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| 1. Project Data: | | Date Posted : 08/15/2002 | |
| PROJ ID: P004213 | | Appraisal | Actual |
| Project Name : Ozone Depleting Substances (ODS) Recycling Project | Project Costs (US\$M) | 1.63 | 1.60 |
| Country: Malaysia | Loan/Credit (US\$M) | 0 | 0 |
| Sector(s): Board: ENV - Other environment (100%) | Cofinancing (US\$M) | 1.63 | 1.60 |
| L/C Number: | | | |
| | Board Approval (FY) | | 92 |
| Partners involved : Montreal Protocol Ozone Trust Fund | Closing Date | 12/31/1994 | 12/31/2001 |
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| Prepared by : | Reviewed by : | Group Manager : | Group: |
| Elaine Wee-Ling Ooi | Andres Liebenthal | Alain A. Barbu | OEDST |
| 2. Project Objectives and Components | | | |
| a. Objectives | | | |
| The overarching objective of the project was to assist the government of Malaysia to meet its obligations under the Montreal Protocol (MP). The specific objectives were to provide financial and technical assistance to the government to: | | | |
| a) support the reduction of ODS consumption in mobile air-conditioning and fire extinguishers through recycling; and | | | |
| b) support efficient project implementation through institutional strengthening . | | | |
| b. Components | | | |
| i) <i>Mobile Air-Conditioning (MAC) subproject</i> (\$880,000): technical assistance (TA) and investment components to Department of Environment (DOE) to strengthen its capability to implement and monitor ODS phase-out projects; computerized data bases; training of trainers and 4,000 MAC technicians; public awareness campaigns; and acquisition of 120 sets of recycling and leak detection equipment for selected service stations . | | | |
| ii) <i>Halon Recycling subproject</i> (\$720,000): TA and investment components to the Fire Services Department (FSD) to strengthen its project implementation and monitoring capabilities; engineering services to start up 7 recovery/recycling units and training of personnel in their use; setting up of systems and training programs for control/recovery/recycling of Halon 1301; laboratory equipment to test the quality of recycled halon; acquisition of Halon 1211 recovery/recycling units for installation at 50 fire stations and one central location; and acquisition of one Halon 1301 recycling and storage unit. | | | |
| Component ii) was re-designed and its main activities became the contracting of a private company to establish and operate Malaysia Halon Bank (MHB); the maintenance of an inventory of Halon users; public awareness and the preparation and dissemination of information on halon alternatives; and the training of officials from FRD, DOE and the Customs Department. | | | |
| c. Comments on Project Cost, Financing and Dates | | | |
| The project received grant funding from the Ozone Trust Fund (OTF) for the amount of \$1.63 million. The project was extended by 7 years due primarily to the performance of the Halon subproject which was affected by the general lack of knowledge then of ODS markets and technologies; and overestimation of client capacity . | | | |
| 3. Achievement of Relevant Objectives: | | | |
| The objectives of the project were partially achieved after the prolonged project extension by 7 years. | | | |
| a) <i>reduce ODS consumption in MAC and fire extinguishers through recycling</i> : achieved. An approximate drop in consumption of 200-350 tons of CFC 12 in MAC (against 250 tons at appraisal) and 200 units (versus 130 at appraisal) of CFC recovery/recycling (R/R) machines were installed in service stations . ICR also reported a drop in demand of 900 ozone depleting potential (ODP) tons of halons. | | | |
| b) <i>support efficient project implementation through institutional strengthening</i> : partially achieved. Notwithstanding the lack of client experience, the absence of a legal framework and to a lesser degree, appropriate financing mechanisms in the project design, negatively affected project outcome . Overall CFC recycling targets were met but service stations were not sufficiently motivated to invest in non CFC technology . The Halon subproject was even more negatively affected and had to be re-designed - but the attempt to use a private contractor to operate the Halon | | | |

Bank was not feasible without the proper regulation. The situation improved with the enactment of the Halon Management Regulation in 2000 and the reassignment again of FRD to manage the MHB. Overall, DOE was considerably strengthened by the project and there appeared to be no significant implementation issues for the MAC component. However only 250 MAC technicians were trained against 4,000 targeted. Capacity development of FRD was achieved late in the project.

