ASIAN DEVELOPMENT BANK
Operations Evaluation Department

PROJECT PERFORMANCE EVALUATION REPORT

IN

INDIA

In this electronic file, the report is followed by Management's response.

Performance Evaluation Report

Project Number: PPE: IND 29062
Loan Numbers: 1480/1481-IND
September 2006

India: Private Sector Infrastructure Facility

Operations Evaluation Department

Asian Development Bank

CURRENCY EQUIVALENTS

Currency Unit – Indian rupee/s (Re/Rs)

		At Appraisal (16 Sep 1996)	At Project Completion (16 May 2002)	At Operations Evaluation (March 2006)
Re1.00	=	$0.0282	$0.020	$0.023
$1.00	=	Rs35.50	Rs48.99	Rs43.97

ABBREVIATIONS

ADB	–	Asian Development Bank
ALM	–	asset liability management
BME	–	benefit monitoring and evaluation
BOT	–	build-operate-transfer
BSNL	–	Bharat Sanchar Nigam Limited
CAR	–	capital adequacy ratio
CDMA	–	code division multiple access
CEA	–	Central Electricity Authority
DST	–	debenture securitization trust
EBITDA	–	earnings before interest, tax depreciation and amortization
EIRR	–	economic internal rate of return
FIRR	–	financial internal rate of return
FX	–	foreign exchange
FY	–	fiscal year
GDP	–	gross domestic product
GOG	–	government of Gujarat State
GOHP	–	government of Himachal Pradesh
GSM	–	global system for mobile communication
HPSEB	–	Himachal Pradesh State Electricity Board
ICICI	–	Industrial Credit and Investment Corporation of India Limited
IEI	–	Innovation and Efficiency Initiative
IFCI	–	Industrial Finance Corporation of India Limited
KERC	–	Karnataka Electricity Regulatory Commission
KPTCL	–	Karnataka Power Transmission Corporation Limited
LIBOR	–	London interbank offered rate
MOEF	–	Ministry of Environment and Forests
MOF	–	Ministry of Finance
NCD	–	non-convertible debenture
NHAI	–	National Highways Authority of India
NPL	–	nonperforming loan
OED	–	Operations Evaluation Department
OEM	–	Operations Evaluation Mission
PCR	–	project completion report
PCU	–	passenger car unit
PFI	–	participating financial intermediary
PLF	–	plant load factor
PLR	–	prime lending rate
PPA	–	power purchase agreement
PPER	–	project performance evaluation report
PPP	–	Public-Private Partnership
PSIF	–	Private Sector Infrastructure Facility
PTC	–	pass-through certificate
RBI	–	Reserve Bank of India
RRP	–	report and recommendation of the President
SCICI	–	SCICI Limited
SLR	–	statutory liquidity ratio
TA	–	technical assistance
TNEB	–	Tamil Nadu State Electricity Board
TNPCB	–	Tamil Nadu Pollution Control Board

WEIGHTS AND MEASURES

kl	–	kilo-liter
km	–	kilometer
m	–	meter
m^2	–	square meters
mt	–	million tons
MU	–	million units
MW	–	megawatt

NOTES

(i) The fiscal year (FY) of the Government ends on 31 March. FY before a calendar year denotes the year in which the fiscal year ends, for example, FY2000 ends on 31 March 2000.

(ii) In this report, "$" refers to US dollars.

Key Words

asian development bank, development effectiveness, performance evaluation, private sector infrastructure facility, credit line, public-private partnership, indian corporate debt market

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CONTENTS

The guidelines formally adopted by the Operations Evaluation Department on avoiding conflict of interest in its independent evaluations were observed in the preparation of this report. The fieldwork was undertaken by international consultants: Shubhranshu Patnaik (power expert), Arpita Pal Agarwal (telecommunications expert), and Vishwas Udgirkar (transport expert) under the guidance of the mission leader. To the knowledge of the management of the Operations Evaluation Department, there were no conflicts of interest of the persons preparing, reviewing, or approving this report.

BASIC DATA

Loans 1480 and 1481-IND: Private Sector Infrastructure Facility

	Loan 1480-IND		Loan 1481-IND	
	As per ADB Loan Documents	Actual	As per ADB Loan Documents	Actual
Key Project Data ($ million)				
ADB Loan Amount/Utilization	150.0	150.0	100.0	62.5
ADB Loan Cancellation				37.5
Key Dates	**Expected**	**Actual**	**Expected**	**Actual**
Fact-Finding		6 May 1995		6 May 1995
Appraisal		11 Aug 1995		11 Aug 1995
Loan Negotiations		1 Oct 1996		1 Oct 1996
Board Approval		7 Nov 1996		7 Nov 1996
Loan Agreement		14 Aug 1997		14 Aug 1997
Loan Effectiveness	13 Nov 1997	25 Sep 1997	13 Nov 1997	26 Sep 1997
First Disbursement		29 Oct 1997		1 Dec 1997
Loan Closing	26 Sep 2002	13 Nov 2001	27 Sep 2002	16 May 2002

ADB = Asian Development Bank.

BORROWERS: Industrial Credit and Investment Corporation of India Ltd. (later, ICICI Bank) (Loan 1480-IND)
Industrial Finance Corporation of India Ltd. (IFCI) (Loan 1481-IND)

GUARANTOR: Government of India

MISSION DATA:

Type of Mission	No. of Missions	No. of Person-Days
Consultation	1	9
Fact-Finding	1	42
Appraisal	1	60
Project Administration		
- Inception (Contact)	1	12
- Review	3	40
- Project Completion	1	2
- Operations Evaluation	1	53

EXECUTIVE SUMMARY

On 7 November 1996, the Asian Development Bank (ADB) approved the Private Sector Infrastructure Facility (PSIF) in India, covering Loan 1480-IND to Industrial Credit and Investment Corporation of India Limited (ICICI) for $150 million, and Loan 1481-IND to Industrial Finance Corporation of India Limited (IFCI) for $100 million. The main purpose of the PSIF was to facilitate private sector participation in the infrastructure sector, which was critically needed to augment limited public sector resources. The secondary purpose was to promote the development of a secondary market in debt securities. PSIF proceeds financed the purchase, by ICICI and IFCI, of long-term debt securities (or securitized debts) issued by qualified private sector enterprises for subprojects in the power, roads, ports, and telecommunications subsectors.

ICICI fully utilized the PSIF to finance six subloans for subprojects (3 power, 1 road, and 2 telecommunications) totaling $150 million. The loan closed on 13 November 2001. At the merger of ICICI with ICICI Bank in March 2002, ADB approved the transfer of liabilities and obligations under Loan 1480-IND from ICICI to ICICI Bank, the surviving entity. IFCI utilized the PSIF to finance five subloans for subprojects (4 power and 1 port) totaling $62.5 million. The loan closed on 16 May 2002. Of the five subprojects, two were also financed by ICICI under the PSIF. IFCI could not fully utilize the PSIF, primarily because, from 2001, it could not meet the requirement of the Reserve Bank of India of a minimum capital adequacy ratio of 9%, due to deterioration of its portfolio performance. Ten of the 11 subloans under the PSIF were prepaid after the commencement of subproject operations, because the subborrowers found alternative means of financing.

Loan 1480-IND is rated relevant as the (i) assessment of issues and opportunities at appraisal was appropriate; (ii) the targeted impact, outcome, and outputs were consistent with the Government's development priority and ADB's country operational strategy; (iii) the modality and design in achieving the primary purpose of private sector participation in infrastructure development was appropriate; and (iv) selection of ICICI as a participating financial intermediary (PFI) was appropriate. It could have been rated highly relevant if the modality had also been appropriate in achieving the secondary purpose of corporate debt market development. These assessments are largely applicable to Loan 1481-IND as well, with the exception of the adequacy of IFCI appraisal. The Operations Evaluation Mission (OEM) finds that ADB should have paid more attention to IFCI's nonperforming loan ratio, which exceeded 10% when the PSIF was approved. For this reason, Loan 1481-IND is rated partly relevant.

Loan 1480-IND is rated effective in view of the (i) full utilization of the PSIF; (ii) satisfactory achievement by the subprojects of production and/or revenue targets, and significant demonstration effects regarding promotion of private sector participation in infrastructure projects; and (iii) marginal contribution to development of the corporate debt market. Loan 1481-IND is rated partly effective in view of the underutilization of the PSIF, despite the satisfactory production and/or revenues achieved by all the subprojects.

Loan 1480-IND is rated efficient on the basis that (i) two power subprojects were highly efficient, and the third was efficient; and (ii) one telecommunication subproject was partly efficient, and the second inefficient. Updated information is not available for the road subproject. Loan 1481-IND is rated efficient on the basis that (i) two power subprojects were highly efficient, and (ii) two additional power subprojects and the port subproject were efficient.

Loan 1480-IND is rated likely sustainable on the basis that the outcomes of the three power subproject are likely to be sustained. The OEM could not assess the sustainability of the road subproject and one of the telecommunications subprojects due to data constraints. The operating entity of the other telecommunication subproject was subsequently acquired by a competitor. Loan 1481-IND is rated likely sustainable on the basis that the outcomes of all the subprojects are either mostly likely or likely to be sustained.

On the basis of the above, the overall rating of Loan 1480-IND is successful and that of Loan 1481-IND is partly successful.

The report identified the following key lessons and policy implications for ADB operations:

(i) The timeliness and complementarities of ADB's operations were key factors in the success of the PSIF, which was a pioneering project with a broad primary objective (facilitating private sector participation in infrastructure development).

(ii) India's Ministry of Finance (MOF) observed that the time spent by ADB in reviewing environmental and social impact assessment reports, prior to approval of subloans, was in some cases excessive. Given the relatively stringent environmental and social guidelines now in place in India for infrastructure projects, ADB may consider shifting its focus from at-entry assessments to compliance with the guidelines during implementation. Such a shift may enhance the value of ADB credit lines.

(iii) Benchmark floating interest rates have not yet been fully established in India. Most subloans were prepaid during and after the period when domestic interest rates were decreasing. Had floating interest rate lending been more actively used, prepayments under the PSIF might have been reduced.

(iv) Under the PSIF, ADB loans were denominated in dollars. However, all the subloans were denominated in rupees, despite the fact that the PSIF aimed primarily to finance the foreign exchange costs of subprojects. While this was not the case for the PSIF, such a currency mismatch may constrain the usefulness of a credit line, depending on the availability of hedging instruments and the asset–liability management capability of financial intermediaries. The local currency loan product, newly introduced by ADB under the Innovation and Efficiency Initiative (IEI) reforms, would offer a solution to avoid such currency mismatches.

(v) Under the PSIF, only 20% of the subloan could be utilized for financing the local currency costs of power and telecommunication subprojects. Due to this restriction, IFCI could not fully utilize one of the approved subloans. With IEI in place, ADB can now offer more flexibility in cost-sharing arrangements, and expand the list of eligible expenses it can finance.

(vi) MOF now considers the credit facilities covered under the Government guarantee, such as PSIF, as no longer consistent with present government policy on public-private partnerships. This should be considered by ADB in formulating PSIF III, which is listed in the Country Strategy and Program Update 2006–2008. Strengthening of ADB's capacity in subsovereign and nonsovereign public sector financing, as envisaged under IEI, would be essential in responding to the changing environment and clients' needs in India.

(vii) Credit line loan agreements should clarify the benefit monitoring and evaluation of subprojects which had already paid back the loans.

No specific follow-up actions were identified for the Borrowers or for ADB.

Bruce Murray
Director General
Operations Evaluation Department

MAP


INDIA
PRIVATE SECTOR INFRASTRUCTURE FACILITY
(as implemented)
PAKISTAN
PEOPLE'S REPUBLIC OF CHINA
NEPAL
BHUTAN
BANGLADESH
SRI LANKA
INDIAN OCEAN
Arabian Sea
Bay of Bengal
Gulf of Cambay
HIMACHAL PRADESH
PUNJAB
HARYANA
UTTARANCHAL
DELHI
RAJASTHAN
UTTAR PRADESH
BIHAR
JHARKHAND
WEST BENGAL
SIKKIM
ARUNACHAL PRADESH
ASSAM
MEGHALAYA
NAGALAND
MANIPUR
TRIPURA
MIZORAM
MADHYA PRADESH
CHHATTISGARH
GUJARAT
MAHARASHTRA
GOA
ANDHRA PRADESH
ORISSA
KARNATAKA
TAMIL NADU
KERALA
P-1-CF
P-2-CF
P-3-C
P-4-F
P-5-F
TR-2-F
Amritsar
Jalandhar
Ambala
Dehra Dun
Bikaner
Ballabhgarh
Mathura
Agra
Lucknow
Gorakhpur
Raxaul
Jaisalmer
Jaipur
Gwaitdor
Udaipur
Barmer
Jhansi
Allahabad
Patna
Purnea
Varanasi
Barhi
Gandhinagar
Ahmedabad
Bhopal
Jabalpur
Ranchi
Panagarh
Kolkata
Bangaon
Vadodara
Rajkot
Jessaimer
Lakhnadon
Kharagpur
Haldia
Chittagong
Surat
Porbandar
Raipur
Nagpur
Paradip
Dhule
Bhubaneswar
Nasik
Mumbai
Ramagundam
Pune
Vizianagaram
Shakhapatnam
Natavalesa
Visakhapatnam
East Godavari
West Godavari
Anahapalle
Sholapur
Hyderabad
Satara
Belgaum
Hubli
Vijayawada
Krishna
Guntur
Panaji
Ankola
Chitradurg
Prakasam
Tumkur
Chennai
Mangalore
Bangalore
Salem
Nagappattinam
Pondicherry
Calicut
Cuddalore
Coimbatore
Edapally
Dindigul
Alappuzha
Madurai
Rameshwaram
Palk Strait
Thiruvananthapuram
Tuticorin
Kollam
Kanniya Kumari
Along
Itanagar
Gangtok
Darjiling
Siliguri
Guwahati
Dispur
Kohima
Shillong
Silchar
Dalu
Agartala
Aizawal
Chittagong-Agartala Corridor
To Lahore (Pakistan)
To Kathmandu (Nepal)
75°00'E
85°00'E
25°00'N
10°00'N
N
0 100 200 300
Kilometers
Locations of Subprojects
Power/Port
Thermal Power Plant (P-1-CF, P-3-C, P-4-F)
Hydropower Plant (P-2-CF, P-5-F)
Port (TR-2-F)
Road/Telecom
Bypass Road (TR-1-C)
Fixed and Mobile Telephone Service (TE-1-C)
Mobile Telephone Service (TE-2-C)
National Capital
State Capital
City/Town
International Airport
Domestic Airport
Port
National Road
Railway
River
State and Union Territory Boundary
International Boundary
Boundaries are not necessarily authoritative.
06-2581 RM

