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Executive Committee of
the Multilateral Fund for the
Implementation of the Montreal Protocol

Fifteenth Meeting
Montreal, 13-16 December 1994

COUNTRY PROGRAMME: MOZAMBIQUE

This document consists of:

- Comments and Recommendations of the Fund Secretariat
- Country Programme Evaluation Sheet (prepared by the Fund Secretariat)
- Transmittal Letter from the Government of Mozambique
- Country Programme Cover Sheet
- Country Programme Executive Summary¹
- Institutional strengthening project proposal

¹

Complete Country Programme was sent only to members of the Executive Committee who requested full documentation.

COMMENTS AND RECOMMENDATIONS OF THE FUND SECRETARIAT

COMMENTS

1. The Country Programme conforms to the format of the approved guidelines. The Country Programme includes one annexure containing the institutional strengthening project proposal.
2. Consumption of ODS (32.4 ODP tonnes) consists of CFC used for servicing domestic refrigerators and cold chambers used in the fishing industry, and halon 1211 (10.5 ODP tonnes) mainly used by the Municipal Fire Services. There are four small enterprises producing domestic and commercial refrigerators, cooling rooms and freezers. One company is owned by the Government, two are owned by developed countries (Netherlands and Portugal), and the fourth enterprise is a joint venture between Mozambique and Zimbabwe.
3. The phase out schedule proposes a complete elimination in the consumption of the controlled substances by the end of 2010. The Government's phase out strategy will be focused on allowing the industry itself to take its time to adopt new technologies and substitutes, and through dissemination of information and training of the maintenance personnel to improve their working standards. Improving the service and maintenance of refrigeration equipment will be among the priority activities to be implemented.
4. The Government of Mozambique has identified the following four projects
 - Institutional strengthening;
 - Refrigeration equipment maintenance training programme;
 - Retrofitting of refrigeration installations; and
 - Halon bank management.
5. Funds are being requested only for the institutional strengthening project proposal, these amount to US \$92,400.

RECOMMENDATIONS

6. The Fund Secretariat recommends as follows:
7. To approve the Mozambique Country Programme. Approval of the Country Programme does not denote approval of the projects identified therein or their funding levels.
8. In accordance with the Executive Committee decision on implementation of country programmes (UNEP/OzL.Pro/ExCom/10/40, para 135), to request the Government of Mozambique to provide annually information on the progress of implementation of the country programme. Using the approved format, the initial report should be submitted to the Fund Secretariat not later than 31 March 1996, covering the period 16 December 1994 to 31 December 1995.

9. To approve the amount of US \$92,400 and US \$12,012 support costs for institutional strengthening, to be included as an amendment to UNEP's 1994 Work Programme, subject to the following:

- a. The Government of Mozambique will report to the Ozone Secretariat its consumption data in accordance with Article 7 of the Montreal Protocol.

10. To request the Government of Mozambique, with the assistance of an implementing agency, to review and, where necessary, redevelop the project proposals contained in the Country Programme following the relevant Executive Committee guidelines.

MOZAMBIQUE COUNTRY PROGRAMME EVALUATION SHEET

National Implementing Agency: Ozone Office, National Environment Commission

Status of ratification of the Vienna Convention and the Montreal Protocol

	Signature	Ratification	Entry Force
Vienna Convention (1985)		09/Sep/94	08/Dec/94
Montreal Protocol (1987)		09/Sep/94	08/Dec/94
London Amendment (1990)		09/Sep/94	08/Dec/94
Copenhagen Amendment (1992)		09/Sep/94	08/Dec/94

Production of controlled substances: 0 metric tonnes (mt)

Consumption of controlled substances (1993): 22.6 metric tonnes
(excluding methyl bromide) 28.9 weighted tonnes (ODP)

Substance	CFC					Halon			Solvents			M-Br
(ton)	11	12	113	114	115	Total	1211	1301	Total	CTC	MCF	Total
ODS	1.3	16.0			1.8	19.1	3.5		3.5			
ODP	1.3	16.0			1.1	18.4	10.5		10.5			

Source: Country Programme (1994)

Distribution of ODP by substance:

CFC: 63.6% Halon: 36.4% CTC, MCF:

Distribution of ODP by sector:

Sector:	Aerosol	Foam	Halon	Refrig.	Solvent
Consumption (tonnes):			10.5	21.9	
Percent of total:			36.4 %	75.8 %	

Note: About 3.5 tonnes of CFC-13 are consumed in the refrigeration sector.

