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Report No. 14990-PAK

MULTILATERAL FUND FOR THE IMPLEMENTATION OF
THE MONTREAL PROTOCOL

MEMORANDUM AND RECOMMENDATION

OF THE DIRECTOR

OF COUNTRY DEPARTMENT I, SOUTH ASIA REGION

OF THE

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

TO THE

REGIONAL VICE PRESIDENT, SOUTH ASIA REGION

ON A PROPOSED

OZONE PROJECTS TRUST FUND GRANT

IN AN AMOUNT EQUIVALENT TO US$13 MILLION

TO

GOVERNMENT OF PAKISTAN

FOR A

MONTREAL PROTOCOL OZONE DEPLETING SUBSTANCES

PHASE OUT PROJECT

January 15, 1997

Country Operations, Private Sector Development Division
Country Department I
South Asia Region

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CURRENCY EQUIVALENTS, UNITS AND MEASURES, AND ACRONYMS

Currency Unit = Pakistan Rupee (Rs.)
US$1.00 = Rs. 40.22 (Exchange rate as of January 1997)

metric ton = Ton (T) = 1000 kg

CFC	:	Chlorofluorocarbons
CP	:	Country Program
ELG&RD	:	Ministry of Environment, Local Government, and Rural Development
FI	:	Financial Intermediary
GOP	:	Government of Pakistan
ICB	:	International Competitive Bidding
IS	:	Institutional Strengthening
MF	:	Multilateral Fund for the Implementation of the Montreal Protocol
MOA	:	Memorandum of Agreement
MP	:	Montreal Protocol on Substances that Deplete the Ozone Layer
MPEC	:	Montreal Protocol Executive Committee
NDFC	:	National Development Finance Corporation
ODP	:	Ozone Depleting Potential
ODS	:	Ozone Depleting Substances
OORG	:	Ozone Operations Resource Group
OTF	:	Ozone Projects Trust Fund
TA	:	Technical Assistance
UNDP	:	United Nations Development Program
UNEP	:	United Nations Environment Program
UNIDO	:	United Nations Industrial Development Organization

FISCAL YEAR

Government of Pakistan =	July 1 - June 30
NDFC =	January 1 - December 31

Vice President	:	Mr. J. Wood
Director	:	Ms. M. Nishimizu
Division Chiefs	:	Ms. M. Uy / Ms. M. Koch-Weser
Staff Member	:	Mr. J. Shah

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ISLAMIC REPUBLIC OF PAKISTAN

MONTREAL PROTOCOL OZONE DEPLETING SUBSTANCES PHASE OUT PROJECT

Project and Grant Summary

Project Description: This project would assist Pakistan in implementing an Ozone Depleting Substances (ODS) phase out program by providing the financing for subprojects through an Umbrella Grant Agreement. The project would finance the incremental costs of conversion to non-ODS technology for a group of priority, cost effective subprojects to reduce ODS consumption in the country.

Executing Agencies: Ministry of Environment, Local Government, and Rural Development (ELG&RD) and National Development Finance Corporation (NDFC).

Recipient: NDFC.

Beneficiaries: Local industrial enterprises that are introducing ODS reducing technologies which are approved by the Montreal Protocol Executive Committee (MPEC).

Umbrella Grant Amount: US$13 million equivalent.

Terms: Grant

Re-lending Terms: Grant

Financing Plan:

Component	US$ million
Future Sub-projects	12.61
Financial Intermediary Fee	0.39
TOTAL Proposed Ozone Projects Trust Fund (OTF) Grant	13.00
Estimated Commercial Credit	2.00
Total Project Cost	15.00

Economic Rate of Return: Not applicable

Staff Appraisal Report: Not applicable

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MEMORANDUM AND RECOMMENDATION OF THE DIRECTOR
OF COUNTRY DEPARTMENT I, SOUTH ASIA REGION
TO THE REGIONAL VICE PRESIDENT, SOUTH ASIA REGION
ON A PROPOSED OZONE PROJECT TRUST FUND GRANT
IN AN AMOUNT EQUIVALENT TO US$13 MILLION
TO THE ISLAMIC REPUBLIC OF PAKISTAN
MONTREAL PROTOCOL OZONE DEPLETING SUBSTANCES PHASE OUT PROJECT

1. I submit for your approval the following memorandum and recommendation on a proposed Ozone Projects Trust Fund (OTF) grant to the Government of Pakistan (GOP) for the equivalent of US$13 million to help finance subprojects to reduce the consumption of Ozone Depleting Substances (ODS) in Pakistan.

Country/Sector Background

2. Pakistan's economic performance in the past two decades has been characterized by relatively fast Gross Domestic Product (GDP) growth propelled by agriculture and cotton-based manufacturing, and by a significant reduction in poverty, as measured by consumption indicators. Inflation also tended to be moderate, hardly rising above 10%. In July 1993, Pakistan embarked on a three-year program of macroeconomic adjustment and structural reform supported by the International Monetary Fund, the World Bank, and the Asian Development Bank. Implementation of reforms in 1993/94 was good, and the economy responded well, as reflected in larger non-traditional manufacturers exports and the sizable increase in government revenue.

3. More recently, however, the economic response to the reform program has been clouded by a number of factors. GDP growth has fallen from an annual average of 6.1% in 1978-92 to 3.6% in 1993-95, owing in part to a cotton virus and floods that reduced agricultural growth to an average of only 0.8% per annum. The growth of large-scale manufacturing has also declined -- to less than 5% in 1994/95 from an average of around 7% per annum -- as textile industries were affected by lower cotton output and by periodic strikes and violence in Karachi. National savings and investment remain low at 15.7% and 19.1% of GDP respectively, the same as those of five years ago. At the same time, inflation accelerated well above 10% in 1993-95 and remained around 13% (at an annual rate) during the first quarter of 1995/96. Supply-related factors (increases in administered prices, broadening of domestic indirect taxes, and higher world prices for imported food items), together with higher-than-targeted monetary expansion due to larger-than-programmed budget deficits have contributed and fueled the inflation.

4. Over the last 40 years Pakistan's environment has deteriorated greatly due to rapid population growth, increasing urbanization and industrialization, and poor natural resource management. Environmental degradation and pollution are affecting public health and productivity. To arrest further environmental degradation, a National Conservation Strategy was adopted in 1992, followed by an Action Plan for 1993-98 for better natural resource management. Provincial environmental strategies are also being prepared. A new comprehensive environmental law, which would replace the Pakistan Environmental Protection Ordinance of 1983, is under review by the GOP,

while the provinces are considering another law on the environmental aspects of housing and waste disposal. Proposals are also being developed for an incentive framework to encourage industrial units to install pollution treatment devices and adopt cleaner production processes. The content of some of the proposed environmental legislation, however, is inadequate and in some cases even detrimental to the objective of protecting the environment. Furthermore, implementation of existing legislation is weak. Budgetary allocations for environment sectors, while increased in 1994/95, also remain inadequate. Sustained efforts to reduce population growth are necessary as well for better natural resource management.

5. The Montreal Protocol (MP) on Substances that Deplete the Ozone Layer was adopted in 1987, marking the first occasion in which developed and developing countries agreed on a global strategy to address a shared environmental problem. The MP has now been ratified by more than 100 countries. Pakistan ratified the MP (along with the London and Copenhagen Amendments) in December 1992 and the government is committed to phasing out consumption of ODS by 2010[1]. With total ODS consumption below 0.3 kg per capita, (per capita consumption is estimated at 0.018 kg per capita for FY 1994-95) the country is eligible for grant funds from the Multilateral Fund (MF) which is administered through the OTF at the Bank. The funds are provided to cover the incremental costs of ODS phase out activities. Conservation measures and substitute technologies are commercially available for most major ODS users in Pakistan.

6. In 1990, the Multilateral Fund (MF) for the Implementation of the Montreal Protocol was established by the signatories to the MP as an interim fund to help developing countries meet the incremental cost of establishing the Protocol's control measures. The four MF implementing agencies are: (i) World Bank; (ii) United Nations Environment Program (UNEP); (iii) United Nations Development Program (UNDP); and (iv) United Nations Industrial Development Organization (UNIDO). All four implementing agencies are currently supporting GOP with their ODS phase out program.

GOP ODS Phase Out Strategy

7. In developing and implementing a cost-effective ODS phase out program, the Government has entrusted the Ministry of Environment, Local Government and Rural Development (ELG&RD) to coordinate development and implementation of the country's ODS phase out program. ELG&RD has established an Ozone Cell to formulate and implement a strategy for ODS phase out activities. ELG&RD has hired a local and an international consultant to assist them with preparation of their Country Program (CP). A multi-agency task force has also been created to oversee MP implementation. The GOP has selected National Development Finance Corporation (NDFC) to be their Financial Intermediary (FI) for the Bank project.