I. INTRODUCTION

A. Evaluation Purpose and Process

1. On 7 November 1996, the Asian Development Bank (ADB) approved the Private Sector Infrastructure Facility (PSIF) in India.[1] The PSIF covered Loan 1480-IND to Industrial Credit and Investment Corporation of India Limited (ICICI) for $150 million, Loan 1481-IND to Industrial Finance Corporation of India Limited (IFCI) for $100 million, and Loan 1482-IND to SCICI Limited (SCICI)[2] for $50 million. Pursuant to the merger of SCICI with ICICI, ADB approved the cancellation of the loan to SCICI in April 1997. ADB's Operations Evaluation Department (OED) selected PSIF as part of the annual random sample of completed projects for performance evaluation. This project performance evaluation report (PPER) was prepared by the Operations Evaluation Mission (OEM) that visited India from 9 to 27 March 2006. The evaluation draws upon a review of PSIF documents and other relevant studies, and discussions between OEM members and representatives of the two participating financial intermediaries (PFIs), Ministry of Finance (MOF), selected subborrowers, and other stakeholders. It also incorporates the results of the OEM's field inspections of selected subprojects. The draft PPER was shared with the ADB departments and offices concerned and those of the Borrowers and the Guarantor of the PSIF, and their views have been incorporated as appropriate.

2. In September 2003, the project completion report (PCR) rated the PSIF as successful, and assessed the PSIF as relevant, as it appropriately addressed structural weaknesses in infrastructure and public finances in India. The PCR did not indicate the efficacy rating, but concluded that the PSIF substantially achieved its immediate objective of promoting private sector participation in infrastructure by promoting private financing, and only partly achieved its secondary objective of promoting the corporate debt market. The PCR assessed the PSIF as efficient on the basis that (i) all nine subprojects were funded through debt securities at market-related interest rates, and each of the subprojects appeared financially viable; and (ii) ADB's investment of $212.5 million catalyzed investment of $2.05 billion. The PCR indicated that the PSIF outcomes were likely to sustain, but noted the mixed performance of the PFIs. The PCR gave a positive assessment of the PSIF's poverty reduction impact, taking into account its contribution to (i) economic growth through removal of impediments to infrastructure development, (ii) job creation and income generation, (iii) improved service quality through private infrastructure operations, and (iv) the opportunity cost of government expenditures (which were freed for social sector investments).

3. The OEM found that the PCR assessment was generally objective. However, as the PCR did not contain sufficient information on the nine subprojects, which began operations during January 2000 to June 2003, the OEM focused instead on the subprojects' performance. OEM was constrained by a lack of access to information, because eight of the nine subborrowers prepaid the subloans to the PFIs prior to the OEM. For this reason, the PFIs lacked sufficient updated data on the subprojects; some subborrowers were reluctant to share the information with the OEM.[3] Consequently, the OEM was unable to adequately assess the operational performance of one subproject. The OEM otherwise accomplished the task largely as planned, based on data offered directly by those subborrowers that participated in OEM

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[1] ADB. 1996. *Report and Recommendation of the President to the Board of Directors on Three Proposed Loans for the Private Sector Infrastructure Facility Project in India*. Manila.

[2] A project finance affiliate of ICICI. SCICI Limited was the formal name adopted in 1992; formerly it was the Shipping Credit and Investment Company of India Limited.

[3] Five subborrowers accepted and two rejected OEM interviews. Of the remaining two subborrowers, (i) one had merged with a competitor; and (ii) the other remained a subborrower, and the PFI thus had updated data.

interviews and/or the information from PFIs, supplemented by data from publicly accessible databases.

4. This report evaluates Loans 1480-IND and 1481-IND based on the following criteria and subcriteria, which were adopted from the *Guidelines for Preparation of PPERs of Public Sector Operations*.[4]

(i) Relevance:
  (a) Adequacy of the assessment of issues and opportunities at the time of project appraisal.
  (b) Consistency of the targeted impact, outcome, and outputs of the PSIF with the Government's development strategy, ADB's strategy and program for the country, and ADB's strategic objectives.
  (c) Appropriateness of modality of ADB's assistance, project design (including project purposes and scope, selection of financial intermediaries, and subproject criteria), and implementation arrangements.

(ii) Effectiveness:
  (a) PFIs' utilization of the PSIF, and catalytic roles that subloans played in mobilizing funds.
  (b) Operational performance of subprojects and their contributions to the promotion of private infrastructure projects, including their demonstration effects.
  (c) PSIF's contribution to the development of the long-term debt market, including their demonstration effects.

(iii) Efficiency:
  (a) Subprojects' contributions to the improved economic efficiency of the country.
  (b) Subprojects' spill-over effects to improve efficiency of public sector projects.

(iv) Sustainability:[5]
  (a) Adequacy in demand for subprojects' outputs.
  (b) Appropriateness in pricing of subprojects' outputs.
  (c) Financial viability of subprojects' operating entities.
  (d) Financial internal rate of return of subprojects.
  (e) Availability of continued funding to maintain proper operations and maintenance of subprojects.
  (f) Appropriateness of the policy and institutional environment to maintain proper operations of subprojects.
  (g) Appropriateness of policy and institutional environment to maintain PSIF achievements in the area of the capital market development.
  (h) Environmental, social, technological, and natural resource risks of subprojects.

[4] ADB 2006. *Guidelines for Preparation of PPERs of Public Sector Operations*. Manila.

[5] In view of PSIF's main purpose of emphasizing the subproject achievements, PFIs' financial viability is not considered in the sustainability criteria, but discussed separately in the section on institutional impact. Unlike credit lines for small and medium enterprises that involve many subloans and include elements of institution building, the PSIF covered only 11 large subloans (each exceeding $7 million) covering 9 subprojects and had no capacity building component. All subloans except one have been repaid. Thus the PPER focuses on analysis at the subproject level.

B. Expected Results of the Project

5. The main purpose of the PSIF was to facilitate private sector participation in the infrastructure sector in India, which was critically needed to augment limited public sector resources. The secondary purpose was to promote the development of a secondary market in debt securities. To achieve these purposes, PSIF proceeds were intended to finance PFIs' purchase of long-term debt securities (or securitized debts) issued by qualified private sector enterprises for subprojects in the power, roads, ports, and telecommunications subsectors.

6. Under the PSIF, qualified subprojects in the power subsector were (i) to be located in states that undertook, or were in the process of undertaking, restructuring measures; (ii) not to exceed 500 megawatts (MW) power generation capacity; and (iii) to be assured priority, if such qualified projects related to power plants that would benefit multiple rather than single users. Where state electricity boards were involved in joint ventures with private sponsors, or purchased not less than 60% of the power generated by such private sponsors in the concerned state, the state electricity boards were to satisfy a minimum performance requirement of 3% return on net assets. Qualified subprojects in the telecommunication subsector were to service users, and be substantially located, in non-metropolitan centers. Qualified subprojects in the road subsector were to (i) encompass construction or repair and modernization of bypasses, bridges (and roads thereon), elevated roads and, if appropriate, selected expressways within a state (or portions thereof); and (ii) be, wherever possible, small- to medium-scale projects. Qualified subprojects in the port subsector were to support (i) establishment of independent facilities for ship repair, dry dock, warehousing, storage, and cargo handling; and (ii) privatization of ports and terminal facilities.

II. DESIGN AND IMPLEMENTATION

A. Formulation

7. During ADB's 1994 Annual Meeting, discussions were held between ADB and SCICI with regard to jointly sponsoring a "Seminar on Private Investment in Infrastructure". The seminar was held in Bombay, New Delhi and Bangalore in August 1994. In conjunction with the seminar, ICICI requested ADB provide a credit facility for onlending to infrastructure projects in India's private sector. In response, ADB fielded loan processing missions between January and August 1995. During appraisal, ICICI, SCICI, and IFCI confirmed their participation in the credit facility. The loan negotiation was conducted in September–October 1996, 10 months later than scheduled at appraisal. The delay reflected the lengthy negotiation process for setting the guarantee fee paid to the Government by PFIs under the PSIF.

8. ADB approved the PSIF on 7 November 1996; no technical assistance (TA) grant was attached. The loan agreements with ICICI and IFCI and the guarantee agreements with the Government were finalized in August 1997, and the loans to ICICI and IFCI became effective on 25 September 1997 and 26 September 1997, respectively.

B. Rationale

9. The Expert Group on the Commercialization of Infrastructure Projects, which was appointed by the Government in 1995 to enhance the role of private sector in infrastructure development, released a report in June 1996 estimating the total investment requirement for

infrastructure to be approximately $330 billion–$345 billion for the coming decade, which served to justify the PSIF.

10. At the time of the PSIF appraisal, India's policy, regulatory, and institutional framework required concerted effort and interface between the public and private sectors to promote private sector participation in infrastructure development. This consideration was reflected in the sectoral criteria (para. 6) under the PSIF. Moreover, it was expected that individual subprojects supported by the PSIF would provide the basis for dialogue and additional policy reform and improve the private sector participation framework over time.

11. ADB's Country Operational Strategy in India,[6] circulated to the Board in July 1996, identified the need for a concerted effort and interface between the public and private sectors in order to achieve significant progress in infrastructure development. The strategy prioritized assistance for energy, transport, communications, and urban infrastructure. ADB approved the PSIF in November 1996 in the midst of (i) liberalization of various subsectors within the infrastructure sector, and (ii) the creation of an enabling environment for private sector participation. The PSIF was expected to bolster Government initiatives to promote private sector participation in infrastructure development, attract private capital through long-term debt financing, and promote a policy dialogue establishing an appropriate regulatory framework.

C. Cost, Financing, and Executing Arrangements

12. Under the PSIF, ICICI and IFCI were the Borrowers of Loans 1480-IND and 1481-IND, respectively (Appendixes 1 and 2). The Government of India guaranteed the repayments and interest payments of the Borrowers to ADB. At appraisal, projects eligible for PSIF in ICICI's pipeline totaled around $16 billion, of which ICICI was to take up about 13%. Projects in IFCI's pipeline totaled around $2 billion, of which IFCI was to take up about 13%.

13. Direct and indirect foreign exchange (FX) costs of the goods, service, and civil works required for projects in the power, telecommunications, roads, and ports subsectors were eligible for subloans under the PSIF. Subject to sector limits,[7] a portion of the loan proceeds could also be utilized for financing the local currency costs of eligible subprojects. The key subloan financing criteria included: (i) the amount of each subloan was not to exceed a maximum of 30% of the total subproject cost, subject to a maximum of $75 million; and (ii) each subloan was to finance only the issuance, by a qualified enterprise, of long-term debt securities (or securitized debts).

14. Each eligible subborrower was to (i) maintain at least 51% private sector ownership, (ii) be in a satisfactory financial condition, (iii) comply with federal and state environmental laws and regulations, and (iv) have entered into underlying infrastructure concessions and/or license agreements providing for satisfactory cost adjustment and escalation. All subloans to be financed under the PSIF were to be subject to ADB's prior approval.

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[6] ADB. 1996. *The Bank's Operational Strategy in India*. Manila.

[7] This includes (i) 70% of the amount of financing extended by ADB for subprojects in the roads and ports subsectors, and (ii) 20% of the amount of the financing extended by ADB for subprojects in the power and telecommunications subsectors.

15. The market-based loan window[8] was applied to the interest rate of Loan 1480-IND and Loan 1481-IND, which were disbursed in dollars. Market interest rates were to be applied to subloans. The loan agreement did not specify a currency (or currencies) for subloans, while it stipulated "the Borrower shall at all times make adequate provision to protect itself against any loss resulting from changes in the rate of exchange between rupees and the currency or currencies in which the Borrower's outstanding money obligations will have to be met." A commitment charge of 0.75% per annum was to accrue on the increasing portions of the loans (less amounts withdrawn from time to time) provided in the Loan Agreements.[9] The guarantee agreements (between the Government and ADB) did not indicate the guarantee fee to be paid by PFIs to the Government.[10]

D. Procurement and Scheduling[11]

16. No deviation was observed in the international competitive bidding procedures, undertaken in accordance with ADB's *Guidelines for Procurement* for contracts involving supply and installation of equipment amounting to $10 million or more, and civil works amounting to $20 million or more. In the case of a build-operate-transfer (BOT) project and its variants, the project sponsor or engineering, procurement, and construction contractor (if selected through competitive bidding among international entities in accordance with procedures acceptable to ADB), might apply its own procedures for procurement, provided that such procurement would be for goods and works from, or procured in, ADB member countries.