4. Significant Outcomes/Impacts:

- Enactment of the Halon Management Regulation in 2000 and the Refrigeration Management Regulation in 1999. Both will contribute to subsequent ODS phase out initiatives in the country and in particular, the follow on National CFC Phase out project approved in 2001.
- Organizational infrastructure put in place in FRD to manage the subsequent phase out of Halons - establishment of MHB and a halon data base.

5. Significant Shortcomings (including non-compliance with safeguard policies):

- Inappropriate project design characterized by the lack of regulatory framework to support achievement of project objectives and overly tight implementation period (2 years) which did not take into account the inexperience of clients (to Bank procedures and overall ODS management).
- Implementation problems and delays necessitated project extension by 7 years.
- Private sector participation in the redesigned Halon component was not achieved.
- 250 MAC technicians were trained against 4,000 targeted at appraisal
- Capacity development of FRD was achieved late in the project and it is unclear how adequately the training provided to the FRD and customs officials supported the reduction of halon demand.
- It was not established in the ICR how significant was the reduced demand for 900 ODP tons of Halon 1211 in the overall context of halon reduction, especially when the Borrower had given high priority to the recycling of Halon 1301 (ICR 4.1)
- Government did not meet its 2000 ODS phase out schedule.

| 6. Ratings: | ICR | OED Review | Reason for Disagreement /Comments |
|----------------------------|--------------|-------------------------|---|
| Outcome: | Satisfactory | Moderately Satisfactory | This was not a particularly difficult or complex project yet it was only able to partially achieve its objectives after an extension of 7 years. In addition to shortcomings in section 5, it is likely that the institutional building achievements benefited from other ODS projects in the country. The modest efficacy and efficiency ratings of the project lead to a moderately satisfactory outcome rating |
| Institutional Dev.: | Modest | Modest | |
| Sustainability: | Likely | Likely | |
| Bank Performance: | Satisfactory | Satisfactory | Performance was marginally satisfactory. The poor project design could be partly explained by the lack of overall global experience with ODS projects. There did not appear to be any supervision from 1992-1995, even when original project completion date was 1994. |
| Borrower Perf.: | Satisfactory | Satisfactory | Performance was marginally satisfactory, due to inexperience and low capacity of implementation agencies. Borrower commitment however was high throughout the project. |
| Quality of ICR: | | Satisfactory | |

NOTE: ICR rating values flagged with '*' don't comply with OP/BP 13.55, but are listed for completeness.

7. Lessons of Broad Applicability:

- Bank procedures for OTF assistance should be reviewed to ensure simpler and faster processing in order that ODS phase out obligations of MP signatory countries could be met.
- Appropriate regulatory framework and raising of public awareness to support such regulations are necessary to support ODS phase out activities
- Financial subsidies for recycling CFC machines and training in the handling of non CFC technology should be provided to service stations.

8. Assessment Recommended? ☐ Yes ☒ No

9. Comments on Quality of ICR:

- The quality of the ICR is marginally satisfactory, mainly because it does not discuss how this project fitted in with and contributed to the larger context of ODS phaseout in the country . The ICR should have assessed the efficacy of the project as an instrument to assist the country to meet its obligations under the MP (as specified in the Country Program), inter alia, by providing adequate statistical information on the outcomes and impacts of the project in relation to the schedule for ODS phase out, and the status of, and results from, the MP compliance verification process. Also given the global nature of the ODS problem, and the limited grant funds available to address them, it would have been useful for the ICR to include a discussion of the project's cost effectiveness, including comparison with MP thresholds and other ODS projects . The discussion of the Halon subproject could have also been more thorough with respect to its revised targets . It would also have been useful for the ICR to have attached Borrower comments, in view of implementation problems that were faced .