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1 Article 5 of the Montreal Protocol allows developing countries whose calculated annual level of consumption of ODS is less than 0.3 kg per capita on the date of their entry into the force of the Protocol until 2010 to meet their obligation under the Protocol.

8. Pakistan will use increasing amounts of ODS to produce such consumer goods as refrigerators, freezers, mattresses, and car seats. Pakistan does not produce or export any ODS and therefore, its total consumption of ODS is equal to its imports adjusted for stock changes. Pakistan consumed about 2,339 MT of Ozone Depleting Potential (ODP) weighted[2] ODS in FY 1994-95. The sectorwide consumption of ODS (FY 1994-95) was largest in the service sector - refilling (CFC-12) (46%), followed by carbon tetrachloride (CCl_4) as a cleaning agent (20%), deep freezers (16%), refrigerators (10%), solvents (4%), foam - molded (3%), and automobile air conditioning (1%). The CP has identified about 20 medium to large subprojects and has established a mechanism (training workshops/seminars) to assist more than 300 ODS-consuming enterprises widely scattered around the country in the informal service sector.

9. There are three components to consider in the phase out of ODS in Pakistan: (i) development of a phase out strategy (Country Program), (ii) institutional arrangements to implement this strategy, and (iii) provision of technical and financial assistance to enterprises for the adoption of non-ODS technologies (investment component).

10. *Assistance from the World Bank*: The Bank is providing direct assistance for the investment component, by working with the GOP and enterprises to develop a series of subprojects to realize the goals of the GOP's ODS phase out program. GOP has requested the World Bank's assistance with ODS phase out from the major subprojects in each sector. Figure 1 gives a schematic of the key steps involved in both the Bank's Montreal Protocol project cycle and subproject cycle. See Annex 2 for a more detailed description of the processing steps for subprojects.

11. *Assistance from UNEP*: In April 1995, ELG&RD began preparing the Country Program (CP) with support from UNEP. The CP has been completed and reviewed by the Bank and UNEP. The GOP submitted the CP through UNEP to the MPEC in October 1996 and it was approved. The CP was completed in two phases. The principal objectives of the first phase of the CP were to determine the current and future consumption of ODS in Pakistan and classify ODS using industries. The objectives of the second phase of the CP were to define the strategy, incremental costs, policies and actions (licensing and quota of imports, ODS import duty, sector specific ban, enforcement, support for phase out technology, public awareness, etc.) that are required to achieve early phase out. The Bank participated in an ODS fact finding mission in November 1993 and collaborated in the CP preparation with UNEP, ELG&RD and their consultants, by providing them with the Bank's findings on the foam and refrigeration sectors during preparation of this project.

12. *Assistance from UNDP*: A grant of $259,000 for the next three years for an institutional strengthening (IS) component through UNDP was approved by Montreal Protocol Executive Committee (MPEC) in September 1994. The IS component includes the establishment of an Ozone Cell comprising three full time staff at ELG&RD [3] to develop and implement all ODS related activities

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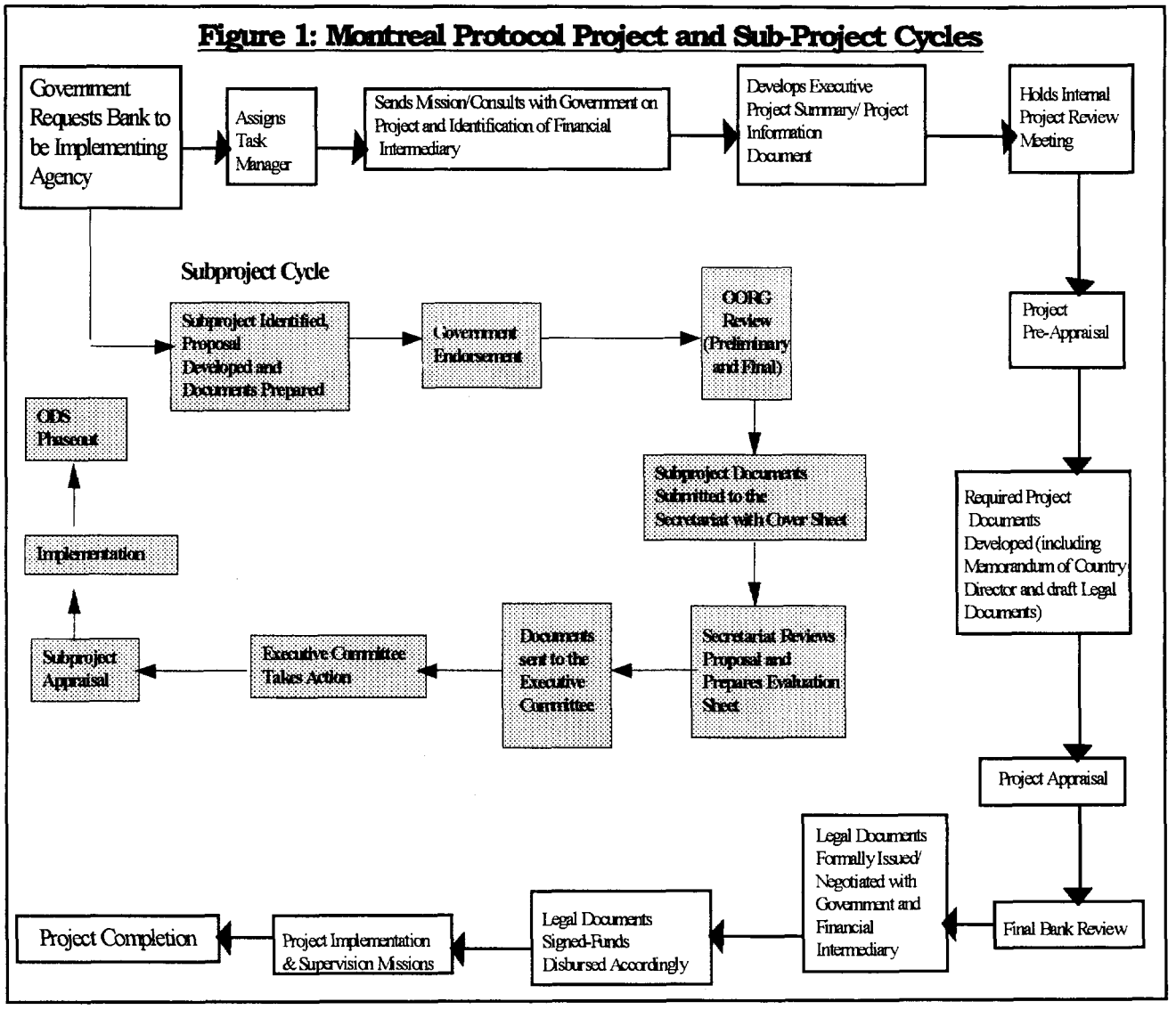
2 Ozone Depleting Potential (ODP) is a measure to compare the depleting potential of various Ozone Depleting Substances (ODS), e.g., CFC 11 has an ODP of 1, while carbon tetrachloride has an ODP of 1.1.

3 Throughout the rest of this document reference to ELG&RD relates to the Ozone Cell.

within Pakistan and to guide the country's ODS phase out program. ELG&RD has prepared a three year plan which has been approved by UNDP. Following approval, an agreement was signed between GOP and UNDP on January 11, 1995. ELG&RD commenced implementation of this component in May 1995.



13. *Assistance from UNIDO*: GOP has requested UNIDO to assist Pakistan with predominantly medium and small scale subprojects. UNIDO, is currently assisting four refrigeration sector enterprises (Pak Elektron Ltd., Riaz Electric Co, Saleem Sons, and Ice Age Industries) in their phase out activities and is expected to assist in the phase out of approximately 200 MT of ODS. UNIDO may prepare 5 to 10 subprojects in Pakistan. The Bank is coordinating its activities with UNIDO.

Project Objectives

14. The objective of the project is to assist Pakistan's transition into non-CFC technology. The project will help Pakistan reach its objective by: (i) supporting the GOP's proposed program to phase out ODS; (ii) implementing cost effective priority subprojects, identified in the CP for technical conversions; and (iii) building local capacity to identify, develop and implement ODS phase out subprojects.