17. The closing dates for submission of an application for ADB subproject approval were to be 4 years, and for disbursement, 5 years from the date of loan effectiveness. The ADB loan had a maturity of 20 years (with a grace period of 5 years), while the maturity periods for subloans were to be 15–20 years (with a grace period of 5 years). As per the loan agreements, PFIs were to be able to utilize the proceeds received from disposition of debt instruments funded under the PSIF, or the revolving fund, to purchase debt instruments issued by eligible enterprises for eligible subprojects.

E. Design Changes

18. Of the total $150 million loan to ICICI under the PSIF, $5 million was initially set aside as the project development facility for ICICI capacity building. Likewise, of the total $100 million loan to IFCI, $3 million was set aside for this purpose. However, ICICI and IFCI subsequently cancelled the facilities, and the corresponding amounts were reallocated to subproject financing.

19. At the merger of ICICI with ICICI Bank in March 2002, ADB approved the transfer of liabilities and obligations under Loan 1480-IND from ICICI to ICICI Bank, the surviving entity.

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[8] Under the MBL, each PFI was to choose a (i) floating interest rate, (ii) fixed interest rate, (iii) optional floating interest rate, or (iv) optional fixed interest rate. The floating rate reflected the sum of the six-month London interbank offered rate (LIBOR), plus a margin of 0.4%; the fixed rate reflected the sum of the relevant swap rate, plus a margin of 0.4% subject to resetting as defined in the loan agreement; the optional floating rate reflected the sum of the relevant swap rate, plus a margin of 0.525%; and the optional fixed rate reflected the sum of the relevant swap rate, plus a margin of 0.525%, subject to resetting as defined in the loan agreement. ICICI and IFCI chose the floating interest rate.

[9] Fifteen percent during the first 12-month period; 45% during the second 12-month period; 85% during the third 12-month period; and thereafter, the full amount of the loans.

[10] The PFIs actually paid 0.6% of the outstanding balance under the PSIF to the Government as the guarantee fees.

[11] This section is usually titled as "Procurement, Construction, and Scheduling" in a PPER as per the Guidelines. The information on construction is not particularly relevant to the evaluation of credit lines, and this section heading was consequently modified.

F. Outputs

1. Utilization of the Facility

20. **Loan 1480-IND.** ICICI fully utilized the PSIF to finance six subloans (for 3 power, 1 road, and 2 telecommunication subprojects) totaling $150 million by 13 July 2001. The loan closed on 13 November 2001, 10 months earlier than planned at appraisal (Appendix 3). The total cost of the six subprojects was around Rs67.2 billion ($1.4 billion), of which Rs44.5 billion ($930 million) was financed by debts.[12] All the subloans were extended in the form of non-convertible debentures (NCDs) in rupees. Only in those instances where eligibility could not be fully confirmed by ICICI did ADB disapprove subloan applications. A few subloan applications had to be withdrawn by ICICI before ADB could make a decision.

21. The initial subloan interest rates ranged from 6.5% to 19.5%, reflecting market interest rates and risk premiums. The interest rates of some subloans were subsequently reduced, reflecting the downward trend in interest rates during PSIF implementation. The amortization periods of subloans ranged from 5 to 17 years (including grace periods ranging from 3 to 5 years). The outstanding balance of all subloans was prepaid during March 2001–March 2006, because subborrowers found alternative means of financing.[13] ICICI Bank has utilized the proceeds received from prepayments to finance infrastructure projects, as per the Loan Agreement. At the time of the OEM, ICICI Bank's receivable from one remaining subloan was Rs1.375 billion (equivalent to $30 million), while its payable to ADB was $125.45 million. The balance of about $95 million stands to be the revolving fund under the PSIF.

22. **Loan 1481-IND.** IFCI utilized the PSIF to finance five subloans (for 4 power and 1 port subprojects) totaling $62.5 million[14] by 18 October 2000 (Appendix 4); the loan closed on 16 May 2002, 4 months earlier than planned at appraisal. In some instances ADB did not approve subloan applications from IFCI because the eligibility of the subborrowers was not fully confirmed. IFCI also withdrew subloan applications for the same reason, prior to a decision from ADB. IFCI could not fully utilize the PSIF primarily because, from 2001, it could not meet the Reserve Bank of India (RBI) requirement of a minimum capital adequacy ratio (CAR) of 9%, due to deterioration of its portfolio performance. For this reason, IFCI suspended new lending operations as of fiscal year (FY) 2003, while continuing disbursements (para. 60).

23. The total cost of the five subprojects was around Rs43.5 billion ($890 million), of which Rs34.5 billion ($700 million) was financed by debts.[15] All the subloans were extended in the form of NCDs in rupees, and met the PSIF eligibility criteria. The initial subloan interest rates ranged from 15.5% to 20%,[16] reflecting market interest rates and risk premiums. The interest rates of some subloans were subsequently reduced, reflecting the general downward trend in interest rates during PSIF implementation. The amortization periods of subloans ranged from 8.5 to 17 years. At the time of the OEM, IFCI's receivable from one remaining subloan was Rs198.26 million (equivalent to $4.55 million), while the other four subloans had been fully

[12] The FX rate at closing of Loan 1480-IND (end November 2001) was used in calculating the dollar amounts.
[13] The OEM could not obtain detailed information on these refinancing instruments, except for P-2-CF, for which ICICI Bank converted NCDs to a subloan. This responded to the RBI rule (announced in August 2005) limiting financial institutions' investments in unlisted debt securities to 10% of their total investments in debt securities.
[14] Of the five subprojects, two were also financed by ICICI under the PSIF. Therefore, the PSIF supported 11 subloans for 9 subprojects in total.
[15] The FX rate at closing of Loan 1481-IND (end May 2002) was used in calculating the dollar amounts.
[16] This does not cover the subloan to P-4-F, for which interest rate was set at the IFCI's prime lending rate (PLR) plus 3.5%. The OEM could not verify the PLR at the time of subloan disbursement.

settled through regular repayments and prepayments. The four subborrowers prepaid the subloans because they found alternative means of financing.[17] At the OEM, IFCI's payable to ADB was $28.6 million. Of the remaining $33.9 million, IFCI settled $10.4 million through regular repayments and prepaid $23.5 million, corresponding to one prepaid subloan. IFCI plans to fully settle the remaining payable with ADB by June 2007, through regular repayments and prepayments corresponding to the three prepaid subloans. IFCI intended to utilize the proceeds received from these prepayments to finance other infrastructure projects, but its failure to meet the RBI requirement on a CAR prevented it from doing so.

2. Subproject Achievements

24. Subproject achievements under the PSIL are detailed in Appendix 5 and summarized in the following paragraphs.

25. **Loan 1480-IND.** Of the six subloans extended by ICICI, three were for power projects totaling $67.79 million equivalent (45.2% of the total), two were for telecommunication projects totaling $75.73 million equivalent (50.5%), and one for a road project totaling $6.48 million (4.3%). As envisaged at appraisal, the physical outputs of the six subprojects included (i) 2 x 130 MW corex and coal based thermal power plant (subborrower's/subproject's code name[18]: P-1-CF), operational from January 2000; (ii) 3 x 100 MW hydroelectric power plant (P-2-CF), operational from June 2003; (iii) 1 x 250 MW lignite based thermal power plant (P-3-C), operational from December 2002; (iv) a 30.35 kilometer (km) two-lane bypass on National Highway 4 (TR-1-C), operational from October 2000; (v) the facility of fixed telephone services, including over 4,000 km of fiber network and 100,000 copper access points (TE-1-C), completed in 2002; and (vi) the facility of cellular mobile services for a capacity of 1.74 million subscribers (TE-2-C), completed in 2002.[19]

26. There was no significant cost overrun or delay in implementing four of the six subprojects. There was no cost overrun for P-1-CF, but its project completion was delayed by about 1.5 years, due to delays in financial closure. As to P-2-CF, delay in finalizing the power purchase agreement (PPA), deviations in the quantity of civil work, and an unprecedented flash flood affecting the project site in July 2000, resulted in changes in the total project cost and a more than 2-year delay in project implementation. The OEM was not informed of any delays in interest payments and repayment by the six subborrowers prior to their prepayments.[20]

27. **Loan 1481-IND.** Of the five subloans extended by IFCI, four were for power projects totaling $38.94 million equivalent (62.3% of the total) and one was for a port project totaling $23.56 million (37.7%). The five subloans and subprojects met the PSIF eligibility criteria. The physical outputs of the five subprojects included (i) 2 x 130 MW corex and coal based thermal power plant (P-1-CF), operational from January 2000; (ii) 3 x 100 MW hydroelectric power plant (P-2-CF), operational from June 2003; (iii) a 355 MW naphtha-based combined cycle power plant (P-4-F), operational from October 2000; (iv) an 86 MW hydroelectric power plant (P-5-F),

[17] The OEM could not obtain detailed information on the refinancing instruments, except for TR-2-CF, which used the proceeds from divestment from the affiliated company for the prepayment.

[18] Some of the subborrowers were reluctant to share information with the OEM unless they were given assurance that the final report would not indicate their names. Accordingly this PPER uses code names for all the subborrowers.

[19] TE-1-C and TE-2-C commenced operations prior to the subloans, and the OEM could not identify the exact month in which the subprojects were completed.

[20] ICICI lowered the interest rate of the subloan to TR-1-C, as the subproject generated insufficient revenues in the initial operations stage, prior to prepayment.

operational from July 2001; and (v) full-fledged port facilities for public use, including a multipurpose finger-type jetty, a barge jetty and port backup facilities, including storage facilities, general cargo, chemical terminal and LPG terminal (TR-2-FG),[21] operational from October 2002.

28. The subproject outputs and their total costs were as envisaged at appraisal, except for TR-2-FG. Initially conceived as a smaller-scale captive port, TR-2-FG was expanded in scope to an all-weather, direct berthing deep-sea port. Total costs increased from Rs3.37 billion, planned at initial subloan approval in March 1998, to Rs7.61 billion in October 2000.[22] The start of TR-2-FG's commercial operations was delayed by 3 years from the original schedule. P-4-F was implemented as originally envisaged. P-5-F was completed 3 months ahead of the original schedule. The implementation of P-1-CF and P-2-CF was delayed (as explained in para. 26). The repayments and interest payments of the subloans were on schedule, except TR-2-FG, which faced liquidity problems in the initial operations stage, resulting in repayment and interest payment delays.

G. Loan Covenants

29. In addition to standard loan covenants, the Loan Agreements for the PSIF stipulated sectoral criteria (para. 6), subloan financing criteria (para. 13), subborrower eligibility criteria (para. 14), and borrower eligibility requirements. The key borrower eligibility requirements included (i) a CAR of 8% (subsequently raised to 9%); (ii) a debt service coverage ratio of at least 1.1; and (iii) compliance with the RBI's guidelines on income recognition, asset classification, and debt provisioning.

30. **Loan 1480-IND.** In conjunction with the transfer of liabilities and obligations under Loan 1480-IND from ICICI to ICICI Bank, the minimum debt service coverage ratio requirement was replaced by a requirement to (i) conform to interest cover, whereby the merged entity's profit before interest, provision for bad and doubtful debts, depreciation, and other non-cash charged for the relevant current financial year are at least 1.1 times the interest and commitment charges payable by it for the relevant financial year; (ii) conform to RBI stipulations on statutory liquidity ratio and CAR, as amended from time to time; (iii) conform to the asset liability management (ALM)-liquidity management guidelines of RBI, and share with ADB the internal norms and risk management policies adopted by its management, along with status of conformity to such guidelines; and (iv) maintain a debt equity ratio of more than 12:1.[23]

31. ICICI Bank confirmed its (and ICICI's) compliance with the standard covenants and the borrower eligibility requirements. Likewise, the six subloans largely complied with the (i) sectoral criteria, (ii) subloan financing criteria, and (iii) subborrower eligibility criteria.[24]

32. **Loan 1481-IND.** IFCI complied with standard covenants, but subsequent to late 2000 could not comply with the financial requirement on the capital adequacy ratio, as noted earlier.

[21] The original subborrower was TR-2-F. In October 2000, ADB approved the transfer of the subloan from TR-2-F to TR-2-FG, jointly owned by TR-2-F and the state-owned company.

[22] The OEM could not identify the total project cost at completion.

[23] This change was made because of the difficulty of matching inflows with outflows (due to short term maturities without fixed repayment schedules), which made the debt service coverage ratio cumbersome to use and not as meaningful for commercial and/or universal banks.

[24] In addition to the six subloans, ADB approved a subloan of $22,932,060 to a port project. However, the majority private sector ownership did not materialize as originally planned, and the subloan was consequently cancelled. Accordingly, the amount to be disbursed to this project was reallocated to other subprojects.

The five subloans complied with the (i) sectoral criteria, (ii) subloan financing criteria, and (iii) subborrower eligibility criteria.

III. PERFORMANCE ASSESSMENT

A. Overall Assessment

33. The PSIF covered 9 large subprojects and had no capacity building component for the PFIs. All subloans except one have been repaid. Therefore, the performance assessment focused on analysis at the subproject level (see footnote 5). On this basis, Loan 1480-IND is rated as successful, and Loan 1481-IND is rated as partly successful (Table 1). These overall ratings reflect weighted averages of the individual ratings for four criteria: relevance (20%), effectiveness (30%), efficiency (30%), and sustainability (20%). Individual criterion ratings are in whole numbers from 0 to 3, in increasing order of project performance.[25] As discussed in detail in the following sections, Loan 1480-IND is assessed as relevant, effective, efficient, and with likely sustainability; Loan 1481-IND is assessed as partly relevant, partly effective, efficient, and with likely sustainability. The overview of subproject performance is in Appendix 6.[26]

Table 1: Overall Performance Assessment

Criteria	Loan 1480-IND	Loan 1481-IND
1. Relevance	2	1
2. Effectiveness	2	1
3. Efficiency	2	2
4. Sustainability	2	2
Total Rating[a]	**2.0**	**1.5**

[a] Highly successful > 2.7; successful 2.7 ≥ S ≥ 1.6; partly successful 1.6 > PS ≥ 0.8; unsuccessful < 0.8.
Source: Operations Evaluation Mission.

