST), who is the main partner of the Government in these training programmes, has been built through provision of equipment, and the completion of a study tour for professors for advanced technical training. This has resulted in a further 300 university students trained in set ups of demonstration for refrigeration equipment, and 900-diploma students trained in recovery, recycling and retrofit operations. Awareness workshops were also held in seven states where 815 people participated overall. One major outcome of these workshops is the establishment of Ozone Friends' societies in some major cities, which promote and support advocacy work on ozone protection and phase-out of ODS.

Project implementation and monitoring unit (PMU)

27. The PMU continued to provide support to the national ozone unit (NOU) on the implementation of HCFC quotas for the registered and licensed importers, coordination and interaction with beneficiary enterprises on project implementation and on day-to-day management of the HPMP activities including administration and coordination with other agencies.

Verification report of national HCFC consumption targets

28. A verification report for the year 2013 was submitted along with the tranche request. The report confirmed that the Government is implementing a licensing and quota system for HCFC imports and exports and that the total consumption of HCFCs for 2013 was 51.3 ODP tonnes, 1.4 ODP tonnes lower than the country's baseline of 52.7 ODP tonnes.

Level of fund disbursement

29. As of September 2014, of the US $250,000 approved for the first tranche, all the funds had been disbursed. The financial report of the funds approved for the Sudan are presented in Table 3.

Table 3. Financial report of stage I of the HPMP for the Sudan

Tranches	Foam sector projects*		First tranche		Total approved	
	Approved	**Disbursed**	**Approved**	**Disbursed**	**Approved**	**Disbursed**
UNIDO	1,056,341	1,056,341	250,000	250,000	1,306,341	1,306,341
Disbursement rate (%)	100		100		100	

*Approved as stand-alone investment projects, and subsequently subsumed into stage I of the HPMP approved at the 66th meeting.

Implementation plan for the second tranche of the HPMP

30. The main activities to be implemented during the second tranche of the HPMP include:

(a) Policy and enforcement capacity building (US $15,730);

(b) Procurement of training equipment including recovery kits and refrigerant identifiers (US $25,000);

(c) Training programme and technical support for 200 servicing technicians and 40 customs officers (US $18,160);

(d) Awareness, education, and information exchange to disseminate knowledge on ozone layer protection for the industry and general public, and to promote the use of alternatives to HCFCs (US $15,730);

(e) National consultancies for technical project support and reporting (US $19,690); and

(f) Project management and monitoring (UNIDO) (US $15,690).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

Operational licensing system

31. In line with decision 63/17, confirmation has been received from the Government that an enforceable national system of licensing and quotas for HCFC imports and exports is in place and that the system is capable of ensuring compliance with the Montreal Protocol. The HCFC import quota for 2014 and 2015 has been established at 52.67 ODP tonnes and 47.40 ODP tonnes, respectively.

HCFC consumption

32. The 2009-2013 HCFC consumption in Sudan is shown in Table 3. The HCFC consumption levels in 2012 and 2013 are below the baseline for compliance.

Table 3. HCFC consumption in the Sudan (2009-2013 Article 7 data)

HCFC	2009	2010	2011	2012	2013	Baseline
Metric tonnes						
HCFC-22	210.0	227.0	240.0	253.0	207.0	218.50
HCFC-141b	355.0	384.0	380.0	409.0	362.33	369.50
(Total) (mt)	**565.0**	**611.0**	**620.0**	**662.0**	**569.33**	**588.00**
ODP tonnes						
HCFC-22	11.6	12.49	13.20	13.92	11.39	12.02
HCFC-141b	39.0	42.24	41.80	45.00	39.86	40.65
Total (ODP tonnes)	**50.6**	**54.73**	**55.0**	**58.92**	**51.24**	**52.70**

Verification report of national HCFC consumption targets

33. The verification report noted that improvements on the electronic database shared between the NOU and the Customs authority be implemented particularly as it relates to the follow-up process between issuance of the HCFC import permits and the actual imports by the registered importers. There is also the need to improve the use of the harmonized system (HS) customs codes. Joint work between the NOU, the customs authority and the importers is also required to enhance accuracy on recording HCFC imports, intended use and destination. The Secretariat and UNIDO discussed these issues and agreed that, while the licensing and quota system is operational, it is urgent to continue addressing the issues identified in the verification report.

Technical issues

34. With regard to the long-term sustainability of the training programme for technicians, UNIDO reported that its strong ties with SUST, which had been the Government's training partner since the implementation of the CFC refrigerant management plan (RMP) and terminal phase-out plan has resulted in these refrigeration training subjects to be included in the technical curriculum of the university for service technicians. Such courses are available to students, thereby ensuring sustainability of the training programme.