Project Description

15. The project has two components: (i) an investment component under which about 10 subprojects are expected to be fully committed in forty-eight months after signing of the Umbrella Grant Agreement; and (ii) a technical assistance component consisting of a one-time TA provision (about US$10,000) to strengthen NDFC's technical capabilities in ODS-related data collection, storage and retrieval, project implementation review and supervision. The list of potential subprojects was a result of project preparation activities and private industry's interest expressed at the two subproject identification and preparation workshops organized by the Bank. The project will cover all major ODS use sectors, other than the informal sector. The initial subprojects will be in the foam and refrigeration sectors and will result in the phase out of approximately 640 MTof ODS (Annex 1). Subprojects will include technical assistance (TA) for technology transfer, design, safety, training, and implementation to beneficiaries. Under the TA provision for NDFC, one official attended the ozone related conferences (Annual Ozone Operations Resource Group (OORG) Meeting and Financial Intermediary Workshop) held at the Bank in October 1996. The objective of this training was for the official to gain an overall perspective of MP activities and to discuss all MP project related issues with FI's from around the world. During October - November 1996, the NDFC official also visited the financial intermediary organizations for the Philippines and Indonesia MP projects in order to obtain a hands-on practical training of MP project implementation activities. The entire training took approximately three weeks at a cost of about US$7,000.

16. The first set of two subproject proposals in the foam sector (Razi Sons and Master Group of Enterprises) was submitted to the MPEC by the Bank on behalf of the GOP in June 1995. The MPEC has approved US$0.51 million and US$1.25 million for Razi Sons and Master Group of Enterprises, respectively. The second set of subprojects consisted of one refrigeration sector proposal (Domestic Appliances Ltd.) which was submitted at the 19th MPEC meeting held in May 1996. An amount of US$0.26 million was approved for Domestic Appliances Ltd. The third set of subprojects will most probably consist of three refrigeration sector proposals (Singer Pakistan Ltd., Cool Industries Inc. [WAVES], Dawlance Pvt. Ltd.). It is anticipated that they will be submitted at the 22nd MPEC meeting in mid 1997.

Project Costs, Incremental Costs and Financing.

17. Total project costs are estimated to be US$15 million, which includes goods and services, TA, price and physical contingencies and the fee (3% of OTF grant amount) for NDFC. The project is

expected to be financed by a US$13 million OTF grant and US$2 million from enterprises. The share of the US$15 million eligible as incremental costs for MF grant funding through the OTF will be determined during individual subproject preparation. The incremental costs of ODS phase out subprojects would be financed by an OTF grant through NDFC to beneficiaries, with the balance financed from commercial sources or from the beneficiaries' own resources.

18. The incremental costs represent the difference between the costs of complying with MP targets and the costs which would be incurred without the MP. Incremental costs for this project will be defined as per MPEC and Bank guidelines; that is, the net present value of incremental economic project costs (investment plus operating costs net of operating benefits) discounted at 10% in real terms. This amount will then be adjusted to reflect the local share of ownership, exports, and other specific eligibility and cost effectiveness criteria. All costs are computed in accordance with MP guidelines. Following current MF practice, reimbursement for incremental operating costs for subprojects is limited to a maximum of four years. However, in practice for some sectors, such as refrigeration, the guideline is for incremental operating costs of six months only.

Project Implementation

19. The Project will utilize an Umbrella Grant Agreement (UGA) between the Bank and the GOP followed by a Memorandum of Agreement (MOA) to be signed by the GOP, (represented by Economic Affairs Division (EAD), ELG&RD, and NDFC. MF resources from the Bank's OTF will be channeled through NDFC to ODS users to cover the incremental costs of ozone protecting technologies as an incentive for early adoption. Subgrant agreements will be signed between NDFC and subproject beneficiaries according to a model subgrant agreement approved by the Bank, following approval of subproject appraisal reports by the Bank.

20. ELG&RD in its role as lead agency for implementing the country program, will oversee the project on behalf of the GOP and ensure that subprojects are consistent with the ODS Country Program. ELG&RD shall provide the final clearance of subprojects that are to be presented to the MPEC for funding consideration and will implement a policy framework to encourage early phase-out of ODS through such measures as regulations, fiscal taxing and credit policies, green-labeling and compensation for adverse impacts on any enterprise.

21. NDFC will: (i) assist with promotion of subproject identification; (ii) administer funds allocated by the Bank through the OTF to the subprojects endorsed by ELG&RD, and approved by the MPEC and Bank; (iii) evaluate financial viability of enterprises based on the eligibility criteria agreed with the Bank; (iv) disburse grants to subproject beneficiaries; and (v) supervise subproject implementation (Annex 2). NDFC will receive a fee equivalent to 3% of grants for its services, of which it will receive one third following the first disbursement of the grant to a subproject and two-thirds pro-rata on the dates of disbursement of the subgrant proceeds under a subgrant agreement to a subproject. NDFC would be guided by subproject eligibility, and financing criteria specified by the MPEC and the Bank (Annex 3).

Procurement and Disbursement

22. Procurement of goods, and services will be in accordance with Bank Procurement Guidelines (January 1995). Consultants will be selected in accordance with the most recent (1981) Bank's Guidelines for the Use of Consultants. A Special Account (SA) in NDFC's name, of US$0.5 million (equivalent to about four months of estimated expenditures) would be established at a commercial bank to facilitate disbursement of OTF grants following the signing of the UGA between the GOP and the Bank. It is expected that NDFC will open the SA within one month of the signing of the UGA. Withdrawals from the SA would be against full documentation, except for expenditures under contracts valued below US$200,000 for goods; and under contracts valued below US$100,000 for consulting firms and below US$50,000 for individual consultants, for which the Bank will accept Statement of Expenditures (SOEs). The expected disbursement schedule is 4% in FY 97, 11% in FY 98, 27% in FY 99, 35% in FY 2000, 23% and in FY 2001 (Schedule B). The project is expected to be completed by December 31, 2000, and the closing date shall be June 30, 2001.

23. Retroactive financing of up to 10% of grant amount (US$1.3 million) is proposed for expenditures incurred after December 18, 1992, the date that Pakistan ratified the Protocol, and prior to signing of the UGA, which is in line with MP guidelines adopted by the World Bank. This will assist enterprises that might have phased out ODS earlier than their competitors, who may now receive fund assistance from this project. The retroactive financed project will still need OORG and MPEC review and approval and will receive grant funding for the amount judged to be most appropriate. Thus, any non-competitive technologies or purchases will not be approved.

Reporting and Monitoring

24. ELG&RD will be responsible for monitoring the overall project and achieving the subprojects' ODS phase out targets while enterprises will remain responsible for implementing their own subproject. NDFC will be required to: (i) provide ELG&RD with a project update every three months; (ii) prepare semi-annual progress reports for the Bank; (iii) submit an annual project audit report prepared by an independent auditor acceptable to the Bank; (iv) monitor the compliance of enterprises including the equipment disposal agreements; (v) prepare subproject completion reports in collaboration with the enterprises upon final implementation of each subproject; (vi) monitor compliance with environmental and safety standards; and (vii) notify the Bank of any significant delays and problems with subproject implementation. Enterprises will also agree not to transfer old ODS-using equipment to another location nor to another enterprise, nor to switch back to using ODS (part of subproject agreement). NDFC will also monitor and certify the ODS equipment destruction activities. NDFC's performance will be judged by the Bank based on speed and completeness of appraisals, speed of execution of subgrant agreement, and responsiveness to disbursement requests.

25. The Bank's supervision will include reviewing progress and audit reports, approving all subproject appraisal reports, monitoring NDFC's performance against MF evaluation criteria, and supervising the work of NDFC. The Bank will also discuss periodically ELG&RD's progress in implementing the CP strategy in relation to the Bank MP project in Pakistan. The Bank supervision

missions will also include monitoring of each subproject implementation, compliance with environmental and safety standards and training, and evaluation of project performance based on criteria which have been developed by the Bank's MP Unit. The Bank supervision team will consist of one technical sector expert and MP operations manager. It is expected that during the first year there will be two supervision missions thereafter one supervision mission per year. The staff resources required for these supervision missions and headquarters activities are estimated at 15 staff weeks per year.

Environmental Considerations

26. The overall project objective is protection of the environment by reducing the emission of ODS. However, the change to non-ODS technologies or substitution of ODS with other chemicals may involve other environmental risks. Subprojects may employ flammable substitutes or, in the case of solvent subprojects, increase waste water discharges. The subprojects are being prepared in co-operation with international experts in ODS Phase Out Technology and include internationally accepted pollution control options as part of the subproject. Sponsoring enterprises will be responsible for providing environmental review documents describing environmental impact as required by Pakistan law. ELG&RD and NDFC will ensure that subprojects have satisfactory documents. The project is classified as a Category B (OD 4.01). A copy of the environmental data sheet is shown as Annex 4.