B. Relevance

1. Loan 1480-IND

34. Loan 1480-IND is rated relevant on the basis of the (i) appropriateness of the assessment of issues and opportunities in private sector participation in infrastructure developments made at the time of appraisal; (ii) consistency between the targeted impact, outcome, and outputs with that of the Government's development priority and ADB's country operational strategy at the time of approval, as well as at OEM;[27] (iii) appropriateness of the modality and design of the PSIF in achieving the primary purpose of private sector participation in infrastructure development, considering the Government's policy on this subject and the

[25] For example, irrelevant = (0), less relevant = (1), relevant = (2), and highly relevant = (3).
[26] These assessments are based on the information (i) submitted to the OEM by the ICICI Bank and IFCI; and (ii) directly offered to the OEM by P-3-C, TR-2-F, and TE-2-C (with field inspections), and P-2-CF and P-5-C (without field inspections). In addition, the OEM requested that ICICI Bank arrange visits by the OEM to P-1-CF's and TR-1-C's projects sites, but these subborrowers rejected the OEM's request.
[27] The Government's midterm appraisal of the ongoing 10th Five-Year Plan pointed to the urgent need to upgrade infrastructure facilities. ADB's assistance program for 2006–2008 reflects this priority, with infrastructure projects (transport, urban, and energy) accounting for nearly 77% of the 3-year pipeline.

financial market environment at the time of approval;[28] (iv) appropriateness of the selection of ICICI as the PFI by virtue of its financial strength and that of the infrastructure project pipeline; and (v) complementarity of the PSIF with ADB's other ongoing operations,[29] and efforts to implement follow-on interventions in support of private sector participation in infrastructure development.[30] During the OEM, ICICI Bank did not raise any particular issues with respect to the PSIF project design. Loan 1480-IND is not rated "highly relevant" for reasons explained below.

35. The modality of the PSIF was not fully appropriate in achieving its secondary objective of corporate debt market development. For this specific purpose, the program loan might have been more appropriate. It should be noted that the Government established a high level expert committee on corporate bonds and securitization, which drafted a number of recommendations in its final report, issued in December 2005 (Appendix 7). The OEM concluded that the PSIF could have better complemented the Government's efforts by way of issuance of corporate bonds by the PSIF subborrowers, had the Government undertaken significant policy measures promoting the corporate bond market early during PSIF implementation.

36. India's financial sector has changed significantly since 1991: traditional development financial institutions are mostly consolidated, and commercial banks have expanded term lending for industrial and infrastructure projects. The Government's fiscal policy and approach to private sector infrastructure projects have also changed.[31] For example, MOF no longer considers credit facilities requiring Government guarantee, such as the PSIF, as meeting the Government's needs in the present context. Evidently, the pioneering and demonstration roles of the PSIF are diminishing, although ICICI Bank continues to utilize its revolving fund.

2. Loan 1481-IND

37. The assessments in paras. 34–36 are also applicable to Loan 1481-IND, except for the appropriateness of the selection of IFCI as the PFI. The OEM finds that ADB should have paid more attention to IFCI's portfolio performance during appraisal. At the time of the PSIF approval, IFCI's nonperforming loans (NPLs) exceeded 17% of its total loans and advances, and 9% of total assets. The report and recommendation of the President (RRP) did not adequately discuss the justification for this relatively high NPL ratio and its associated risks. This draws into question the adequacy of the appraisal, and the qualification of IFCI as a PFI. Due to the subsequent deterioration in its portfolio performance, since FY2003 IFCI has suspended new lending operations while pursuing expeditious recovery of nonperforming loans. IFCI could

[28] Considering ADB's limited capacity in non-recourse lending, and the Government's willingness to offer the guarantee at the time of appraisal, the modality of the PSIF could be justified. If ADB had directly financed these subprojects (without using the PFIs, and without the Government guarantee), ADB would have faced significant additional appraisal and monitoring costs. In the absence of the PSIF, PFIs might have been less active in infrastructure financing. The nine subprojects selected by the PFIs were relevant in terms of the immediate purpose of the PSIF. These observations support the positive view of the PSIF's design.

[29] Such operations included Loan 1274-IND: National Highways Project, Loan 1506-IND: Gujarat Public Sector Resource Management Program, and TA 2611-IND: Institutional Support for Telecommunications Development, from the public sector window; and Inv 7211-IND: AIG Indian Sectoral Equity Fund and AIG Indian Equity Advisers, and Inv 7138-IND: Infrastructure Development Finance Company Limited (IDFC), from the private sector window.

[30] Such interventions included Loan 1868-IND: Madhya Pradesh Power Sector Development Program, Loan 1871-IND: Private Sector Infrastructure Facility at State Level (PSIF-II), Loan 1968-IND: State Power Sector Reform Project from the public sector channel, and Loan 2169-IND: IDFC; and Inv 7181-IND: The Infrastructure Fund of India, Inv 7183-IND: Tala-Delhi Transmission Project, Inv 7211-IND: IDFC, from the private sector window.

[31] In July 2005, MOF issued the Scheme for Support to Public Private Partnerships (PPPs) in Infrastructure, defining PPP projects that can be supported under the Government's scheme of viability gap funding or grants.

utilize only 62.5% of Loan 1481-IND, and its revolving fund needs to be prepaid. In view of this, Loan 1481-IND is rated as partly relevant.

38. IFCI considers PSIF appropriately designed, but with four reservations. First, the PSIF required that IFCI resort to a debt instrument, which could not be issued in foreign currency under the prevailing regulation. Thus, all the subloans were denominated in rupees, despite the fact that PSIF aimed primarily to finance foreign currency portions of project costs. In IFCI's view, this obvious mismatch can be considered a deficiency in the project design.[32] Second, the ceiling on domestic cost financing of power projects (i.e., 20%) constrained the usefulness of the PSIF.[33] Third, ADB's cumbersome process for, and delays in, subproject approval resulted in changes in the means of finance of subborrowers and potential subborrowers.[34] Fourth, the commitment charge, during the phase that ADB suspended its disbursement, should have been waived.

C. Effectiveness

1. Loan 1480-IND

39. Loan 1480-IND is rated effective in view of the (i) full utilization of the approved loan amount ($150 million), which catalyzed additional borrowing of $780 million from other sources; (ii) satisfactory outcomes of most subprojects (with reservations because of data limitations on TR-1-C), leading to significant demonstration effects in promoting private sector participation in infrastructure projects; and (iii) marginal contribution to developing the corporate debt market.

40. **Power.** The OEM assessed the three subprojects as effective on the basis that (i) P-1-CF has kept the plant load factor (PLF) at above 90% over the past 5 years; (ii) P-2-CF has consistently maintained its average plant availability above 96% since FY2004; and (iii) P-3-C's current PLF is 90%, an increase from around 80% in FY2004–FY2005. The three subprojects contributed to narrowing the electricity demand–supply gaps, as originally envisaged. The OEM noted the significant demonstration effects of these subprojects as pioneering developments in pursuing private sector participation in power development under the Government policy in effect from 1991.

41. **Road.** The OEM could not effectively assess the outcome of TR-1-C because (i) ICICI Bank has not updated the operational information since the time of prepayment in 2001, and (ii) TR-1-C did not accept the OEM's visit. The available information indicates that in the first year of operations TR-1-C achieved only 33% of the targeted traffic. ICICI concluded that weak enforcement of the ban on commercial through-traffic resulted in lower-than-projected diversions to the bypass. The enforcement of the ban reportedly been improved. The OEM noted that TR-1-C was one of the first public-private partnerships (PPPs) in the road subsector in India, and lessons learned have been considered in improving subsequent PPP projects.

[32] ICICI Bank did not feel this mismatch was a major deficiency of the PSIF. Denomination of the ADB loan in dollars did not particularly constrain the ICICI's ALM, and did not cause particular FX losses. Likewise, the PSIF does not appear to have caused particular FX losses in IFCI.

[33] IFCI could utilize only 61% of the approved amount of subloan for P-2-CF because of this ceiling. ICICI Bank did not consider this to be a major constraint.

[34] IFCI could not fully utilize the approved amount of subloans for P-4-F and P-5-F for this reason. ICICI Bank did not consider this to be a major constraint, as it lacked IFCI's liquidity problems, and intended to extend loans to subborrowers irrespective of the PSIF.

42. **Telecommunications.** TE-1-C is operational in 123 cities and 4,000 villages in the state of Rajasthan, with a subscriber base of around 220,000 as of the end of FY2005 (20% lower than projected at appraisal). However, the OEM assessment rated TE-1-C as effective as it continues to be the second largest fixed phone operator in Rajasthan, while competing with larger providers with nationwide coverage in fixed and mobile phone services. The OEM noted that this subproject was a pioneering development under the ADB-supported telecommunication reforms pursued by the Government in the mid-1990s.[35] TE-2-C gained more than 1 million subscribers by early 2001, much faster than projected at appraisal. In this regard, TE-2-C was effective. Because the mobile telephone market grew faster than projected, however, tariffs dropped significantly over the years, resulting in lower–than-projected revenues. Exacerbating this situation was a financial problem encountered by the main promoter in its core business; its partner was reluctant to make additional capital contributions, rendering the company unable to maintain the desired level of investment and market share. As a result, it merged with another mobile phone operator in January 2004.

43. **Corporate Debt Market.** There was virtually no liquidity in NCDs issued under Loan 1480-IND,[36] thus its contribution to corporate market development was marginal.[37]

44. There has been no significant increase in issuance and liquidity of corporate bonds in India during and after the PSIF period. Although the private placements of corporate bonds increased steadily, from Rs454 million in FY2002 to Rs554 million in FY2005, public issues of corporate bonds decreased steadily during the same period, from Rs53 million to Rs41 million. Public sector undertakings, banks, and other financial institutions continue to be the major issuers of corporate bonds, and issuance of bonds by the corporate sector for manufacturing and services has been very low.

2. Loan 1481-IND

45. Loan 1481-IND is rated partly effective in view of (i) utilization of only 62.5% of the loan ($62.5 million), which catalyzed additional debts of $637.5 million from other sources, and IFCI's disqualification to utilize the revolving fund; (ii) satisfactory outcomes of subprojects leading to significant demonstration effects in promoting private sector participation in infrastructure projects; and (iii) the marginal contribution to developing the corporate debt market.

46. **Power.** The OEM assessed the four subprojects as effective on the basis that (i) P-1-CF has kept the PLF above 90% over the past 5 years; (ii) P-2-CF has maintained its average plant availability constantly above 96% since FY2004; (iii) P-4-F has consistently achieved an average plant availability of over 80%; and (iv) P-5-F generated 346.2 million units in FY2004 and 275.4 units in FY2005, against a design energy of 372 million units. These subprojects contributed to narrowing the electricity demand–supply gaps, as originally envisaged. P-4-F was the first project cleared by the Central Electricity Authority (CEA) route for international

[35] ADB. 1996. *Technical Assistance to India for Institutional Support for Telecommunications Development.* Manila (TA 2611-IND, for $575,000 million, approved on 18 December).

[36] All the subprojects financed under the PSIF issued debt securities. India's existing secondary debt market was primarily for AA+ to AAA rated securities. Because most of these subprojects were in their early stages of commercial operations and perceived as high-risk, they were unlikely to obtain such ratings. This made liquidity in the debt securities of subprojects highly limited.

[37] In March 2001, ICICI transferred the NCDs issued by P-1-CF and TR-1-C under the PSIF to Debenture Securitization Trusts (DSTs) established by ICICI. The DSTs in turn issued pass-through certificates (PTCs), which were subscribed by third-party investors.[37] However, there was virtually no liquidity in these PTCs. At P-1-CF's and TR-1-C's prepayments, these PTCs were also prepaid.

competitive bidding for power projects in India, while P-5-F was the first merchant hydro power plant without a long-term PPA.

47. **Port.** The OEM assessed TR-2-FG as effective, because it has emerged as India's largest private sector port, and one of the fastest growing. The amount of cargo actually handled by TR-2-FG in FY2006 was lower than projected at prepayment in 2001. Nonetheless, the traffic at this port is expected to increase significantly in coming years, considering the progress in ongoing large projects for the site adjacent to the port, including a 4,000 MW ultra mega power project. The OEM also noted that this subproject was a pioneering development under the port reforms pursued by the state government of Gujarat since 1996, and supported by ADB.[38]

48. **Corporate Debt Market.** NCDs issued under Loan 1481-IND had virtually no liquidity, thus the loan's contribution to the corporate market development was marginal (see para. 44).

D. Efficiency

1. Loan 1480-IND

49. Loan 1480-IND is rated efficient on the basis that (i) P-1-CF and P-3-C are assessed as highly efficient; (ii) P-2-CF is assessed as efficient; (iii) TE-1-C is assessed as partly efficient; (iv) TE-2-C is assessed as inefficient; and (iv) spillover effects of the three power subprojects, which lead to improved efficiency of public power plants, are important. The basis for the highly efficient ratings for P-1-CF and P-3-CF are EIRRs of greater than 18%, as estimated by the OEM.[39] The efficient rating for P-2-CF is based on an FIRR of slightly lower than 16.3%, as estimated by the OEM. The mixed assessment for TE-1-C reflects its (i) insufficient economy of scale, resulting in the financial losses in FY2004 and FY2005; and (ii) value added and quality services.[40] The inefficient rating for TE-2-C reflects its insufficient economies of scale, leading to acquisition by a competitor. The efficiency of TR-2-C could not be assessed due to data constraints.