35. UNIDO also explained the process for technician certification in the Sudan and reiterated that certification has become a regulatory requirement for members of the refrigeration association since the beginning of the RMP in 2005. Certified trainers have been trained, and demonstration equipment have been provided to training centres throughout the country through the RMP, and the HPMP. UNIDO also mentioned that the sustainability of the certification programme would be ensured through a continuous process of providing updated courses to the certified technicians, which is a priority of the HPMP through its collaboration with the SUST.

Revision to the HPMP Agreement

36. The HPMP for the Sudan was approved at the 66th meeting when the Executive Committee also decided on support costs of future tranches of HPMPs (decision 66/17(c))[2]. The Secretariat has updated Appendix 2-A to revise the agency support costs, and a new paragraph has been added to indicate that the updated Agreement supersedes that reached at the 66th meeting, as shown in Annex I to this document. The fully revised Agreement will be appended to the final report of the 73rd meeting.

Conclusion

37. The Secretariat noted that the implementation of the HPMP for the Sudan is progressing. The licensing and quota system is operational and capable of ensuring compliance with the Montreal Protocol. The Government will further improve the system based on the results of the verification recently conducted. The investment project in the foam manufacturing sectors continue to be implemented for expected completion at the end of 2014, which will result in a phase-out of 11.89 ODP tonnes of HCFC-141b and a ban on the imports of HCFC-141b. Furthermore, activities in the refrigeration servicing sector continue to be implemented as planned. The total funds so far approved by the Executive Committee for the Sudan has been disbursed. Accordingly, the Secretariat therefore recommends approval of the funding for the tranche.

RECOMMENDATION

38. The Secretariat recommends that the Executive Committee:

(a) Takes note of the progress report on the implementation of the first tranche of stage I of the HCFC phase out management plan of (HPMP) in the Sudan; and

(b) Notes that the Secretariat had updated Appendix 2-A of the Agreement between the Government of the Sudan and the Executive Committee to reflect the change in support costs owing to the new administrative cost regime, and that a new paragraph 16 had been added to indicate that the updated Agreement superseded that reached at the 66th meeting, as contained in Annex I to the present document.

[2] To apply the existing administrative cost regime to the first tranche of agreements approved at the 66th meeting and to reconsider the agency fee for subsequent tranches at the 67th meeting.

39. The Fund Secretariat further recommends blanket approval of the second tranche of stage I of the HPMP for the Sudan, and the corresponding 2015-2016 tranche implementation plan, with associated support costs at the funding level shown in the table below, on the understanding that approval of further funding will be subject to satisfactorily addressing the issues on the licensing and quota system identified in the verification report.

	Project title	Project funding (US $)	Support cost (US $)	Implementing agency
(a)	HCFC phase-out management plan (stage I, second tranche)	110,000	7,700	UNIDO

Annex I

TEXT TO BE INCLUDED IN THE UPDATED AGREEMENT BETWEEN THE GOVERNMENT OF THE SUDAN AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN CONSUMPTION OF HYDROCHLOROFLUOROCARBONS

(Relevant changes are in bold font for ease of reference)

16. This updated Agreement supersedes the Agreement reached between the Government of the Sudan and the Executive Committee at the 66th meeting of the Executive Committee.

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars	2010	2011	2012	2013	2014	2015	2016	2017	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	n/a	n/a	n/a	52.70	52.70	47.43	47.43	47.43	n/a
1.2	Maximum allowable total consumption of Annex C Group I substances (ODP tonnes)	n/a	n/a	n/a	52.70	52.70	47.43	42.13	36.89	n/a
2.1	Lead IA UNIDO agreed funding (US $)	1,056,341	0	250,000	0	110,000	0	0	40,000	1,456,341
2.2	Support costs for Lead IA (US $)	79,226	0	18,750	0	**7,700**	0	0	**2,800**	**108,476**
3.1	Total agreed funding (US $)	1,056,341	0	250,000	0	110,000	0	0	40,000	1,456,341
3.2	Total support cost	79,226	0	18,750	0	**7,700**	0	0	**2,800**	**108,476**
3.3	Total agreed costs (US $)	1,135,567*	0	268,750	0	**117,700**	0	0	**42,800**	**1,564,817**
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this agreement (ODP tonnes)									4.28
4.1.2	Phase-out of HCFC-22 to be achieved in previously approved projects (ODP tonnes)									0.00
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)									7.32
4.2.1	Total phase-out of HCFC-141b agreed to be achieved under this agreement (ODP tonnes)									0
4.2.2	Phase-out of HCFC-141b to be achieved in previously approved projects (ODP tonnes)									11.87*
4.2.3	Remaining eligible consumption for HCFC-141b (ODP tonnes)									27.13

(*) Approved at the 62nd meeting for four enterprises manufacturing insulation foam and herewith subsumed into this Agreement.

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