Project Sustainability

27. The project will assist the Government in establishing an efficient mechanism for developing and funding subprojects to initiate and sustain an ODS phase out program. The investment program will focus on priority sectors and cost-effective measures which are being defined in the CP currently under preparation and will be complemented by changes in policies and regulations to ensure compliance with ODS phase out targets. Limited availability of ODS and ODS dependent components will work to ensure sustained future use of ODS recycling equipment and non-ODS technology. The subprojects to be financed by the Bank are some of the largest subprojects in Pakistan and are thus expected to be considered a priority by ELG&RD in their CP. These enterprises have a long history of operations. Their financial indicators like profitability, viability and solvency ratios along with review of financial records to judge enterprises' ability to implement and sustain the subproject will be reviewed by NDFC (see Annexes 2 and 3). Consumer acceptance for non-ODS products will be built through awareness campaigns as a part of the ELG&RD CP and through enterprise marketing efforts.

Lessons from Previous Bank Experience

28. Projects utilizing OTF resources are being developed concurrently in 17 countries including Mexico, Brazil, Philippines, Thailand, Indonesia, India, China, Malaysia, and Turkey. Several country studies which identify ODS consumption patterns and phase out strategies have been completed. The findings of the country studies and the Implementation Performance Review of Banks Montreal Protocol Investment Operations document were considered in the design of the proposed project

(Annex 5). Some key lessons learned from the first two years of the Bank's involvement in MP operations include the following: (i) institutional capacity is critical for the success of sustainable ODS phase out and should be created through training and institutional building for local implementing units and FIs to successfully execute project-related activities such as procurement, disbursement, and supervision; (ii) a comprehensive national ODS phase out strategy is essential; (iii) strong in-country cooperation between industry and government is necessary for early and sustainable phase out; (iv) use of an UGA significantly streamlines project processing; (v) strong technical body (such as the OORG) is required to review and support subproject preparation activities; and (vi) clear institutional procedures are essential for the effective and efficient implementation of the MP.

Rationale for Funding from the MF

29. The project would form a part of Pakistan's ODS phase out program that would not be implemented without MF funding and Bank involvement. The proposed project is consistent with the Implementation Guidelines and Criteria for OTF funding established by the MPEC, for which the Bank is an implementing agency.

Project Benefits and Risks

30. *Benefits*: The project will help the Government implement an accelerated ODS phase out program by providing grant financing for priority subprojects which will result in a projected phase out of 640 MT of ODS, or approximately 27 percent of Pakistan's ODS use in 1994. The two approved foam sector subprojects are expected to have an ODP savings of 265 MT and the anticipated five refrigeration sector subprojects will yield an ODP savings of 375 MT (Annex 1).

Risks: Private firms' lack of interest in ODS phase out investments because of low financial benefits could become a risk. The project addresses this risk by providing grant funding which will compensate for financial and technical risks of proposed investments and will provide acceptable returns on investments of participating enterprises. Financial incentives will be complemented by regulations, taxes and non-financial incentives as given in the CP. In case the CP fails to provide a comprehensive policy framework, or not being implemented by ELG&RD through enforcement or regulation, private firms' lack of interest could become a risk. ELG&RD's limited experience could result in delays in processing subproject proposals and implementing projects. To minimize this risk, UNDP is assisting ELG&RD with an institutional strengthening program and GOP has assigned NDFC, a financial agent familiar with World Bank operational procedures, to assist in project execution. NDFC's institutional capacity to fulfill their role will be further enhanced by the technical assistance component provided by this project, by Bank staff during subproject preparation, supervision and through resident mission. In addition, UNEP provided assistance with the preparation of the Country Program. Lack of coordination among all MP implementing agencies could delay subprojects and contribute to risk. To enhance coordination activities, the Bank is working closely with all three other MP implementing agencies.

Staff Review Arrangements

31. This report was prepared based on the results of the pre-appraisal and appraisal missions of January 1995 and July 1995, respectively and other preparatory activities funded by the administrative budget for the Pakistan MP project. The report was prepared by J. Shah (ASTEN), Task Manager, with the assistance of S. DeFazio, K. Ahmed (ASTEN), D. Brown (IENIM), R. Nangia (SA1PF) and N. Khouri (SA1AN). Peer reviewers are B. Rahill, E. Tynan (ENVGC), N. Hadjitarkhani (SA2CI), and K. Suzuki (ASTEN). Mmes. M. Koch-Weser (ASTEN) and M. Uy (SA1PF) are the respective Division Chiefs and M. Nishimizu (SA1DR) is the Country Director. Technical and financial review of subprojects will be as outlined in Annex 2.

Agreements Reached During Negotiations

32. During negotiations the following agreements were reached.

(i) ELG&RD's criteria for approving subprojects: - The ELG&RD will approve and recommend all subprojects to the MPEC for funding which are reflected in the CP. In addition to these subprojects, if any project which is not reflected in the CP but calls for phasing out of a substantial amount of ODS will also be given due consideration and forwarded to the Bank for funding consideration. The final clearance by ELG&RD for the MPEC consideration of subprojects will be based on a no objection basis.

(ii) ELG&RD's policy and implementation strategy for reducing ODS usage in the informal sector (refill and service stations): - Plans have been conceived in the CP and will be carried out by the ELG&RD. These plans include holding fifteen workshops and seminars in all major cities of Pakistan to train technicians in the service sector and to disseminate information on ODS free technologies; in practice this will lead to reduction in wastage of CFC-12. It is intended to carry out a feasibility study for the recovery and recycling of CFC refrigerants from refrigerators, deep freezers, and mobile air conditioning units. This should provide strategies for recycling CFC, and reducing CFC consumption/wastage through training of service and maintenance technicians.

(iii) The tripartite Memorandum of Agreement (MOA) among EAD, ELG&RD and NDFC: - the Bank is satisfied with the progress made on this subject.

(iv) Formal procedures to be followed by NDFC for project implementation (specifically regarding disposal oversight for ODS technology): - the Bank is satisfied with NDFC's response.

(v) GOP policy regarding possible excise and import duty tax exemption for equipment being imported for the subprojects: - ELG&RD has taken up this issue with the Central Board of Revenue (CBR), GOP, that handles all issues/matters regarding excise and import duties. As soon as any policy regarding this subject issue is decided it will be communicated to the Bank.

Recommendation

33. I am satisfied that the proposed Ozone Projects Trust Fund grant would comply with the Executive Director's Resolution No. 91/5, establishing the Global Environment Facility, and I recommend that the Regional Vice President of the South Asia Region approve the proposed grant.

Mieko Nishimizu
Director
Country Department I
South Asia Region

Attachments
Washington, D.C.
January, 1997

PAKISTAN MONTREAL PROTOCOL ODS PHASE OUT PROJECT

Indicative Project Costs and Financing

Project Costs (US$ millions)

	Total Project Costs[a]	Proposed OTF Grant		
		Investment Costs	Net Recurring Costs [b]	Total Cost
Approved Sub projects	1.70	1.70	0.00	1.70
Future Subprojects	12.91	9.91	1.00	10.91
Subtotal	14.61	11.61	1.00	12.61
Financial Agent Fee	0.39	0.00	0.00	0.39
Total Project	15.00[c]			13.00

a Including 10% contingency
b Not Discounted; for up to 4 years recurring incremental costs.
c US$13.0 million (OTF Grant) + US$2.0 million (Commercial Credit)

PAKISTAN MONTREAL PROTOCOL ODS PHASE OUT PROJECT

Summary of Proposed Procurement Arrangements

1. Procurement of goods, works and services will be in accordance with relevant World Bank guidelines (January 1995). Enterprises will be responsible for procurement under the subproject following the agreed procurement guidelines. They will, with assistance from technical consultants provided for in the grant as required, and/or with guidance from NDFC, arrange procurement for the subproject. Bidding documents will be prepared based on the Bank's Standard Bidding Documents. NDFC will review compliance with the agreed procedure.

2. For procurement, the following procedures will apply for the first and second sets of subprojects and would be subject to review for any sets thereafter.

Goods

(i) Contracts over US$ 2 million equivalent (excluding proprietary packages) will be procured under International Competitive Bidding (ICB) procedures.

(ii) For contracts below the ICB threshold, and up to US$ 2 million equivalent (and in aggregated amount up to US$6 million) would be procured through international shopping on the basis of comparison of price quotations solicited from at least three qualified suppliers from at least two countries. These arrangements are judged adequate given the small size of the procurement packages and the specialized technologies required.