2. Loan 1481-IND

50. Loan 1481-IND is rated efficient on the basis that (i) P-1-CF and P-5-F are assessed as highly efficient; (ii) P-2-CF, P-4-F and TR-2-FG are assessed as efficient; and (iii) spillover effects of all the subprojects, leading to the improved efficiency of public sector projects in the relevant subsectors, are important. The "highly efficient" rating for P-5-F is based on its construction cost, which was significantly below the industry average, resulting in outstanding profitability over the last 3 years. The "efficient" rating for TR-2-FG is based on its (i) contributions to (a) reducing congestion at the other major port in Gujarat and (b) savings in fuel

[38] ADB. 1996. *Report and Recommendations of the President to the Board of Directors on Proposed Loan to India for Gujarat Public Sector Resource Management Program*. Manila. (Loan 1506-IND, for $250 million, approved on 18 December).

[39] EIRRs were computed in the application documents of subloans for P-1-CF, P-3-C and TR-1-C, but not for the others.

[40] Value-added services include caller ring back tunes, 32-party conferencing, video on-demand, unified messaging platform, game shows, and occasion-based contests. The Telecom Regulatory Authority of India quality report on telecommunications service providers benchmarked TE-1-C with respect to four out of six service parameters: (i) time to connection (first), (ii) mean time to repair (first), (c) customer complaint closure (first), and (iv) customer request closure (first).

costs; and (ii) operational efficiency, as compared with Gujarat's other port.[41] The efficient rating for P-4-F reflected the EIRR[42] and FIRR of slightly lower than 16.1% and 21.1%, respectively, estimated by the OEM based on the lower-than-expected PLFs. The efficiency of P-1-CF and P-2-CF is discussed in para. 49.

E. Sustainability

1. Loan 1480-IND

51. Loan 1480-IND is rated likely sustainable on the basis that P-1-CF, P-2-CF, and P-3-C are likely sustainable. The OEM has the following reservations: (i) the sustainability of TR-1-C and TE-1-C could not be assessed due to data constraints, and (ii) TE-2-C was not applicable as it was subsequently acquired by another company. The sustainability ratings for the three power subprojects are made on the basis that the operating entities are (i) financially viable; (ii) not constrained by policy and institutional environments; and (iii) not exposed to significant environmental, social, technological and natural resources risks. In addition, the continuing demand–supply gap for electricity in India is another key factor for the ratings. In addition to the data constraint issues associated with TR-1-C and TE-1-C, uncertainties in financial viability of these subprojects are attributable to (i) changes in regulations and growing competition (TE-1-C), and (ii) difficulty in demand projections and enforcement of traffic regulations (TR-1-C).

2. Loan 1481-IND

52. Loan 1481-IND is rated likely sustainable on the basis that (i) P-5-F and TR-2-F are most likely sustainable, and (ii) the remaining three subprojects are also likely sustainable. P-5-F is expected to remain highly competitive owning to its merchant status in a power-starved northern grid, and is likely to earn progressively higher tariffs. It will thus continue to yield high returns in coming years, while generation cost will decrease as a result of loan repayment and depreciation. P-5-F is therefore rated most likely sustainable. It is expected that revenues of TR-2-F will significantly increase during FY2007–FY2014 in conjunction with development of one of country's largest special economic zones adjacent to the port. Moreover, TR-2-F is not (i) constrained by policy and institutional environment; or (ii) exposed to significant environment, social, technological and natural resource risks. Therefore, TR-2-F is rated likely sustainable. P-4-F is rated sustainable largely for the same reasons as P-1-CF and P-2-CF as indicated in para. 51, but this rating is premised on a sufficient and constant supply of gas.

[41] The key factors in this assessment are higher draft and higher level of mechanization at TR-2-FG. Moreover, unlike the other port, TR-2-FG offers all services, including custom clearance, under one roof, resulting in time savings and better services.

[42] EIRRs were computed in the IFCI's appraisal documents for P-1-CF and P-4-F, but not for the others.

IV. OTHER ASSESSMENTS

A. Impact

53. The PSIF RRP noted that ADB developed the computer system for ICICI and IFCI to monitor subproject benefits. However, the RRP did not include the design and monitoring framework, and specified neither performance indicators nor targets.[43] Hence, the benefit monitoring and evaluation (BME) of the PSIF was inherently weak. Therefore, the OEM could obtain only partial information on the socioeconomic and environmental aspects of subprojects from accessible subborrowers, supplemented by the data submitted by ICICI and IFCI at the time of the PCR, and publicly available data. The OEM findings are presented in ensuing paragraphs.

1. Socioeconomic Impact

54. In addition to facilitating growth by removing infrastructure impediments, PSIF's pro-poor contribution can be assessed from two other perspectives: (i) the opportunity cost of government expenditure (which is freed for investment in the social sector), and (ii) the direct and indirect effects of infrastructure investment on poverty reduction.[44]

55. Through their operations, the four power subprojects (P-1-CF, P-2-CF, P-3-C, and P-5-F) are employing about 650 people. TR-2-FG operations are contributing to direct employment of 2,500 skilled and unskilled workers, and the indirect employment of 2,000 people. In the construction phase, it contributed to creation of 2,000 jobs for 3 years. The TE-1-C's subscriber base of 220,000 currently corresponds to a teledensity of 0.3% in the state of Rajasthan. The OEM estimated that TE-2-C contributed to direct employment of 1,700 people and indirect and support employment of 36,000.

56. P-3-C resulted in the displacement of about 50 families. P-3-C ensured that it had offered appropriate compensation and employment opportunities to these families, in compliance with ADB's involuntary resettlement policy.[45] The OEM did not have the opportunity to obtain direct feedback from any of these 50 families. Based on the information provided by ICICI Bank, IFCI and subborrowers, the OEM did not discern any negative socioeconomic impacts arising from the PSIF subprojects.

2. Environmental Impact

57. The OEM did not discern any adverse environmental impacts associated with the subprojects, on the basis of information provided by ICICI Bank, IFCI and the subborrowers that

[43] The Loan Agreements referred to ADB's Guidelines on benefit monitoring and evaluation (ADB. 1992. *A Handbook for Bank Staff, Staff of Executing Agencies and Consultants*. Manila.) as a reference. The guidelines indicated the data to be collected by financial intermediaries in the case of credit lines from subborrowers: (i) subborrower profiles, (ii) subproject profile, (iii) subproject completion dates, (iv) subproject cost and means of financing, (v) subproject production data, (vi) subproject and enterprise financial performance data, and (vii) subproject and enterprise socioeconomic data. However, the guidelines did not specify the timing of data collection and submission.

[44] ADB. 2000. REG 5947: *Assessing the Impact of Transport and Energy Infrastructure on Poverty Reduction*. Manila. The study conducted under this RETA suggest that (i) investment in infrastructure, especially for road construction, leads to substantial job creation for semiskilled and unskilled workers; and (ii) the poor indirectly benefit from infrastructure development, especially from cheaper commodities, quicker travel time, less pollution, fewer accidents, better penetration of development effects to rural areas, and general improvements in quality of life.

[45] ADB 1995. *Involuntary Resettlement*. Manila.

were visited. A review of the project files confirmed that the ICICI and IFCI had submitted the subproject environmental impact assessment reports to ADB at the time subloans were approved, as required in the Loan Agreements. ADB's internal correspondence in the project file indicates that the ADB departments concerned reviewed the environmental impact assessment reports.

58. The corex plant of P-1-CF demonstrates "clean coal technology", which uses exhaust gases from a steel blast furnace to drive a combined cycle plant. The process significantly reduces the amount of CO_2 produced from a mix of coking and steaming coal in the smelting process, and instead produces a clean low-calorific gas that serves to fuel the combined cycle plant. P-3-C has successfully implemented ISO 14001 for environmental management. TR-2-FG has been ISO 9000 compliant, with respect to environmental aspects, for the last 3 years.

3. Institutional and Policy Impact

59. The total disbursement of $150 million equivalent under Loan 1480-IND is not substantial when compared with ICICI Bank's total assets of Rs1,784 billion (about $40 billion) and total borrowings of Rs384 billion (about $8.5 billion), as of end FY2005. Nevertheless, given the limited opportunity for long-term funding, ICICI Bank acknowledged the financial contribution of the PSIF. Moreover, ICICI Bank also considers that the PSIF played a significant role in promoting ICICI Bank's infrastructure finance operations.

60. IFCI also acknowledged the contribution of the PSIF in supporting IFCI's infrastructure finance operations. The PSIF contributed to maintenance of IFCI's performing loan portfolio, even under the severe financial conditions that ensued from FY1999. However, the impact of PSIF was not sufficient to prevent IFCI from suspending new lending operations since FY2003. This was also partly attributable to the tightening of RBI guidelines on asset classification which came into effect in FY2001 and FY2002, resulting in significant amounts of loan-loss provisioning and financial losses from FY2002-FY2004 (Appendix 2). At the time of OEM, IFCI management noted the progress of the financial restructuring and the reduction of losses in FY2005. Because of large, one-off provisions, the average return to equity was significantly negative from FY2002 to FY2004, ranging between -232% and -170%. The situation improved significantly in 2005, but the return was still negative (-10%). An NPL ratio of 10% or less was set as a benchmark to resume new lending operations. However, despite the progress that has been made, the IFCI's NPL ratio was still high at 28% at end FY2005, and prospects of full recovery in lending operations remain to be seen. Currently, the management is exploring the opportunity of merging with other banks or financial institutions.

61. Although there was no policy component attached to the PSIF, it contributed in various indirect ways to policy reforms that facilitate private sector participation in infrastructure development. The policy dialogue during PSIF formulation encouraged the Government to pursue reforms. Likewise, the PSIF encouraged state governments to pursue reforms by explicitly targeting "pro-reform" states. Moreover, lessons learned from subprojects under the PSIF, which can be considered to be the first generation of private sector infrastructure projects, formed the basis of subsequent reforms and relevant ADB follow-on operations.

62. The High Level Expert Committee on Corporate Bonds and Securitization recently concluded that regulations were the major reason for the low level of private sector mobilization through bonds, as these limit market availability to top-rated companies. The committee also pointed out that the low liquidity of corporate bonds could be partly due to inadequate disclosure about corporate bonds that are issued mainly through private placements. The PSIF did not

address these crucial issues, and its impact on the institutional and policy aspects of the corporate debt market was negligible.

B. Asian Development Bank Performance

63. The PSIF complemented several other ongoing and follow-on operations aimed at promoting private sector involvement in infrastructure development (para. 34). For instance, Loan 1274-IND: National Highways Project (approved in 1993) supported the Government to develop a framework for road projects on a BOT basis, resulting in TR-1-C. Likewise, Loan 1274-IND: Gujarat Public Sector Resource Management Program (approved in 1996) supported the State Government of Gujarat to develop an enabling environment for private sector investment in infrastructure projects, leading to TR-2-F. Moreover, lessons learned from the PSIF were considered in processing Loan 1871-IND: Private Sector Infrastructure Facility at State Level[46] (approved in 2001) and Loan 2169-IND: Infrastructure Development Finance Company Limited (approved in 2005).[47] The OEM positively considered these aspects in overall assessment of ADB's performance in conjunction with the two loans under the PSIF, as presented in the following paragraphs.

64. **Loan 1480-IND.** The OEM assessed ADB's performance as satisfactory based on the following observations: (i) its appraisal was largely satisfactory, except that it did not adequately assess the bottleneck issues hindering corporate debt market development; (ii) it diligently assessed subloan applications, and responded reasonably to ICICI's and ICICI Bank's requests for changes in implementation arrangements and reallocation of subloans; (iii) project supervision by India Resident Mission officers was generally adequate, and project review missions were properly conducted; and (iv) the PCR was prepared in a timely manner, but did not provide sufficient information on subproject achievements, reflecting weaknesses in BME.

65. **Loan 1481-IND.** The OEM assessed ADB's performance as satisfactory bordering on less than satisfactory, based on the following observations. First, ADB's appraisal was generally satisfactory except that it did not adequately assess the (i) risks associated with IFCI's high NPL ratio, and (ii) bottleneck issues hindering corporate debt market development. Second, although ADB diligently assessed subloan applications, delays in ADB's subloan approval at times resulted in subborrowers changing their means of finance, leading to underutilization of the credit line. Third, although the PCR was prepared in a timely manner, it did not provide sufficient information on subproject achievements, reflecting weaknesses in BME.

C. Borrowers Performance

66. **Loan 1480-IND.** The OEM assessed ICICI's and ICICI Bank's performance as satisfactory in view of (i) capacity in identifying, appraising, and implementing infrastructure projects; (ii) adequacy and timeliness of the provision of counterpart or bridge financing; (iii) timeliness of the submission of financial statements and other required documents; and (iv) commitment to complying with loan covenants. The OEM noted that ICICI Bank's staff quality was generally very high, although the limited meetings the OEM was able to hold with credit officers who had appraised and implemented the subloans hampered evaluation of the Borrower's performance.

[46] This project addressed the institutional constraints for infrastructure development at the state level, which was highlighted in the PCR on the PSIF.

[47] This project responded to the transformation of traditional development financial institutions in India, as highlighted in the PCR on the PSIF.

67. **Loan 1481-IND.** The OEM assessed IFCI's performance as less than satisfactory because it utilized only 65% of the loan and could not utilize the revolving funds, due to its inability to meet one of the financial requirements, and the subsequent suspension of new lending. It is noted, however, that IFCI demonstrated adequate ability in identifying, appraising, and implementing infrastructure subprojects, as exemplified by the subprojects' satisfactory performance.