Country Programme

Duration of country programme: 16 years (1994-2010)

ODS phase-out target:

Phase out of CFC-13 by 2001. Complete phase out by 2010

Phase-out priority area:

Refrigeration and halon sectors

Cost of activities in country programme: \$7,000,000

Strategy:

The Govt. is committed to comply with the stipulations of the Protocol. The phase out ODS strategy will take into consideration local economic and social repercussions. The Govt. is prepared to impose bans and other restrictions when needed and will promote the change-over so that the industry adjusts itself and adopts new technologies when available and viable. Total consumption of ODS will start decreasing in the year 1995 with a total phase-out by the year 2010.



República de Moçambique

COMISSÃO NACIONAL DO MEIO AMBIENTE
Gabinete do Presidente

THE CHIEF OFFICER
SECRETARIAT OF THE MULTILATERAL
FUND FOR THE IMPLEMENTATION OF
THE MONTREAL PROTOCOL
1800 MCGILL COLLEGE
27th FLOOR
MONTREAL, CANADA H3A 3J6

Our Ref: 621/CNA/GP/94

Date: 18.10.94

Dear Sir,

I have the honour to submit herewith the Country Programme of the Republic of Mozambique for the consideration and approval of the Multilateral Fund for the Implementation of the Montreal Protocol.

The Republic of Mozambique adhered to the Protocol on the 9th of September 1994 and will become a Party on 9th December 1994. It is classified as operating under paragraph 1 of Article 5 of the Protocol.

I would like to place on record the appreciation of the Government of Mozambique of the assistance extended to it through the UNEP IE OzonAction Programme for the preparation of the Country Programme which started during November 1993. I am pleased to say that the Government is committed to the implementation of the actions contained in the Country Programme.

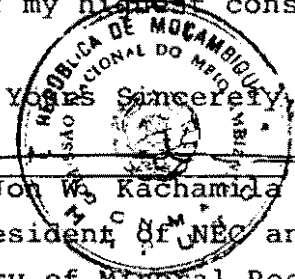
I further assert that it is the Government's intention to monitor compliance with the Protocol. It necessary, further and different actions from those specified in the Country Programme will be updated and submitted to the Executive Committee of the Multilateral Fund.

.../

We hope that the Executive Committee will approve the request for assistance made in respect of the following actions:

- a) Institutional Strengthening
- b) Refrigeration Equipment Maintenance Training
- c) Rehabilitation of the Worst refrigeration instalations.
- d) A National Halon Bank

Please accept, Sir, the assurance of my highest consideration.

Yours Sincerely,

Jon W. Kachamida
President of N.E.C. and
Ministry of Mineral Resources

FM/bm

COUNTRY PROGRAMME COVER SHEET

Country: Mozambique
 Lead National Agency: Ozone Office/National Environment Commission
 Participating Implementing Agency: UNEP IE

1. Phase-out schedule

Substance	Current consumption (1993) ODP tons	Planned cumulative consumption until phase-out		
		Article 5 schedule*	Accelerated schedule	Planned year of phase-out
CFC 11	1.32	143.1		2010
CFC 12	16.02	389.3		2010
CFC 115	1.10	1.10		1995
Halon 1211	10.50	76.2	104	2010
CFC 13	3.50	81.5	12	2000
Total	32.44	691.2	416	