(iii) Direct contracting will be used for proprietary items such as non-ODS equipment.

Consultants

(i) Consultants shall be selected in accordance with the "Guidelines for the Use of Consultants by World Bank Borrowers and by the World Bank as Executing Agency" published by the World Bank in August 1981.

Prior Review

Prior review of proposed awards and final contracts will be required for:

(i) contracts over US$200,000 equivalent for goods will be reviewed by NDFC and on prior bids over US$1 million by the Bank;

(ii) for consultants' contracts over US$100,000 equivalent for firms and US$50,000 equivalent for individuals; and

(iii) for proprietary technology and equipment.

All other contracts financed through this grant will be subject to ex-post review by NDFC or the Bank.

PAKISTAN MONTREAL PROTOCOL ODS PHASE OUT PROJECT

Summary of Proposed Disbursement Arrangements

Between the World Bank and NDFC:

1. Disbursement will follow the procedures given in the Disbursement Handbook published by the Bank in 1992, and in the Disbursement Letter which will be issued after the Grant Agreement is signed. Once the Grant agreement has been approved and is effective, and after receipt of a withdrawal application from NDFC, the Bank will make an initial deposit of up to US$0.5 million into a Special Account (SA) at a commercial bank acceptable to the Bank. NDFC will be responsible for submitting the applications for withdrawal and replenishment to the Bank. Replenishment will be on a monthly basis or whenever 20% of the SA funds have been used, whichever comes first.

2. Replenishment of the SA and all other disbursements would be made against full documentation, except for expenditures under contracts valued below US$200,000 equivalent for goods, or for consulting contracts valued below US$100,000 for a consulting firm, or below US$50,000 for individuals for which the Bank will accept Statement of Expenditures (SOEs). Supporting documents for SOEs including contracts, procurement documentation, and evidence of payment should be kept in a central location for examination by independent auditors and Bank staff during supervision missions.

Between NDFC and the Subproject Enterprises:

3. Disbursement requests will be sent by the beneficiary to NDFC who will, after confirming the terms and conditions stated in the subproject agreement, approve these requests. NDFC will intimate to ELG&RD a confirmation of a disbursement request by an enterprise, as appropriate.

Disbursement for Operational Costs:

4. For projects with grant funding on incremental operating costs (as opposed to investment cost), or for subprojects which are to be implemented in several phases because of technological reasons, NDFC will propose in the subproject appraisal report a disbursement plan in two or more sets.

5. After one year of operation following disbursement of investment costs, each enterprise with incremental operating costs will provide NDFC with documentation confirming the estimate of annual incremental operating costs which the subgrant approval was based. If the documentation is satisfactory to NDFC, it will approve disbursement of the subgrant amount allocated for incremental operating costs, in one or more sets according to the disbursement

plan included on the subproject appraisal report, up to the ceiling established in the subproject appraisal report.

Disbursement Table:

6. Withdrawal of the Proceeds of the OTF Grant: The table below sets forth the categories of items to be financed out of the proceeds of the OTF Grant, the allocation of the amounts of the OTF Grant to each category and the percentage of expenditures for the items to be financed in each category.

Allocation of OTF Grant Proceeds

Category	Amount Allocated (US$ million)	Financing (%)
Subgrants	12.61	100
NDFC Fee	0.39	100
Total	13.00	

Estimated Disbursement Schedule:

Bank FY	1997	1998	1999	2000	2001
			(US$ million)		
Annual	0.5	1.5	3.5	4.5	3.0
Cumulative	0.5	2.0	5.5	9.0	13.0
			(% of total)		
Annual	4.0	11.0	27.0	35.0	23.0
Cumulative	4.0	15.0	42.0	77.0	100.0

PAKISTAN - MONTREAL PROTOCOL ODS PHASE OUT PROJECT

Timetable of Key Project Processing Events

Preparation (time taken)	17 months
Prepared by	Bank, NDFC and ELG&RD
First Bank Mission	October 1994
Departure of Bank Pre-appraisal Mission	January 1995
Departure of Bank Appraisal Mission	July 1995
Negotiations	July 1996
Bank Approval	January 1997
Planned Date of Signing	January 1997
Planned Date for Effectiveness	February 1997
Planned Completion Date	December 31, 2000
Planned Closing Date	June 30, 2001

PAKISTAN - MONTREAL PROTOCOL ODS PHASE OUT PROJECT

Approved and Anticipated Subprojects - Summary Table and Description

Company	End Use	Pakistani Ownership (%)	ODS use in 1994[1] (MT)	ODS Used (type)	Investment Cost (US$ million)	Net Recurring Costs 2 yrs[2] (US$ million)	Proposed OTF Grant (US$ million)[3]	Grant Cost Effectiveness US$/kg ODP	Cleared for Funding by MPEC (US$ million)
Set 1									
Master Enterprises	Non- Insul. Foam	100	205	CFC-11	1.577	0.099	1.402	6.08	1.2473
Razi Sons	Non- Insul. Foam	100	60	CFC-11	0.420	0.033	0.529	8.60	0.5081
Set 2									
Domestic Appliances Ltd.	Refrigeration	50	17	CFC-11 CFC-12	0.430	0.047	0.258	9.00	0.2577
Potential Set 3									
Cool Industries Pvt. Ltd. (WAVES)	Refrigeration	100	127	CFC-11 CFC-12					
Dawlance Pvt. Ltd.	Refrigeration	100	182	CFC-11 CFC-12					
Singer Pakistan Ltd.	Refrigeration	30	19	CFC-11 CFC-12					
Potential Set 4									
Philips Electrical Industries of Pakistan Ltd.	Refrigeration	40	30	CFC-11 CFC-12					
Total			**640**		**2.427**	**0.174**	**2.189**		**2.0131**

1 Figures for Philips Electrical Industries Inc. are estimates.

2 Net present value (NPV) of first four years of operating costs/savings discounted at 10%. Negative numbers indicate operating savings.

3 Grant amount equals incremental costs multiplied by percent Pakistani ownership. Includes 10% contingency and 3% financial intermediary fee.

PROJECT DESCRIPTION OF APPROVED SUBPROJECTS IN THE FOAM SECTOR

SECTOR BACKGROUND

1. The Foam Industry in Pakistan does not yet show the consumption patterns that are customary for mature markets in most countries. Typical concentration on flexible and refrigerator foams does exist, however there is a lack of activity in rigid foams for construction and transportation (sandwich panels, spray foam etc.). There appears to be little or no production of extruded polystyrene and polyethylene foamsheets (for foodware and packaging). On the other hand there is a larger use of foam for thermoware (insulated cans, water coolers, etc.). About 675 MT of CFCs were consumed in 1994 in the foam sector.

2. The foam manufacturing activities involving the use of CFCs that have been positively identified can be divided into the functional categories given below. These consumption figures are based on interviews with major suppliers of polyurethane chemical systems manufacturers of predominantly flexible foams. There are only two large enterprises that are using CFC.

Non Insulating Foams	**CFC Consumption (MT)**
a) Flexible/Semi Rigid Foams	
- Flexible Slabstock (Continuous)	175
- Flexible Slabstock (Box foam)	Negligible
- Flexible/Semi Rigid Molded	100
- Miscellaneous Foams	Negligible
b) Thermoplastic Foams	
- Extruded Polyethylene Foam	Not known
Insulating Foams	
a) Domestic Refrigeration	230
b) Commercial Refrigeration	100
c) Thermoware	50
d) Construction	20

SUBPROJECTS PREPARED AND FUNDED FOR FOAM SECTOR

3. **MASTER GROUP OF ENTERPRISES** (Approved OTF grant US$1.2473 million)Phase out of CFC-11 in the manufacture of Flexible PUF (Molded). Masters Group of Enterprises include four private limited companies with 100% Pakistani ownership, established and incorporated between 1963 to 1988. This subproject will phase out a total of 205 MT of CFC-11 consumption at four companies of the Master Group of Enterprises namely Master Enterprises P. Ltd., Durafoam P. Ltd., Kyber Plastic and Polymer Industries Ltd., and Procon Engineering P. Ltd, who are engaged in the manufacture of Flexible Slabstock Foam (mattresses, cushions etc.) and Flexible Molded PUF (automotive seat assemblies, etc.). These four companies form the largest Foam manufacturing capacity in Pakistan. NDFC will review the financial viability of these companies before signing the subgrant agreement with Masters Group of Enterprises.