V. ISSUES, LESSONS, AND FOLLOW-UP ACTIONS

A. Issues

1. Power

68. All the power subprojects were pioneering developments under the policy declared by the Government of India in 1991 for private sector participation in the power sector. By extending long-term finance, the PSIF contributed positively to private sector participation in power generation in India. Successful execution of a number of private projects since 1991 has improved the confidence of financial institutions in the sector. Over the longer term, non-recourse finance from India's commercial banks became available, which was considered a remote possibility before 1991.

69. Since 1991 there has also been a significant debate on the efficacy of a generation-oriented reform program and the adoption of a cost-plus approach to tariff setting in the power subsector. Many of the generating projects constructed pursuant to the 1991 policy yielded significantly higher tariffs, while large-scale inefficiencies still remained in public sector distribution and supply utilities in India, threatening the security of payments to the generating companies. This has also been observed in the P-1-CF, P-2-CF, and P-3-C, which have had disputes regarding tariffs with their respective Electricity Regulatory Commissions. In the case of P-1-CF, the Order of the Commission to reduce tariffs was contested in the Karnataka High Court and a favorable verdict obtained by P-1-CF.

70. Pursuant to promulgation of the Electricity Act 2003, the new regulatory and legislative framework seeks to address these issues for the future. New power generation projects for supply to distribution licensees will henceforth be developed on the basis of tariff-based competitive bidding. Provision of non-discriminatory open access under the Electricity Act 2003 is likely to encourage generation and trading. This new framework places significant emphasis on reforms in distribution and supply.

2. Roads

71. During the last decade or so, India's federal and state governments realized the importance of building and maintaining a good road network, and its contribution to sustainable economic growth. Considerable progress has been achieved, particularly at the federal level, including (i) the enhanced role of National Highways Authority of India (NHAI) in national highway improvement;[48] (ii) development of a standardized concession agreement through which PPPs are implemented; (iii) use of PPPs on a BOT basis for about 10% of the road developed under National Highway Development Programs (NHDPs) I and II; (iv) the private sector's positive response to NHAI bidding; and (v) growing interest of financial institutions and

[48] NHAI has been entrusted with stretches of national highway under National Highway Development Programs (NHDPs) I to VII.

banks in road projects. Progress varies from state to state, with some doing better than others, and incorporating the NHAI nodal executing agency model at the state level. However, in many states progress is reportedly minimal to moderate.

72. Despite the progress and success achieved so far, issues yet to be resolved include (i) the lack of realistic traffic assessment, resulting in significant traffic risks (which are borne by private developers) associated with developments reliant on traffic projections; (ii) land acquisition delays, resulting in implementation delays; (iii) resistance to tolls; (iv) the need to structure and select the correct model of PPP; (v) the limited domestic capacity to cope with the need for private sector participation; (vi) the lack of interest shown by international developers and/or investors; and (vii) the lack of innovative financing structures to suit the requirement and revenue profiles of road PPPs.

3. Ports

73. The introduction of port reforms in India in 1996 stemmed from experiments, in the early 1990s, in micro-level privatization of various berths and jetties in minor Gujarat ports, allocated on a dedicated basis to large captive users. The port reform process accelerated in the mid-1990s following development by the Government of a policy on private sector participation in major ports, and provision of licenses to P&O Ports for a few major container terminals at Nhava Sheva port, on a build-operate-own-transfer basis. The 1996 policy included measures to allow private sector participation in ports, including investments by overseas port developers in building various port-related assets, and lease-based operation of port services. In a clear departure from the preceding four decades of complete public ownership of ports, the Government's policy also sought to institutionalize various approaches to PPP initiatives in major ports. Subsequently, a few port projects, including TR-2-F, have been developed through private sector participation.

74. Although private investment in the sector has increased in the past few years, it still falls short of its potential. Some of the issues and constraints relating to private sector development include (i) lack of an integrated approach to port development, (ii) the need for further incentives, (ii) issues relating to pricing and tariffs, (iv) legacy issues such as the large labor force employed at major ports, and (v) the limited focus on development of minor state ports.

4. Telecommunications

75. Since liberalization in the early 1990s, the Indian telecom market has evolved from an integrated, incumbent monopoly operation to a multi-service, multi-operator environment with private participation. TE-1-C and TE-2-C, with private ownership, were part of the key outcome of this liberalization initiative. Today, the telecom industry is one of the fastest growing sectors of the Indian economy, with the private sector contributing over 50% of the total access lines. India's telecom sector is adding nearly 5 million access subscribers every month. There are pending policy/regulatory issues (e.g., related to spectrum, access deficit charges, implementation of carrier access codes for selection of long distance carriers, infrastructure sharing, and unified licensing regimes) that require resolution to further spur growth in this sector. In addition, India retains one of the most highly regulated cost structures, with over 30% of telecom revenues passing to the Government by way of various levies.

76. The dramatic growth in Indian telecom notwithstanding, the biggest challenge is to bridge the growing urban–rural telecom divide. Nationally, India has significantly increased its telecommunication access, with overall teledensity at about 12% (as of March 2006). Urban

populations are disproportionately served, however, and only 13% of the country's telephone lines serve the 71% of the population living in rural areas. The economic and social health of rural India has a significant and direct bearing on the country's economic development. Rural subscribers are less able to afford telecom services, and face higher service provision costs; the consequent impact on the viability of operators is often cited as a primary reason for deficient and poor quality of connectivity services in rural areas.

5. Corporate Debt Market and Infrastructure Financing

77. Development of the corporate bond market has been slow, despite the floating of bonds for infrastructure sector investment by a few government agencies, such as NHAI and Rural Electrification Corporation of India Limited, who are eligible for certain fiscal incentives. Public bond issues remain stagnant, while secondary market trading has been negligible. Accordingly, the corporate bond market has played little role in infrastructure development. The report prepared by the High Level Expert Committee on Corporate Bonds and Securitization (issued in December 2005) included the following recommendations for promotion of debt instruments and securitization in conjunction with private sector participation in infrastructure development: (i) provision of special purpose vehicle status to special debt funds for infrastructure development, and establishment of a regulatory framework for such funds; (ii) provision of a credit enhancement to special purpose vehicles and secured assets in general; and (iii) clarification of the definition of "securities" as tradable instruments under the Securities Contract Regulation Act. Moreover, the chairman of the committee noted that the stamp duties imposed by state governments on debt instruments remain a major distortion hindering the development of the corporate bond market.

6. Public-Private Partnership

78. The central Government's fiscal deficit for FY2005 is estimated at 4.1% of gross domestic product (GDP), and its outstanding liabilities reached 63.5% of GDP in end FY2005. This severely limits the ability of the Government to meet future infrastructure financing requirements, and the Government expects the private sector to play a greater role in infrastructure development. However, the Indian financial sector's financing capacity available for infrastructure developments remains limited. In response, the Government recently set up the scheme for viability gap funding to support PPP projects. Implementation of this scheme is expected to promote further involvement of the private sector in infrastructure development. [49]

B. Lessons

1. Timeliness and Complementarities

79. The PSIF was timely, as it complemented the Government's policy reforms, which began in the mid-1990s, and aimed to promote private sector participation in infrastructure development. Likewise, several other ongoing and follow-on ADB operations complemented the PSIF (para. 63). Institutional and policy reforms supported by public sector operations resulted in PSIF-funded subprojects; satisfactory outcomes of these subprojects enhanced further involvement of the private sector in infrastructure development, offering various opportunities for

[49] The Government defines a PPP project as a project based on a contract or concession agreement, between the Government or statutory entity on one side and a private sector company on the other, for delivering an infrastructure service on payment of user charges. The Government announced the scheme's implementation guidelines in July 2005, defining the eligibility criteria, scope of Government support, approval process for project proposals, procurement process for the selected projects, and roles of a lead financial institution.

ADB public and private sector operations. In this way, the PSIF demonstrated that the timeliness and complementarities of ADB operations were key factors in the success of a pioneering project with a primary objective as broad as private sector participation in infrastructure development.

80. PSIF achievement in the area of corporate debt market development was marginal. It could have better complemented the Government's efforts by way of issuance of corporate bonds by the PSIF subborrowers, had the Government undertaken significant policy measures promoting the corporate debt market early during PSIF implementation.

81. Review of PSIF project files and relevant OEM interviews did not suggest regular contacts and information sharing between ADB's public and private sector operations. Closer collaboration might result in more synergies. The ongoing special evaluation study on private sector operations will look into this aspect from a broader perspective.

2. Flexibility in Financing Arrangement

82. Under the PSIF, ADB loans were denominated in dollars. However, all subloans were denominated in rupees,[50] despite the fact that the PSIF was aimed primarily at financing the FX costs of subprojects. Such a currency mismatch may constrain the usefulness of ADB's credit lines, depending on the availability of hedging instruments and the capability of financial intermediaries in ALM.[51] It is expected that the local currency loan product, newly introduced by ADB under the Innovation and Efficiency Initiative (IEI) reforms, will respond to issues related to the currency mismatch between credit lines extended by ADB and subloans extended by financial intermediaries.[52]

83. Under the PSIF, only 20% of the subloan could be utilized for financing local currency costs in power and telecommunication subprojects. Due to this restriction, IFCI could not fully utilize one of the approved subloans. In conjunction with the IEI reforms, ADB can now offer more flexibility in cost-sharing arrangements, and expand the list of eligible expenses that ADB can finance.[53]

3. Assessment at Entry and Implementation

84. MOF observed that in some cases ADB spent excessive time reviewing environmental and social impact assessment reports prior to approval of subloans. Given that relatively stringent environmental and social guidelines for infrastructure projects are now in place in India, MOF was of the view that ADB should shift its focus to implementation and enforcement of these guidelines from at-entry assessments. The MOF considered that such a shift would contribute to quality control of subprojects, while improving the usefulness of ADB credit lines. The OEM supports MOF's view.

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[50] The Loan Agreement did not specify the eligible currency (or currencies) under the PSIF, but it required the issuance of securities or equivalent instruments by subborrowers. However, private sector companies have not been allowed to issue such instruments in foreign currency.

[51] As noted in footnote 32, in the case of the PSIF the currency mismatch did not particularly constrain the ICICI's and IFCI's ALM.

[52] ADB issued Indian rupee bonds, with a principal amount of Rs5 billion and a bullet maturity of 10 years, in the domestic capital market of India on 27 February 2004.

[53] ADB 2005. *Innovation and Efficiency Initiative: Pilot Financing Instruments and Modalities*. Manila.

4. Lack of Benchmark Floating Interest Rates, and Prepayments

85. According to several OEM interviewees, benchmark floating interest rates (such as the London interbank offered rate [LIBOR]) have not yet been fully established in India, and fixed interest rates (renewable every 2–3 years) were still predominantly used for long-term financing, as in the cases of most subloans. This related to the fact that most subloans were prepaid during and after the period when domestic interest rates were decreasing. Had floating interest rate lending been more actively used, there might have been fewer instances of prepayment under the PSIF.

5. Support for Public-Private Partnership

86. MOF now considers the credit facilities covered under the Government guarantee, such as PSIF, as no longer in keeping with the present government policy on PPP. ADB should consider this point and take an innovative approach in formulating the PSIF III listed in the country strategy and program update.[54] Strengthening of ADB's capacity in subsovereign and nonsovereign public sector financing, as envisaged under IEI, would be essential in responding to the changing economic environment and client needs in India

6. Weak Benefit Monitoring and Evaluation

87. The information provided by ICICI Bank and IFCI was not entirely sufficient for the OEM to examine the development impacts of subprojects. This is understandable given that (i) most subloans had been prepaid before the OEM, and (ii) the Loan Agreements did not clarify the BME of prepaid subprojects. Aside from these specific factors in the PSIF, weakness in BME has been a common issue in ADB's credit lines.[55] These experiences underscore the need for ADB to consider an alternative approach to creating a functional monitoring framework that balances increased administrative costs with the need for, and use of, the data collected. One possibility is to specify the required data and timing of data collection in a loan agreement. Another option is to select sample subprojects for detailed performance evaluation.[56] In any case, loan agreements need to clarify the BME of prepaid subprojects (e.g., subprojects which may pay back the loans before maturity). What is important is a clear and pragmatic solution for the purpose of developing an effective and efficient monitoring and evaluation framework for a credit line.

C. Follow-Up Actions

88. No specific follow-up actions were identified for the Borrowers or for ADB.

[54] ADB 2005. *Country Strategy and Program Update 2006–2008 India*. Manila.

[55] Two other recent PPARs (ADB. 2004. *Project Performance Audit Report on the Second Development Finance Project in Indonesia*. Manila; ADB. 2005. *Project Performance Audit Report on the Financial Sector Intermediation Loan in Pakistan*. Manila) also highlighted this issue.

[56] In pursuing this option, ADB may need to seek cooperation from the selected subborrower at the time of subloan approval, while ensuring subborrowers' names are not indicated in ADB's completion and evaluation reports.

PROFILE OF INDUSTRIAL CREDIT AND INVESTMENT CORPORATION OF INDIA LIMITED AND ICICI BANK

A. Industrial Credit and Investment Corporation Limited (–FY2001)

1. **Scope of Operations.** Industrial Credit and Investment Corporation of India Limited (ICICI) was formed in 1955 to provide medium- and long-term project financing to Indian businesses. Until the late 1980s, ICICI primarily focused its activities on project finance, providing long-term funds to industrial projects. With the liberalization of the financial section of India in the 1990s, ICICI transformed itself into a diversified financial service group offering a wide variety of services to take advantage of the growing opportunities in India. ICICI business is composed primarily of corporate banking activities including project finance, corporate finance, and working capital finance. ICICI established independent operations through the incorporation of subsidiaries and affiliates in venture capital funding (1988), investment banking (1993), commercial banking (1994), asset management marketing (1994), personal finance (1997), internet stock trading (1999), home finance (1999), and insurance (2000). As a diversified financial service provider, ICICI provided a complete spectrum of wholesale banking products and services including project finance, hybrid financing structure, syndication services, treasury-based financial solutions, cash-flow-based financing products, lease financing, equity financing, risk management tools, and advisory services.