*) Consumption upto the year 2010

2. Government Action Plan

Actions	Brief description	Commencement	Use sector
Government actions			
Regulation & monitoring	Adoption of legislation to encourage the introduction of substitutes, public awareness, networking	mid 1994	All
Project	Institutional Strengthening	Jan 1995	All
Industry actions			
Establishment of an association to network on the ODS issue	Improved information on technical and economic options	1994	
Project	Training on refrigeration	March 1995	Refrigeration
Project	Rehabilitation of large refrigeration installations	March 1995	Refrigeration
Project	Halon bank management recycling	Late 1995	Fire fighting

3. Project Summary Table

Project N°	Title	Intended Effect	Sector	Estimated Cost USD						
				1995	1996	1997	1998	1999	2000	Total
1.	Institutional Strengthening	Coordination, Control, technical support, public awareness	All	39.050	26.400	26.950				92.400
2.	Training on Refrigeration	Improved maintenance practices	Refrigeration							
3.	Rehabilitation of Industrial Refrigeration Installations	Reduced ODS use, better economy	Refrigeration							
4.	Halon Bank Management Recycling	Effective recycling, reduced use	Fire Fighting							
Total				39.050	26.400	26.950				92.400

THE GOVERNMENT OF MOZAMBIQUE

National Environment Commission

Ozone Action Country Team

COUNTRY PROGRAMME

PHASING OUT THE OZONE DEPLETING SUBSTANCES

October 1994

EXECUTIVE SUMMARY

Background

Mozambique has an area of approx. 800 000 sq. km, with a population of approx. 16 mill. The population density is 20 persons per sq. km. The urban population is some 28% of the total. The largest urban settlements are Maputo (1.05 mill), Beira (0.35 mill), Nampula (0.24 mill) and Quelimane (0.2 mill).

Agriculture accounts for 64 %, industry (manufacturing) for 15% and services for 21% of the total production.

With a Gross Domestic Product of less than USD 100 per capita, Mozambique is one of the poorest countries in the world. Due to the Peace Agreement and the adopted market economy, the economic situation of the country is rapidly stabilising. GDP growth rate in 1993 was +19%.

Mozambique ODS use depends completely on imports of the Ozone Depleting Substances, but it produces some refrigeration and air-conditioning equipment using ODSs.

The Government of Mozambique has ratified the Montreal Protocol on 9 September, 1994, and will start to operate as a party under the Article 5 in December 1994.

Due to technical assistance given by UNEP IE and financial assistance by the Government of Finland (FINNIDA), Mozambique initiated the activity of formulation of the Country Programme when it was not Party to the Protocol. Mozambique is now able to submit its country programme almost immediately after becoming Party to the Protocol. No financial assistance is availed from Multilateral Fund for the formulation of the Country Programme.

Also the Government has initiated co-operation with the UNEP IE to tackle the ODS issue, and has nominated a National Committee, Ozone Action Country Team, to support the Government and industries in phase-out.

The Country Team has overviewed the preparation of this Country Programme.

Current Situation

Mozambique used 32.44 ODP tons of the controlled substances in the year 1993, equivalent to 0.002 kg per capita. The substances used are CFC-11, 12, and CFC-115 (as a component in R 502) Halon 1211 and 1,1,1-trichloroethane. The total consumption of ODSs approximately halved since the year 1991, due to economic stagnation of the country, caused by the prolonged civil war. The base year of this programme, 1993, is rather exceptional. The Government of Mozambique thinks that years 1991-92 are in fact a more solid base for the forecast figures and measures than the year 1993.

Two thirds of the use of ODSs is in the refrigeration and air-conditioning sector. The halon consumption accounts for the remaining third. The use of other substances is negligible.

The use of the transitional substance HCFC 22 has increased from approx. 12 tons in the year 1991 to some 20 tons in the year 1993.

Assuming that no controls are imposed and no supply restrictions exist, it is estimated that the total consumption of all the controlled substances will increase from the current 32.44 ODP tons to some 71 tons, 80 tons and 88 tons in the years 2000, 2005 and 2010, respectively.