4. The flexible slabstock operation will shift to liquid carbon dioxide (LCD) technology and to methylene chloride technology, while the molded flexible foam operation will shift to all water-blown system, as the ODS replacement technology. The Integral Skin Foam operation will shift to HCFC-141b. (This operation is not eligible for MPEC funding.) The project provides for replacement of low pressure foaming units by high pressure units, addition of methylene chloride and the molded operation to all water-blown system. The project also provides for methylene chloride metering systems, ventilation and safety equipment, trials, technical assistance and training. The main environmental consideration relates to safe operation with methylene chloride. This is addressed by improving ventilation as specified plus cooling systems to prevent or reduce scorch in the subproject design. The proposed capital items, operational costs / savings, and grant effectiveness have been found to be within MPEC guidelines and justified by independent reviewers. The total cost of the proposed grant project is estimated at US$ 1.25 million to be implemented over a period of 24 months.

5. **RAZI SONS** (Approved OTF grant US$0.5081 million). Phase out of CFC-11 in the manufacture of Molded and Rigid PUF. Razi Sons is a 100% Pakistani owned partnership established in 1948. The company has about 200 employees. The company manufactures flexible foam automotive seat cushions, rigid panels for false ceiling, etc. Razi Sons have the largest market share for automotive seat manufacturing capacity in Pakistan and are the second largest foam manufacturing capacity in Pakistan. NDFC will review the financial viability of this company before signing the subgrant agreement with Razi Sons.

6. This subproject will phase out a total of 60 MT of CFC-11 consumption (45 MT in the production of cold cured molded automotive seat cushions and 15 MT in the rigid foam insulation products), at Razi Sons. The foam operations for the molded foam category will be converted to all water-blown system. In rigid PUF category also, all water-blown systems will be the replacement technology. The project will require the replacement of existing low pressure foaming units by high pressure units, mold heating oven, trials, technology transfer and training. The total project cost is estimated at US$ 0.53 million to be implemented over a period of 24 months.

PROJECT DESCRIPTION OF APPROVED SUBPROJECTS IN THE REFRIGERATION SECTOR

SECTOR BACKGROUND

7. The consumption of CFCs in the Refrigerator and Freezer Industry in Pakistan has been estimated in 1994 at 550 MT. Of the sectors total estimated use of CFCs, domestic and commercial refrigeration appliances accounted for 150 MT of CFC-12. In addition, it is estimated that 400 MT of CFC-11 were used in the production of polyurethane (PU) appliance insulation foam. The average charge of CFC-12 in refrigerators is around 0.35 kg. Additionally, 0.90 kg of CFC-11 is used in making the rigid polyurethane foam in the cabinet. About 90% of the compressors used in the refrigeration industry are imported.

8. In Pakistan around 8.0 million refrigerators and freezers are in use. It is estimated that around 5% will be serviced yearly and some of them will be recharged by R-12. Due to a lack of environmental awareness and equipment in service centers, service staff often use CFC-12 for flushing the cooling system. This results in 200% excess CFC-12 consumption in the service sector, reaching 100 MT annually.

SUBPROJECTS PREPARED AND FUNDED FOR REFRIGERATION SECTOR

9. **DOMESTIC APPLIANCES LTD.** (Approved OTF grant US$0.2577 million). Phase out of CFC-11 in the manufacture of refrigerators and CFC-12 as a refrigerant. Domestic Appliances Ltd. (DAL) is a joint venture company with 50% Pakistani ownership and 50% Dubai ownership. DAL is the third largest manufacturer of domestic refrigerators in Pakistan with a market share of approximately 7%. DAL started producing refrigerators in 1982 under a license agreement with Indesit, Italy, which has now expired. Out of four models being produced, DAL has indigenously developed its own two new models of refrigerators (250 &320 liters.). DAL is running one production line of refrigerators with a capacity of 18,000 refrigerators per year. During 1993-94, DAL produced 14, 700 refrigerators. All DAL production is sold to the local market in Pakistan. NDFC will review the financial viability of this company before signing the subgrant agreement with DAL.

10. This subproject will replace 11.0 MT per year of CFC-11 with Cyclopentane as foaming agent and 6.1 MT per year of CFC-12 with R-134a in household refrigerators manufactured by DAL. The subproject will be implemented in two phases. The first phase will provide acquisition of the new technology procurement and installation of necessary machinery and equipment, engineering assistance and training. The second phase will allow for the progressive elimination of CFC-12 and CFC-11 through actual production of CFC-free refrigerators. The subproject will be supported by technology provided by international firms M/S Elastogram and Danfoss, Germany for rigid foam insulation and refrigeration system design respectively. These firms have also assisted other producers with their conversion to Cyclopentane and R-134a in many European countries. The total project cost is estimated at US$ 0.430 million (only 50% to be provided by this project) to be implemented over a period of 24 months.

PROCESSING STEPS FOR SUBPROJECT PROPOSALS

Prior to Funding Approval by the Montreal Protocol Executive Committee (MPEC)

1. Subproject Preparation: The subproject beneficiary (enterprise) will be responsible for preparing the pre-investment studies and subproject summary. The Ministry of Environment, Local Government and Rural Development (ELG&RD) and National Development Finance Corporation (NDFC) will promote subproject preparation by coordinating dissemination of information to enterprises that consume ozone depleting substances (ODS), including information about: (i) alternative technologies; (ii) Montreal Protocol (MP) Fund eligibility and financing criteria; and (iii) the MP Fund application process. ELG&RD /Ozone Cell will coordinate activities among international MP implementing agencies to ensure effective phase out of ODS as per the Country Program (CP). A consultant, under contract with the World Bank will assist in identification of potential fund beneficiaries and assist enterprises selected by ELG&RD, NDFC and World Bank prepare subproject proposals.

2. Local Endorsement: ELG&RD will review subproject summaries to ensure that they are cost-effective and conform to priorities established under the Pakistan CP. Subprojects will ideally be endorsed by the GOP prior to technical review (OORG). To this end, subprojects will be submitted to ELG&RD at least 60 days prior to World Bank subproject submittal deadline. This should allow sufficient turnaround time for two OORG reviews and enterprise response time to incorporate any changes to the documents. Subprojects will be submitted to the MPEC, through the World Bank, after ELG&RD's endorsement .

3. Technical Review: Subproject preparation will preferably include a preliminary technical review of subproject summaries by the appropriate technical expert in the World Bank's Ozone Operations Resource Group (OORG). The OORG reviewers are technical experts from outside the Bank. OORG comments will be provided to the World Bank who will then provide them to ELG&RD, NDFC, and to the concerned enterprises. A final OORG approval is required for all subprojects that are submitted to MPEC. Copy of final OORG approval will be furnished to ELG&RD.

4 Subproject Appraisal: The World Bank and NDFC will appraise subprojects based on agreed criteria according to the pro forma subproject appraisal report format, to ensure that all technical issues raised by the OORG reviewers (preliminary review) have been addressed (see Annex 3). Subproject proponents are expected to give full support to the World Bank and NDFC for timely completion of subproject appraisal report. Copy of appraisal report will be made available to ELG&RD.

5 Subgrant and Loan Packaging: If the total subproject cost exceeds the subgrant amount plus equity participation, additional funds will be required to meet the financing package of the subproject. To this end, commercial loans can be applied. A financing plan (with its terms and conditions) will be required as part of the subproject appraisal report.

6. World Bank Technical Review and Endorsement of Appraisal Report: The World Bank will oversee final OORG technical reviews of subproject proposals (subproject appraisal reports and feasibility studies alongwith subgrant agreement) and endorse each subproject to ensure that it is consistent with the guidelines of the MP Fund.

MPEC Approval

7. The World Bank will submit subprojects to the MPEC in groups. The first sets of subprojects up to US$13 million of grant fund will comprise the first ODS Project. Although subprojects will be submitted in sets under one umbrella project, the MPEC will review and approve each subproject individually

Following Funding Approval by MPEC

8. Memorandum of Agreement: EAD, ELG&RD, and NDFC will sign a Memorandum of Agreement (MOA) agreeable to the World Bank that will describe the responsibilities of GOP acting through EAD, and ELG&RD and that of NDFC under the ODS Project.

9. Final Subproject Appraisal: NDFC will prepare subproject appraisal reports for approved subprojects and submit them for approval to the World Bank, under intimation with a copy of appraisal report to ELG&RD with a draft of the subgrant agreement (based on a model subgrant agreement agreeable to the World Bank) to be signed between NDFC and the enterprise.

10. World Bank Review and Subgrant Approval: The World Bank will review each final subproject appraisal report to ensure consistency with eligibility criteria and MPEC approval.