2. **Ownership Structure.** ICICI was a listed company, and its shares were traded in the major Indian stock exchanges. ICICI's American Depository Shares and Global Depository Shares were listed in the New York Stock Exchange. Prior to the merger with ICICI Bank (as of 13 November 2002), ICICI's major shareholders were American Depository Shareholders (32.65%); Indian financial institutions such as the Life Insurance Corporation, General Insurance Corporation, and commercial banks (collectively equaling 33.2%); foreign institutional investors and nonresident Indians (15.1%); corporations (7.5%); and domestic individuals (10.2%).

3. **Financial and Portfolio Performance.** ICICI's key financial ratios during fiscal year (FY) 1998–FY2001 (Table A1.1 and Table A1.2)[1] indicated that (i) the loan portfolio grew steadily; (ii) profitability decreased in FY2000–FY2001 relative to the previous 2 years, reflecting the reduced interest margin, (iii) nonperforming loans were kept within the range of 5.2%–8.1%;[2] and (iv) the capital adequacy ratio remained satisfactory, and ICICI complied with all applicable prudential guidelines set by the Reserve Bank of India (RBI) as well as the financial covenants under the Private Sector Infrastructure Facility (PSIF).

[1] The date will be further verified and assessed based on the ICICI's annual reports being dispatched by ICICI Bank.

[2] The net worth was significantly reduced by Rs10 billion during FY2001, due to the set-off against reserves for provisioning for nonperforming loans (NPLs). Provisioning for NPLs increased significantly during FY2000 and FY2001.

Table A1.1: Key Financial Ratios of ICICI

Item	FY1998	FY1999	FY2000	FY2001
Growth of loans and other credit facilities (%)		26.3	11.9	20.6
Return on average equity (%)	21.0	20.3	16.8	16.4
Return on average assts (%)	2.4	2.1	2.1	2.1
Earning per shares (Rs)	18.2	18.2	17.0	17.0
Average cost of borrowings (%)	11.6	12.1	12.1	11.7
Gross yields (%)	14.9	14.6	13.9	13.5
Net interest margin (%)	3.3	2.5	1.8	1.8
Net nonperforming assets/total loan assets (%)	7.6	8.1	7.6	5.2

Rs = rupees, FY = fiscal year, ICICI = Industrial Credit and Investment Corporation of India Limited.
Source: Information submitted by ICICI Bank to the Operations Evaluation Mission.

Table A1.2: Financial Covenants of PSIF

Item	FY1997	FY1998	FY1999	FY2000	FY2001
Debt service coverage ratio (%)[a]	1.9	1.7	1.8	1.6	1.7
Capital adequacy ratio (%)[b]	12.4	13.0	12.5	17.2	14.6

FY = fiscal year, PSIF = Private Sector Infrastructure Facility
[a] Under the PSIF, the Borrower was to maintain a debt service coverage ratio of at least 1.1.
[b] Under the PSIF, the Borrower was to maintain a capital adequacy ratio of 8%, in accordance with the RBI's prudential guidelines. The capital adequacy ratio has since been changed to 9% (effective 2000).
Source: ADB's internal documents (as of 13 November 2002).

B. Merger of ICICI with ICICI Bank (FY2002)

4. In view of the benefits of transformation into a bank, and RBI's pronouncements on universal banking, ICICI explored corporate structuring alternatives for its transformation into a universal bank. ICICI Bank also considered strategic alternatives, in the context of emerging competition in the Indian banking industry and the move towards universal banking. The identified benefits associated with conversion of ICICI into a commercial bank through merger with ICICI Bank included:

(i) the resulting larger capital base and size and scale of operations, both of which were considered to be key factors for success in the Indian banking industry;
(ii) the strong business synergies between the two entities; and
(iii) the ability of banks to (a) accept low-cost demand and savings deposits, which constitute a relatively more stable source of funding, (b) offer a wider range of products and services, and (c) earn nonfund-based income in the form of banking fees and commissions.

5. After considering the benefits of the merger and the external financial advisers' recommendations, the board of directors of ICICI and ICICI Bank approved their merger on 25 October 2001, at a share exchange ratio of one ICICI Bank equity share (face value Rs10 per share) for every two ICICI equity shares (face value Rs10 each). The merger of ICICI with ICICI Bank was agreed under the Indian Company Act, 1956 and approved under the requisite orders of the High Court of Judicature at Mumbai (ICICI Bank is registered at Mumbai) on 11 April 2002, and the High Court of Gujarat (ICICI was registered in Gujarat) on 7 March 2002. RBI approved the merger on 26 April 2002. Following the merger of ICICI with ICICI Bank, with ICICI Bank as the surviving entity, all assets, liabilities, permits, consents, licenses, etc. were vested

in the transferee company (i.e., ICICI Bank), effective 30 March 2002,the date on which RBI approval of the amalgamation became effective.[3] There was no major reduction in staff strength in ICICI and ICICI Bank following this merger.

C. ICICI Bank (FY2002 to date)

6. **Scope of Operations.** ICICI Bank's commercial banking operations for retail customers consist of retail lending and deposits, private banking, distribution of third party investment products and other fee-based products and services, as well as issuance of unsecured redeemable bonds. In the area of corporate banking, ICICI Bank provides a range of products and services to India's leading corporations, growth-oriented middle market companies, and small and medium enterprises, including loan products, fee- and commission-based products and services, deposits, and foreign exchange and derivatives products. ICICI Bank also offers project finance and agricultural and rural banking products. ICICI Bank's treasury operations include maintenance and management of regulatory reserves, proprietary trading in equity and fixed income, a range of products and services for corporate customers, such as forward contracts and interest rate and currency swaps, and foreign exchange products and services. ICICI Bank's management believes that international markets present a major growth opportunity and has therefore expanded the range of ICICI Bank's commercial banking products for international customers.[4] During the 6 months ending 30 September 2005, ICICI Bank acquired Investment Credit Bank, a Russian bank with total assets of approximately $4.4 million at year end FY2005. Moreover, ICICI Bank has received approvals to establish branch offices in Sri Lanka and the United Arab Emirates from the respective regulatory authorities and has applied for a branch license in the United States.

7. **Project Finance.** ICICI Bank has developed cross-sectoral project financing expertise and is well positioned to leverage emerging opportunities. ICICI Bank's project financing strategy focuses on origination of tightly structured projects by leveraging its international quality due diligence skills, coupled with syndication capacity. The projects are structured to ensure easy syndication and also subsequent sell-down of its exposure in order to manage portfolio risk. Major deals during FY2005 included lead arranger mandates for a telecommunication project, an international airport project, a green field container transshipment terminal and steel capacity expansion project.

8. **Ownership Structure and Staff Strength.** ICICI Bank is a listed company, and its shares are traded in all the major stock exchanges in India. ICICI's major shareholders are foreign institutional investors (46.3%), American Depository Shareholders (26.8%), government financial institutions (12.9%), domestic individuals (6.6%) and domestic corporations (4.8%). ICICI Banks staff increased from 7,700 people at end FY2002 to 13,609 at end FY2004, and further to 24,078 at end December 2005.

9. **Financial and Portfolio Performance.** ICICI Bank's loan portfolio grew from Rs470 billion in end FY2002 to Rs964 billion in end FY2005, while its investment portfolio (including debentures) increased from Rs350 billion to Rs547 billion over the same period. ICICI Bank remained profitable during this period with a return on average equity ranging from 17% to 22% (Table A1.3), assisted by the steady increase in net interest margin, from 1.3% in FY2003 to

[3] As a result, all ADB loans in the name of ICICI were assumed by ICICI Bank, effective on the date of the merger and as per ADB's approval in December 2002.

[4] ICICI Bank has subsidiaries (in Canada, Russia, and United Kingdom); branches (in Bahrain; Hong Kong, China; and Singapore); and representative offices (in Bangladesh, People's Republic of China, South Africa, United Arab Emirates, and the United States).

2.3% in FY2005. In April 2004, ICICI Bank raised additional equity capital of Rs32.5 billion (equivalent to 40.5% of net worth at 31 March 2004), at a price of Rs280 per share. As a result, return on average equity in FY2005 declined to 17.9% from 21.8% in FY2004, while the capital adequacy ratio increased to 11.8% from 10.4%. The nonperforming loan ratio decreased steadily from 5.1% at end FY2003 to 2.0% at end FY2005. Of ICICI Bank's total advances, infrastructure finance (road, port, railways, telecoms, and power) constituted 4.7% at end September 2005, a decrease from 7.9% at end FY2004 and 5.7% at end FY2005. This reflected the selective approach of ICICI Bank in this area. Overall, ICICI Bank's financial and portfolio performance has been satisfactory.

Table A1.3: Key Financial Ratios of ICICI Bank

Item	FY2002	FY2003	FY2004	FY2005
Growth of advances (%)		13.3	21.9	48.4
Return on average equity (%)	17.8	18.3	21.8	17.9
Return on average assets (%)	1.1	1.2	1.4	1.4
Earning per share (Rs)	11.6	19.7	26.7	27.6
Average cost of borrowings (%)	7.5	8.9	7.1	5.8
Gross yields (%)	9.7	10.2	9.1	8.1
Net interest margin (%)	2.2	1.3	2.0	2.3
Net non-performing assts/total loan assets (%)	4.7	5.1	3.1	2.0
Capital adequacy ratio (%)[a]	11.4	11.1	10.4	11.8

Rs = rupees, FY = fiscal year.

[a] Under the Private Sector Infrastructure Facility, the Borrower was to maintain a capital adequacy ratio of 8% in accordance with the Reserve Bank of India's prudential guidelines. As of 2000, the capital adequacy ratio has been changed to 9%.

Source: Annual Reports of ICICI Bank, FY2002–FY2005.

PROFILE OF INDUSTRIAL FINANCE CORPORATION OF INDIA LIMITED

1. **Pre-PSIF Period (–FY1995).** The Government of India established the Industrial Finance Corporation of India (IFCI) in 1948 under the Industrial Finance Corporation Act of 1948 with the basic objective of making medium- and long-term credits to industrial concerns in India. IFCI was converted into a IFCI Limited, a public limited company, in 1993 under the new Industrial Finance Corporation Act of 1993. With this conversion, IFCI was to have greater operational autonomy and better focused business strategies. IFCI's major shareholders at the time of Private Sector Infrastructure Facility (PSIF) approval were the general public (35.2%), Industrial Development Bank of India (28.6%), the Government (20.6%), and employees and various private and public financial institutions (collectively 15.6%). From fiscal year (FY) 1991 to FY1996, IFCI's financial performance can be summarized as follows: (i) total assets grew by 102%; (ii) profit after tax grew on average over 40%; (iii) the debt service coverage ratio ranged from 1.2 to 1.7; and (iii) the capital adequacy ratio was maintained above 11% (FY1993 to FY1996). The proportion of nonperforming loans (NPLs) in the total loan portfolio was 17.6% at end FY1996.

2. **PSIF Implementation Period (FY1996–FY2002).** IFCI underwent two contrasting phases of financial performance, i.e., the first phase lasting from FY1996 to FY1998, and the second from FY1999 to FY2002 (Table A2). IFCI's performance in the first phase can be summarized as follows: (i) total assets grew by 52.8%, (ii) the return on average equity was over 24%, (iii) the NPL ratio[1] improved slightly, from 17.6% at end FY1996 to around 13–14% at end FY1997 and FY1998, (iv) the capital adequacy ratio was kept above 10%, and (v) the net interest margin was reduced from 5.2% in FY1996 to 3.3% in FY1998. The IFCI's performance in the second phase can be summarized as follows: (i) total assets were largely unchanged; (ii) the return on average equity was slightly negative in FY1999, slightly positive in FY2000; and significantly negative in FY2001 to FY2002; (iii) the NPL ratio remained over 20%;[2] (iv) the capital adequacy ratio remained above 8% from end FY1999 to FY2000, and lowered to 6.2% in end FY2001, and further to 3.1% in end FY2002; (v) the net interest margin remained slightly positive during FY1999–FY2001, and became negative in FY2002. The significant amount of bad debts that were written off explains the financial deterioration during FY1999–FY2001, while provisioning for bad and doubtful debts of over Rs6 million in FY2002[3] resulted in substantial reduction in net worth.

3. **Post-PSIF Period (FY2003 to date).** IFCI's financial results in this period can be summarized as follows: (i) total assets declined from Rs229 billion to Rs177 billion; (ii) the persisting financial loss peaked in FY2004 due to a significant amount of additional

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[1] This ratio was calculated based on NPLs as a proportion of the total loans and advances. The NPLs as a proportion of the total assets equaled 9.8% in FY1996.

[2] Two NPLs had outstanding amounts exceeding Rs1,000 million each, which represented over 10% of the top 100 NPLs' total amount outstanding. The textile and synthetic fiber and yarn industry, together with the iron and steel industry, were the major contributors, with outstanding amounts totaling 55.6% of the top 100 NPLs' total amount outstanding (IFCI. 2001. *Annual Report 2000-2001.* New Delhi).