The Hoechst Corporation and ICI are the main sources of ODS supply. Imports are directly from Western Europe. Some local companies also import through South Africa. The Government owned Enafrio company is the main local supplier. For the time being there are no specific restrictions, fees or duties on ODS imports. The imports of ODSs, according to the Ministry of Commerce, are not recorded separately from other industrial chemicals in customs statistics.

The refrigeration and air-conditioning sector is fragmented. The Enafrio company runs most of the maintenance workshops. This company also supplies to the extensive fishing fleet (80 ships with refrigeration installations) with the refrigerants. There are three companies producing refrigeration equipment and three companies producing air-conditioning equipment in Mozambique. Currently, the companies face problems in the production of new equipment. The management of these companies is aware of the forthcoming restrictions of ODSs and methods to convert from ODSs to alternative substances. The transitional substance HCFC 22 is almost exclusively used in the air-conditioning sector.

Municipal fire services, the national airline (LAM) and the national railway company are the main users of halons. In addition to these three there are two other companies operating in the trade and refilling of the halon fire extinguishing equipment.

The Government of Mozambique has established the National Environment Commission (NEC) to tackle all the environmental issues including the ODS phase-out. A specific National Committee, Ozone Action Country Team was set in 1992 to start the compilation of the Country Programme. The establishment of an industrial entrepreneurs' association is envisaged, as part of creation of industry network.

The possible governmental measures have been planned. The industries, dependent on the foreign supplies of components, are aware of the forthcoming restrictions.

Implementing the Phase Out

The government of Mozambique through the National Environment Commission (NEC) is committed to comply with the stipulations of the Montreal Protocol. The ODS use in Mozambique is not very significant as compared to industrialized countries. The phase out measures will take into consideration the local economic and social repercussions avoiding any unnecessary burden on the society. Several developments regarding the background of the phase-out strategy are analysed to avoid any adverse effects. The Government is aiming to reach the phase-out deadlines through a smooth, slightly accelerated schedule, and is prepared to impose bans and other restrictions when needed.

The Government will play its role as a policy maker and controller and will promote the change over so that the industry adjusts itself and adopts new technologies when available and viable. This policy will require the strengthening of the related institutions, namely the Ministry of Industry (MIE) and the National Environment Commission (NEC).

In addition to the institutional strengthening the following three projects are considered essential for implementation of the phase-out.

- * Training in Good Practices:, Refrigeration equipment maintenance
- * Retrofitting of selected refrigeration installations (old)
- * Halon bank management and halon recycling

The Government cannot commit very much of its own financial resources due to severe budgetary constraints. For the concrete technical phase out measures, the Multilateral Fund and its implementing agencies will be approached in order to receive the necessary funds and technical assistance.

Based on various assumption, the indicative incremental costs for Mozambique for phase-out will be of the magnitude of more than US\$ 7 million, the exact amount will be estimated at a later date.

By applying the aforementioned administrative and other phase-out measures, it is estimated that the total consumption of CFCs and halons will stabilise at the current level and start decreasing in the year 1995. The total phase-out will be reached in the year 2010.

Project Summary Table

Project no	Title	Costs in USD
1.	Institutional Strengthening	92 400
2.	Refrigeration Equipment Maintenance Training	to be estimated
3.	Retrofitting of selected refrigeration installations	to be estimated
4.	Halon bank management - halon recycling	to be estimated
	Total costs	92 400

ANNEX

Project Proposal : No.1

Country: Mozambique

Project Title: Institutional Strengthening, Establishment of an Ozone Office

National Executing Agency: Ozone Office Under the National Environment Commission

Implementing Agency: UNEP

Sectors Covered: All

ODS Consumption by the Sectors Covered: 32.44 ODP tons in 1993

Project Duration: Three years (1995-1997)

Budget Requested: 92.400 US\$

Project Impact: *Improved capacity to monitor and control ODS related data and information
*Improved capacity to prepare and implement projects according to the action plan included in the Country Programme

Introduction

The Action Plan included in the Country Programme will mainly be implemented by the government, anyhow, in close co-operation with governmental and private companies. To get the implementation procedure, which has been delayed for various reasons, quickly and smoothly started it is necessary to create interim structures for the project preparation, data and information collection and dissemination. The Ozone Office is one of such structures.