11. Subgrant Agreement: After final subproject appraisal reports have been approved by the World Bank, NDFC will finalize subgrant agreements. The final version of the first few subgrant agreements will be submitted by NDFC to the World Bank for review, prior to signature between NDFC and the enterprise of the subproject. The agreement will spell out the responsibilities of the subproject beneficiaries and its commitment to undertake the necessary activities agreed upon in the subproject appraisal report in order to achieve the intended ODS reduction or phase-out. Terms, conditions and schedule for disbursement would be included in the subgrant agreement.

12. Procurement: NDFC will be responsible for ensuring that the beneficiary enterprises follow the agreed procurement guidelines.

13. Subproject Implementation: NDFC will supervise subproject implementation. However, each enterprise will be responsible for its own subproject implementation in accordance with the subgrant agreement. Enterprises will be responsible for preparing and submitting biannual progress reports to NDFC. A copy of the progress reports will be forwarded by NDFC to ELG&RD. In conjunction with enterprises, NDFC will prepare subproject completion reports

upon final implementation of each subproject. NDFC will review reports and pass a copy to ELG&RD. NDFC should keep these reports in a central location for examination by Bank staff during supervision missions. In cases where multiple disbursement tranches have been applied, the enterprise will submit one progress report prior to each tranche release. NDFC will notify the Bank of any significant delays and problems with subproject implementation.

14. Disbursement of Subgrant: Disbursement will be according to World Bank guidelines. NDFC will manage the Special Account set up for the purposes of the ODS Project.

15. Subproject Supervision and Reporting: During subproject implementation, NDFC will be responsible for supervision until all disbursements have been made. NDFC will monitor enterprises' compliance with environmental and safety standards including any equipment disposal agreements. NDFC will receive technical support for subproject supervision from the Bank and consultants. NDFC will provide ELG&RD with a project update every three months and submit semi-annual reports on the status of the grant disbursements and the progress of subprojects to the Bank until the grant is fully disbursed. NDFC's responsibility for subproject supervision ends after full disbursement and the approval of the subproject completion report. ELG&RD will monitor the progress of OTF funded subprojects in fulfillment of its overall responsibility for implementation of the CP.

16. Auditing: (1) *Financial Audit*: NDFC will have an annual audit report prepared by an independent auditor acceptable to the World Bank. The audit report would be submitted to the World Bank within six months after the end of the Government's fiscal year. (2) *Technical Audit*: A technical audit will be conducted by an independent consultant appointed by NDFC acceptable to the Bank to verify that the enterprises have implemented the subproject according to the subgrant agreements. Site visits to all participating enterprises will be conducted following completion of subpprojects.

GUIDELINES FOR SUBPROJECT ELIGIBILITY, GRANT FUNDING AND PREPARATION OF APPRAISAL REPORTS

1. This annex outlines major criteria for the evaluation of subprojects financed by the Ozone Projects Trust Fund (OTF). These criteria are based on guidelines issued by the Executive Committee of the Multilateral Fund and the World Bank. They will serve as a basis to evaluate eligibility and grant funding for subprojects to phase out ozone depleting substances (ODS) and for the preparation of these subprojects.

Subproject Eligibility

2. Selection of subprojects should be based on consistency with priorities established in the Country Program (CP) for the phase-out of ODS. Subprojects should have direct and demonstrable results in reducing ODS consumption in Pakistan. They should be cost effective and based on environmentally sound technologies, or substitutes for the substances controlled by the Montreal Protocol, or recycling of controlled substances taking into account the national industrial policy of Pakistan.

Guidelines and Criteria for Grant Funding

3. Grant Funding for Economic Incremental Costs. In general, enterprises that produce or consume ODS are eligible for grant funding from the Ozone Projects Trust Fund (OTF). The grant amount is calculated in economic terms for the incremental costs. Incremental costs are defined as the net present value of incremental economic subproject costs (investment capital plus operating cost net of operating benefits) discounted at 10% real term.

4. Ownership. An enterprise / subproject is eligible for funding in direct proportion to the percentage of local ownership of the enterprise.

5. Exports. A subproject is eligible for funding unless it is located in a "free zone" and its products are for export only. The Executive Committee endorsed guidelines on the issue of exports to non-Article 5 countries. In projects which benefit enterprises that export part of their production to non-Article 5 countries the following rules shall apply:

(i) where exports to non-Article 5 countries correspond to or are less than 10 percent of total production, the total incremental costs shall be covered;

(ii) where exports to non-Article 5 countries exceed 10 percent of production but do not exceed 70 percent, there shall be a reduction equivalent to the percentage of total production represented by such experts less 10 percent;

(iii) where exports to non-Article 5 countries exceed 70 percent of production, the project shall not be eligible;

(iv) the average over the three years prior to submission of the project shall be used to determine the production and exports to non-Article 5 countries; and

(v) projects where the exports to non-Article 5 countries are in the form of agricultural or fisheries products shall be eligible for total incremental costs.

6. Duties and Taxes. Import duties and other direct taxes are not eligible for grant funding.

7. Cost Effectiveness. The cost effectiveness (or efficiency) of the financial mechanism is a measure of how efficient it has been in utilizing funds put at its disposal to meet its objectives. The most simple method used to calculate cost-effectiveness of subprojects calculates total incremental costs of a subproject, excluding cost of safety where applicable, divided by the amount of its Ozone Depleting Potential (ODP) to be phased out. Therefore, cost-effectiveness is extremely sensitive to any variation in the cost and/or ODP consumption figures. Small variations in such factors as consumption, contingency costs, and chemical prices can make the difference between a subproject coming within, or exceeding, cost-effectiveness threshold limits. Cost effectiveness is defined by the following formula:

$$C = \frac{IC + IO}{M\,[ODP]}$$

where:

C	=	Cost-effectiveness
IC	=	Incremental capital costs (covered by the Fund)
IO	=	Net incremental operating costs (covered by the Fund)
M [ODP]	=	Amount of ODS to be phased out annually (weighted kg ODP)

The following sector and subsector cost-effectiveness threshold values will be applied to subprojects submitted to the MPEC.

Sector	US $/kg ODP
Aerosol	
Hydrocarbon	4.40
Foam	
General	9.53
Flexible polyurethane	6.23
Integral skin	16.86
Polystyrene/polyethylene	8.22
Rigid polyurethane	7.83
Halon	
General	1.48
Refrigeration	
Commercial	15.21
Domestic	13.76
Solvent	
CFC-113	19.73
TCA	38.50

Elements of the Subproject Appraisal

8. National Development Finance Corporation (NDFC) shall prepare appraisal reports for subprojects which have been approved by the MPEC and endorsed by ELG&RD. The appraisal reports should include the following:

(a) Subproject scope including full description, technology, source of supply, divided into: (i) components relating to ODS phase out and (ii) other components, such as expansion of output or product upgrading.

(b) Schedule and quantity of ODS (expressed as ODS and ODP) phased out, directly attributable to the subproject, on an annual and total basis.

(c) Subproject cost, divided into: (i) one-time capital and training cost; (ii) incremental recurring costs / savings such as operating costs / savings; and (iii) incremental benefits such as additional revenues according to standard project analysis methodology.

(d) Retroactive financing is available in some cases for eligible expenses incurred after December 18, 1992 (the date that Pakistan ratified the Montreal Protocol) provided they can be proven to have been made within World Bank procurement guidelines.

(e) Review of technical feasibility of subproject should confirm the existing situation and technical proposal of each subproject. There shall be no expansion allowed beyond the technical proposal.

(f) Financial analysis of the enterprise. A set of minimum financial indicators including profitability, viability, and solvability ratios based on eligibility criteria agreed with the Bank, will be calculated for the existing condition of enterprises, as well as the expected condition after the completion of subprojects, as far as the existing financial records allow. These indicators will be analyzed by NDFC to ensure the viability of enterprises, and their ability to implement the subprojects successfully. Any policy distortion that may affect the successful implementation of Pakistan's CP for ODS phase-out should be identified and analyzed, and appropriate recommendations made for consideration by ELG&RD, World Bank, and MPEC.

(g) Procurement arrangements. A description of the specific procurement arrangements for the subproject is given in Schedule B.

(h) Financing arrangements, including sources, terms and conditions, divided into: (i) incremental cost related to ODS phase-out to be financed as a grant from the OTF; (ii) amount to be provided by the enterprise from its own sources; and (iii) local and/or foreign loans to be financed through commercial loans from local and/or foreign institutions (at commercial interest rates), should be shown and confirmed at the time of subproject appraisal.

