ICR Review
Operations Evaluation Department

Report Number : ICRR10228

1. Project Data :	
OEDID:	L3258
Project ID :	P009885
Project Name :	Second Petrochemical Development Project
Country:	India
Sector:	Fertilizer & Other Chemicals
L/C Number:	L3258/L3259
Partners involved :	None
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2. Project Objectives, Financing, Costs and Components :

The major objectives of the project were to: a) expand capacity at the Indian Petrochemical Corporation Ltd (IPCL)'s two petrochemical complexes, through investments in new plants, revamping and modernization; b) import polymers for market seeding in anticipation of domestic production; and, c) improve efficiency and quality of downstream plastic products through strengthening the institutional capacity of the Central Institute of Plastic Engineering and Technology (CIPET) to respond effectively to the needs of small and medium size private plastic processors in India . In addition, the project aimed at improving the incentive framework of the petrochemical sector through agreements on adequate pricing of C2/C3 (Ethane and Propane- the gas feedstocks), periodic reviews of sector investment programs and minimum economic scale criteria for granting capacity licenses, and a study of the synthetic fiber industry. Two loans totaling US$ 245 million were approved for this project in FY91. At closing, an aggregated amount of US$87.7 million had been canceled in four tranches. The actual project cost was US$235.7 million or only around 40% of the US$587 million estimated at appraisal. This large difference is attributable to the exclusion of two smaller plants, revamping of an existing plant to increase capacity instead of installing a new unit, lower duties on imported capital goods, lower polymer import and lower working capital requirements .

3. Achievement of Relevant Objectives :

The implementation of the project coincided with the introduction of far reaching economic reforms starting in June 1991. The petrochemical sector, therefore, benefited from the new economic framework which aimed at significantly opening up the economy to foreign trade and investment, rationalizing the tax regime, and increasing competition by removing administrative bottlenecks to entry and capacity increases . The major investments planned by IPCL were implemented, although important changes occurred in design and the cost of the project . The project's completion was delayed on account of late government approvals and the belated start of expansion work at Nagothane where the construction of the first gas- cracker was still in progress. The market seeding program introduced new polymers to the Indian market. CIPET was successful in upgrading its capabilities and responding to the rapidly growing needs of the small and medium size private plastic processors for manpower training, design, testing, quality control and advisory services. The project was less successful in achieving its sector policy objectives, though the economic reforms, such as the removal of administrative bottlenecks, made some of them moot . The Synthetic Fiber Industry study exposed the inefficiency of the domestic fiber industry and its inability to compete internationally . This helped the GOI in its efforts to rationalize the sub-sector. The environmental objectives of the project have also been substantially met, though more attention needs to be given to bringing the wastewater quality at the acrylonitrile plant at Vadodara to the standard level.

4. Significant Achievements :

The project achieved its physical objectives by expanding capacity for the production of basic and intermediate petrochemical products, at both IPCL complexes, at a substantially lower cost than anticipated at appraisal . The institutional performance at CIPET shows very positive developments which exceed the expectations at appraisal . CIPET is currently 60-65% self-sufficient in its budgeting, hoping to become completely self-supporting in four to five years

5. Significant Shortcomings :

Despite the general improvement in India's economic framework in recent years and its salutary effects on the petrochemical sector, the only serious policy objective of maintaining the price of C 2/C3 feedstock in relation to its opportunity cost was not realized. By keeping the nominal price of C2/C3 at around that agreed at appraisal, the GOI failed to correct it in the face of inflation and substantial devaluation of the Rupee. As a result, the real price of C2/C3 fell steadily to an estimated 50-60% by 1998.

6. Ratings:	ICR	OED Review	Reason for Disagreement /Comments
Outcome:	Satisfactory	Satisfactory	
Institutional Dev.:	Substantial	Substantial	
Sustainability:	Likely	Likely	
Bank Performance:	Satisfactory	Satisfactory	
Borrower Perf.:	Satisfactory	Satisfactory	
Quality of ICR:		Satisfactory	

7. Lessons of Broad Applicability:

The major lessons are: a) subsector reforms are more likely to succeed when distortions of the economy are corrected; b) pricing covenants should always state the principles on which they are based and should provide for formal periodic reviews; c) all government approvals should become a condition for Board presentation; d) expansion investments should not be approved until the production in the existing plant has started; and, e) for expansion projects, direct contracting or possibly limited international bidding (LIB) procurement could be considered to accommodate the process licensors' recommendations and specific needs for standardization.

8. Audit Recommended? ○ Yes ● No

9. Comments on Quality of ICR:

The ICR provides a candid and detailed account of the achievements of this project, all supported by relevant data and tables. Though the ICR is devoid of an Aide-Memoire, the borrower's contribution is comprehensive and informative. The ICR documents well its assumptions for the ex-post cost benefit analysis. It also contains two very useful annexes: one dealing with the environmental achievements and the remaining issues, and the other, with the unresolved policy issues in the subsector that need attention