Organisation of the Ozone Office

The Ozone Office will operate under the Department of Planning, Research and Management of the National Environment Commission.

The Office is supported by the Ozone Action Country Team and industry association(s), which bodies will be closely involved in the implementation and monitoring of the phase-out measures.

The Ozone Office Team

The Ozone Office Team will consist of one professional with the support staff. The team will provide the ODS using organisations and industries with the technical, administrative and financial support. Also the Office Team will act as a national focal point in all international aspects regarding the ozone issue.

Activities and Scope of the Project

If the Ozone Office is to attain the objectives described in the Country Programme, it will have to undertake several activities, such as follows:

- * Elaborate quickly an effective method to cooperate with the Department of Foreign Trade in collecting the import data of ODS
- * Establish an effective long term mechanism to follow-up and monitor the imports of ODS, ODS containing products and define which organisations will be involved
- * Prepare an annual report to the Ozone Secretariat as required and develop a data bank to enhance the continuous reporting as per the protocol and to enhance other information retrieval (substitutes) for monitoring purposes
- * Contact extensively the authorities and organisation in the region of Southern Africa to ensure an effective technology transfer and information exchange

- * Travel extensively inside of Mozambique to ensure the dissemination of information, phase-out opportunities etc. aspects and to collect some field data and information from the "grass root" level regarding the local social and market impacts of the forthcoming phase-out measures
- * Contact public (national and local) media to distribute information of the harmful effects of ODS use and information how to reduce and refrain from using ODSs
- * Contact international agencies, bilateral support schemes and NGOs operating in Mozambique in order to seek extra and complementary support for the phase-out
- * Be responsible for the preparation three projects (training, rehabilitation and halon recycling) included in the country programme
- * Manage the implementation of the training project
- * Collect a rooster of the local experts and consultants available to support the Ozone Office in project implementation and monitoring
- * Monitor the effectiveness and the project implementation and report to the Fund and Implementing Agencies
- * Reporting to the Executive Committee, on a yearly basis, progress being made in the implementation of the country programme (UNEP/OzLPro/ExCom/10/40 para. 135), following the format approved by the Executive Committee (UNEP/OzLPro/ExCom/13/47/Annex II).
- * Review and adjust financial and technical support needs

Project Budget

The Budget to be provided by the Government of Mozambique covers the following costs over a period of three years:

- * Office space and office furniture
- * Maintenance of the office, electricity
- * Basic salaries of the support staff

The budget requested from the Multilateral Fund amounts to USD 94,400 and is intended to cover the expenses of the Ozone Office for a period of three year.

This requested budget reflects the urgent need to initiate the phase-out measure rather quickly and to avoid that Mozambique would be lagging behind of the other parts of the region in phase-out opportunities

Budget Requested from the Multilateral Fund, USD

	Year 1	Year 2	Year 3	Total
Capital Expenditure				
Computers , PC & portable and modem	9000			
Printer and SoftWare	3000			
Subtotal	12000			12000
Recurring expenses				
Personnel incentives				
Professional staff	9000	9000	9000	27000
Support staff	4500	4500	4500	13500
Subtotal	13500	13500	13500	40500
Operating costs				
Office supplies	1000	1000	1000	3000
Information collation & dissemination	5000	5000	5000	15000
Local transport	2000	2000	2000	6000
Telecommunications	2000	2000	2000	6000
Servicing for equipment		500	1000	1500
Subtotal	10000	10500	11000	31500
Total	35500	24000	24500	84000
Contingency	3550	2400	2450	8400
GRAND TOTAL	39050	26400	26950	92400

*) Vehicle is considered necessary to facilitate the movement of Ozone Office staff and experts, especially outside of the urban areas.