(i) Disbursement plan, including the amount and time of disbursement (i.e., single or multiple tranches), and conditions of disbursement (e.g. completion of certain measures and submission of satisfactory reports). Disbursement of capital costs shall be based on schedules of fund utilization that include expenses to be financed from the grant, expenses to be financed by the enterprise, as well as those from loans, including expenditures already incurred noting those that will receive grant support retroactively. For subprojects with incremental operating costs, or for subprojects which are to be implemented in several phases because of technological reasons, NDFC will propose in the subproject appraisal report a disbursement plan in two or more tranches. Any contract over US$200,000 for which direct payment will be requested should be noted.

(j) Subproject implementation arrangements including a description of management, engineering and technology acquisition, installation, operation, marketing, disassembling of phased-out / unused ODS equipment (to ensure that it cannot be reused) and a schedule for all implementation steps, should be included in the appraisal report.

(k) Environmental aspects. A copy of the subproject environmental assessment has to be documented by the enterprise and ELG&RD has to certify that the subproject proponent has complied with local environmental regulations.

(l) Reporting requirements of the enterprises have to be outlined in the appraisal report, including progress reports to NDFC (to be copied to ELG&RD and World Bank). As a minimum, the enterprise must submit biannual progress reports during the period from the signing of the subgrant agreement to the final disbursement for investment. In cases where multiple disbursement tranches have been agreed, the enterprise should submit one progress report prior to each tranche release. All enterprises must submit a subproject completion report after full disbursement of the subgrant.

(m) Subgrant agreement. Simultaneous with submission of the final subproject appraisal report, NDFC will submit and attach a draft of the subgrant agreement between NDFC and the enterprise, based on a model subgrant agreement approved by EAD, EUAF& and the World Bank. The subgrant agreement will spell out the conditions of the subgrant, subproject execution procedures, ownership of reports and equipment, list of personnel authorized to carry out the subproject, and responsibilities of the enterprise in case of non-compliance.

ENVIRONMENTAL DATA SHEET FOR PROJECTS IN THE IBRD/IDA LENDING PROGRAM

Country: The Islamic Republic of Pakistan **Project ID**: PK-MT-34301
Project: Montreal Protocol Ozone Depleting Substances Phase Out Project
Appraisal Date: 7/16/95 **Total Project Cost**: $15 million
VP Approval Date: 01/97 (tentative)
Managing Division: SA1PF **Sector**: Environment
Lending Instruments: Grant from Ozone Trust Fund **Status**: FY97/Grant
Date for receipt of EA by Bank (Category A Projects): Not Applicable
EA Category: B **Date Assigned**: 9/94

DATE DATA SHEET PREPARED/UPDATED:
November 22, 1996

MAJOR PROJECT COMPONENTS

Under the project, grant funding will be extended to subprojects for the phase out of ozone depleting substances (ODS) mainly in three sectors: refrigeration, foam blowing, and solvents.

MAJOR ENVIRONMENTAL ISSUES: (identified or suspected in project)

The project deals with existing enterprises and relatively small quantities of ozone-depleting substances. There are potential safety issues associated with substitute chemicals. Also, other environmental impacts may include the atmospheric release of substitute chemicals, in particular hydrocarbons.

OTHER ENVIRONMENTAL ISSUES: (of lesser scope associated with project)

There may be some environmental issues depending on the alternative chosen to replace the ozone-depleting substance. An example would be the use of aqueous-based substitutes in solvent subprojects, thereby increasing wastewater discharge.

PROPOSED ACTIONS:

Extensive safety reviews and training will be provided by international experts and incorporated in the subprojects. Alternative technologies proposed are based on internationally accepted practices. Also, environmental impact documents for each subproject will be prepared by enterprises and reviewed by GOP/ELG&RD to ensure compliance with local environmental regulations.

JUSTIFICATION/RATIONALE FOR ENVIRONMENTAL CATEGORY:

This is an environment friendly project designed to reduce the use of ODS. The project is expected to reduce ODS use by approximately 600 metric tons. The project deals with existing, industries using relatively small quantities of ODS. No major environmental impacts are anticipated. No resettlement is anticipated.

REPORTING SCHEDULE:

Category A environmental assessment: start-up date, date for first draft, and current status.
Category B: is there a separate environmental analysis? if yes, when is it due?
Not Applicable.

REMARKS:

Each sponsoring enterprise will be responsible for obtaining an environmental clearance for proposed technological changes for each subproject from GOP/ELG&RD. This clearance should be acceptable to the Bank since new environmentally friendly technology will be in accordance with international practices for the proposed technology change.

Signature and Date: Marilou, Uy SOD Division Chief, SA1PF	Signature and Date: Maritta Koch-Weser Division Chief, ASTEN
Initials and Date: Jitendra Shah Task Manger's Initials	Initials and Date: 12/17/96 Takashi Matsumura ASTEN Contact

ANNEX 5

COUNTRY DEPARTMENT SA1

Questionnaire Concerning Review of Bank-Implemented Montreal Protocol Investment Operations Experience, Bank Project Completion Reports, and OED Audits

Subsector: Bank-Implemented Montreal Protocol Investment Operations Small and Medium-Scale Enterprises

Region: South Asia

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1. How many Bank-Implemented Montreal Protocol investment operation reviews, Bank project completion reports, and OED audit reports have been done on projects in the same subsectors as the proposed project for the same country: two; the same region: nine; and for all countries worldwide: fifty-two.

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2. What are the main (at most three) technical design lessons learned from these reports?

(a) Technical support for industry is required; the availability of finance alone is not sufficient.
(b) Provision of technical assistance to the Financial Intermediary (FI) is necessary for efficient project processing.
(c) Information dissemination to increase awareness within the industry at all management levels, as well as within related organizations within the country is important to build capacity for project preparation.

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3. What are the main (at most three) policy and institutional design lessons learned from these reports?

(a) Sound policy development within the country is of paramount importance in developing a successful ozone-depleting substances (ODS) phase-out program.
(b) The development of a national phase-out strategy and action plan, including the establishment of local Ozone Desks are important.
(c) Institutional strengthening and training to develop local capacity is required for successful project implementation.

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4. How has the proposed project design benefited, if at all, from the above review of lessons learned?

(a) The grants for subprojects include funds for technical assistance to assist beneficiaries with technology transfer, design, safety, training and implementation.
(b) The project includes a technical assistance component for the financial intermediary.
(c) Workshops for industry have been arranged to build awareness and capacity for project preparation. The proposed investment project is only one part of a three-pronged effort to address ODS phase-out in Pakistan. The formulation of a country program and institution building within the country are being looked at by the country in conjunction with UNDP and other external agencies.

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5. If the design of the project is still at a very early stage how do you expect what you have learned from this review to affect your further work on, or design of the project?

Project preparation will reflect the above concerns.

ANNEX 6

PAKISTAN

Montreal Protocol Ozone Depleting Substances Phase-Out Project:

Analysis of Key Bank Operational Directives

1. Bank Policy / Best Practice: The operational policies, directives and procedures relevant to the proposed project are as follows:

(a)	OP 10.21	Investment Operations Financed by the Multilateral Fund for the Implementation of the Montreal Protocol
(b)	BP 10.21	Investment Operations Financed by the Multilateral Fund for the Implementation of the Montreal Protocol
(c)	OD 4.01	Environmental Assessment
(d)	OMS 2.36	Environmental Aspects of Bank Work
(e)	BP 17.50	Disclosure of Operational Information

2. Key Points of Operational Policies and Procedures Relevant to this Project:

A. Operational Policies

(a) Developing countries are eligible to receive grants from the Multilateral Fund for the Implementation of the Montreal Protocol (MFMP) if they have ratified the Montreal Protocol (MP), their annual per capita consumption of ozone-depleting substances controlled by the Protocol is less than 0.3 kilogram, and they meet any other criteria specified by the Parties to the Protocol.

(b) Agencies and companies within eligible countries may receive MFMP grants if they have the explicit support of the government.

(c) The MFMP funds only the agreed incremental costs of eligible activities.

(d) MFMP funds are channeled to recipients of Bank-implemented projects through the Ozone Projects Trust Fund, which is administered through the Bank.

B. Bank Procedures

(a) Bank procedures applicable to normal Bank lending or credits apply to Montreal Protocol investment operations except as stated in OP 10.21 and BP 10.21.

(b) In the case of free-standing Montreal Protocol operations, the project is approved by the CD director if the total project cost is less than $2.5 million, or by the RVP if the project costs are $2.5 million or more. In the latter case, the RVP approves the project and authorizes the CD director to sign the legal documents.

(c) All activities under the MP are required to be carried out in a transparent manner, in accordance with the Bank's procedures as detailed in BP 17.50.

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