[3] Changes in the regulatory environment, which came into effect in FY2001 and FY2002, included the following: (i) as of 31 March 2001 the concept of "past due" was dispensed with, as regards asset classification, removing the one-month grace period available for classification of NPLs; and (ii) from FY 2002 a financial institution asset would be treated non-performing if interest and/or principal remained overdue for 180 days (shortened from 360 days), resulting in additional provisioning on the NPLs from FY2003 (IFCI. 2001. *Annual Report 2000-2001.* New Delhi).

provisioning;[4] (iii) the NPL ratio reached 32.3%in FY2004 and declined slightly to 28% in FY2005; and (iv) net worth became negative in FY2004 and FY2005. IFCI has suspended new lending operations since FY2003, while pursuing expeditious recovery of NPLs and restructuring of its liabilities. To support these efforts, the Government has financially supported IFCI with (i) grants of Rs52.2 million (available in FY2000–FY2008), (ii) a convertible bond of Rs4 billion (issued in FY2002), and (iii) a loan of Rs5.23 billion (disbursed in FY2003). IFCI staff numbers were reduced from 850 at end FY2003 to 489 at end FY2005, through a voluntary retirement scheme. IFCI management noted the progress of the financial restructuring in FY2005, while setting a NPL ratio of 10% or less as a benchmark to resume lending operations. Currently, the management is exploring the opportunity of merging with other banks such as the Industrial Development Bank of India and Punjab National Bank.

4. During FY1998–FY2000, 24%–29% of IFCI's total disbursement was directed to infrastructure projects. Between 15% and 20% of IFCI's disbursements were for infrastructure projects during FY2001–FY2004, with a temporary increase to 62% in FY2005, reflecting progress in an ongoing large power project. According to the management, the portfolio of infrastructure financing has been performing relatively well.

[4] In accordance with Reserve Bank of India guidelines on graded higher provisioning norms for the secured portion of doubtful assets, IFCI made a 100% provision of the secured portion of assets classified as doubtful for more than three years on or after 1 April 2004. Further, in accordance with the guidelines, assets classified as doubtful for more than three years as of 31 March 2004 are provided for in a graded manner over 3 years (i.e., 60% by end FY 2005, 75% by end FY2006, and 100% by end FY2007 (IFCI. 2005. *Annual Report 2004-2005.* New Delhi).

Table A2: Key Financial Ratios of IFCI (FY1996–FY2005)

Item	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Return on average equity (%)	25.62	25.22	24.21	(0.19)	0.49	(32.08)	(232.18)	(189.12)	(169.87)	(10.04)
Return (Profit after Tax) on average assets (%)	2.88	2.43	1.93	0.11	0.26	(1.15)	(3.97)	(1.19)	(7.16)	(2.24)
Earning per share (Rs)	10.07	10.73	10.28	(0.07)	0.09	(5.09)	(14.57)	(4.78)	(51.28)	(5.79)
Average cost of Borrowings (%)[a]	11.55	13.71	11.98	12.40	12.60	12.58	12.04	9.29	7.90	6.73
Gross yield (%)[b]	16.75	17.58	15.26	13.08	13.11	13.75	11.31	7.71	5.90	9.75
Net interest margin (%)	5.20	3.87	3.28	0.68	0.51	1.17	(0.73)	(1.58)	(2.00)	3.02
Debt equity ratio	7.71	9.50	11.57	12.60	12.17	15.57	19.22	23.29	(6.91)	(5.27)
Capital adequacy ratio (%)	12.35	10.07	11.57	8.37	8.80	6.22	3.12	0.95	(17.03)	(23.46)
Net nonperforming assets/ total loan assets (%)	17.62	14.24	13.83	21.23	20.68	20.99	22.21	29.50	32.25	28.00
Non interest operating expenses/ total income (%)	7.18	6.63	6.97	6.50	5.91	4.72	4.82	6.13	11.83	5.24

( ) = negative, IFCI = Industrial Finance Corporation of India Limited, Rs = rupees, FY = fiscal year.
[a] Total interest expense (including interest tax) divided by average interest-bearing liabilities.
[b] Equal interest income divided by average interest-earning assets.
Source: Industrial Finance Corporation of India Limited.

OVERVIEW OF SUBLOAN UNDER LOAN 1480-IND (ICICI)

Item	P-1-CF	P-2-CF	P-3-C	TR-1-C	TE-1-C	TE-2-C
Date of ADB subloan approval	24 Oct 1997	26 Nov 1999	26 Nov 1999	26 Nov 1999	6 Dec 2000	13 Jul 2001
Total subloan amount approved by ADB ($ million)	25.82	36.94	15.64	7.58	9.50	66.8
Total amount disbursed by ADB ($ million)	22.93	30.79	14.06	6.48	8.92	66.8
Total amount disbursed by ICICI to subborrowers (Rs million)	1,400	1,500	730	689	2,000	3,750
Interest rate (%)[a] and maturity	19.5 Repayable by 2011	8.5 Repayable by 2016	15.7 Repayable by 2013	13.9 Repayable by 2013	6.5 Repayable by 2005	14.5 Repayable by 2006
Form of debt	Nonconvertible Debentures (NCDs)	NCDs[a]	NCDs	NCDs	NCDs	NCDs
Repayment performance	Prepaid	Prepaid (refinanced with term loan)	Prepaid	Prepaid	Prepaid	Prepaid
Prepayment date	Mar 2001	Mar 2006[b]	Mar 2005	Dec 2004	May 2004	Jun 2004

ADB = Asian Development Bank, ICICI = Industrial Credit and Investment Corporation of India Limited, Rs = rupees.

[a] The interest rates for P-2-CF and TE-1-C were at prepayment and conversion (from NCDs to term loan), respectively, while the interest rates of the remaining were at approval.

[b] Date of the conversion from NCDs to term loan.

Source: Data submitted by ICICI Bank to the Operations Evaluation Mission.

OVERVIEW OF SUBLOAN UNDER LOAN 1481-IND (IFCI)

Item	P-1-CF	P-2-CF	P-4-F	P-5-F	TR-2-F (later TR-2-FG)
Date of ADB subloan approval	25 Nov 1997	18 Oct 2000	26 Oct 1998	18 Oct 2000	17 Jul 1998
Total subloan amount approved by ADB ($ million)	7.49	32.4	18.75	15.47	25.07
Total amount disbursed ADB ($ million)	7.49	19.55	8.68	3.20	23.56
Total amount disbursed by IFCI to subborrowers (Rs million)	300	1,500	1,500	1,500	970
Interest rate (%) and maturity	20 19.5 19.5 Repayable by 2011	16.5–18.5	PLR+3.5 Repayable for 8.5 years semi-annually up to 15 Jun 2010	15.5 Repayable for 10 years quarterly	16.22 Repayable for 10 years quarterly up to 15 April 2012
Form of debt	Non-convertible debentures (NCDs)	NCDs	NCDs	NCDs	NCDs
Repayment performance	Prepaid	Prepaid	Regular	Prepaid	Prepaid

ADB = Asian Development Bank, IFCI = Industrial Finance Corporation of India Limited, Rs = rupees.
Source: Data submitted by IFCI to Operations Evaluation Mission.

SUBPROJECT PROFILES

I. P-1-CF (Thermal Power Plant)

A. Background

1. Company and Project

1. P-1-CF was incorporated in 1994 as a join venture between BG-1 (a family-owned diversified business group with core activities that include steel and pipe production) and E-1 (a European company) to set up a corex and coal based thermal power plant with an installed capacity of 2x130 megawatts (MW) in the state of Karnataka. In accordance with two agreements—the power purchase agreement (PPA) and the fuel supply agreement with S-1 (a steel company of BG-1, which produces 1.25 million tons [mt] of hot rolled coils)—S-1 would procure power from P-1-CF, and would also supply the corex and coal required for the plant. S-1 was to consume about 60% of the subproject outputs with the remaining to be sold to Karnataka Power Transmission Corporation Limited (KPTCL). Table A5.1 indicates the key subproject data as per appraisal.

Table A5.1: Key Subproject Data

Item	Rs million	$ million
Total Subproject Cost	**11,950**	**330.20**
Foreign Currency Cost	4,120	113.84
Local Currency Cost	7,830	216.36
Proposed Financing	**11,950**	**330.20**
Equity (Local Currency)	3,240	89.53
Rupee Loans	4,590	126.83
Foreign Currency Loan	4,120	113.84
Planned Subproject Completion	July 1998	

Rs= rupees.
Source: Asian Development Bank project files.

2. The plant was commissioned late in January 2000 due to delays in financial closure. The actual project cost was Rs11.95 billion. In December 2001, E-1 sold its share to Industrial Development Bank of India, Industrial Credit and Investment Corporation of India Limited (ICICI), and BG-1. Currently, BG-1 fully owns P-1-CF.

2. Details of Subloan

a. Approval and Disbursement

3. In October 1997 and November 1997, ADB approved subloans of $9.96 million and $3.83 million for ICICI and Industrial Financial Corporation of India Limited (IFCI), respectively, to extend subloans to P-1-CF. These subloans, syndicated with other institutions and banks, covered part of the total project cost of Rs11.95 billion. ICICI was the leading bank in the syndication. The approved amounts of the two subloans were subsequently raised, with final sanctioned amounts for ICICI and IFCI of $22.93 million and $7.49 million, respectively. ICICI and IFCI withdrew the entire sanctioned subloan amounts, and disbursed the equivalent amounts in the form of rupee-denominated non-convertible debentures (NCDs).

b. Repayment Performance

4. The effective interest rate of the two subloans to P-1-CF was 19.5% and was repayable in quarterly installments until 2011. ICICI transferred the NCDs to a debenture securitization trust (DST), which in turn issued pass-through certificates (PTCs) in March 2001. The PTCs were subscribed by a local bank. P-1-CF prepaid the subloans to ICICI Bank and IFCI in fiscal year (FY) 2001 for the following reasons: (i) interest rates in India began dropping significantly from 1997, and (ii) the Karnataka Electricity Regulatory Commission (KERC) and KPTCL urged P-1-CF to restructure its debt and lower its costs for power sales to KPTCL. Subsequently, the DST also prepaid that part of the PTCs corresponding to the amount prepaid by P-1-CF. There was no delay in P-1-CF's repayments and interest payments to ICICI Bank and IFCI.

B. Operational Performance

5. Over the past 5 years, the subproject has consistently generated above 1,800 million units (MU = 1 million kilowatt per hour) at a plant load factor (PLF)[1] of over 90%, as demonstrated in Table A5.2. On this basis, the OEM considered this subproject effective.

Table A5.2: Operational Performance

Operating Parameters	Units	FY2005	FY2004	FY2003	FY2002	FY2001
Gross Generation	MU	1,966.77	2,184.69	2,160.97	2,184.30	1,730.22
Plant Load Factor	%	86	96	95	96	89
Auxillary Consumption	MU	140.77	135.48	128.77	122.75	157.91
Auxillary Consumption	%	7.16	6.2	5.96	5.62	9.13
Net Generation	MU	1,826.00	2,049.21	2,032.20	2,061.55	1,572.31
Sales to KPTCL	MU	496.45	780.17	903.1	966.55	1,082.48
Sales to S-1 and others	MU	1,329.55	1,269.04	1,129.10	1,095.00	489.83

FY = fiscal year, KPTCL = Karnataka Power Transmission Corporation Limited, MU = million units.
Source: ICICI Bank.

C. Financial and Economic Analysis

6. At appraisal, the financial internal rate of return (FIRR) for this subproject was projected to be 21.2%, and the economic internal rate of return (EIRR) to be 29.1%. In FY2005 P-1-CF obtained higher returns than anticipated at appraisal (Table A5.3), as a result of (i) its inherently low cost of power generation,[2] which makes it feature low in merit order[3] in the southern grid; and (ii) the merchant nature of the plant, which in the absence of a long-term PPA, provides it with the flexibility to trade in the market (in the currently constrained supply scenario, the market is prepared to pay higher tariffs). Given these factors, the actual FIRR and EIRR for the subproject are likely to remain higher than projected. On this basis, the OEM considered the project highly efficient.

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[1] The annual PLF is the ratio of the actual energy output of a power plant over a year to the theoretical energy output of the plant, if operating at maximum output throughout the year.

[2] The low cost is achieved by utilizing waste gas from the steel-making process.

[3] Merit order is the order in which power stations are scheduled (called to generate power) every day by buyers. To optimize the overall cost of power purchases, stations are scheduled in an order starting with those having the lowest variable cost; stations with increasing costs are scheduled subsequently, until the buyers' entire demand is met. Stations with high variable cost therefore run the risk of not being scheduled.

Table A5.3: Financial Performance (Rs million)

Item	FY2005	FY2004	FY2003	FY2002	FY2001
Total Revenues	4,937	5,580	5,219	5,447	3,979
Operating Expenses	2,769	2,796	2,874	3,135	1,950
Operating Profit	**2,168**	**2,784**	**2,346**	**2,312**	**2,029**
Depreciation and Write-offs	695	862	664	666	576
Interest and Finance Charges	481	613	919	1,024	958
Profit before Exceptional Item and Tax	**992**	**1,309**	**763**	**622**	**495**
Exceptional Item[a]	0	810	(524)	0	0
Profit before Tax	**992**	**2,119**	**239**	**622**	**495**
Provision for Tax	389	164	24	56	36
Profit After Tax (PAT)	**603**	**1,956**	**215**	**566**	**459**

( ) = negative, Rs = rupees, FY = fiscal year.
[a] Indicates provision made to account for reduction in tariffs as per Karnataka Electricity Regulatory Commission order. Item reversed the following year as per Karnataka High Court order.
Source: Published annual accounts.

7. About 40% of the outputs have been sold to KPTCL under a 5-year PPA. The tariff was negotiated at Rs2.60 per unit for FY2001, and was to be escalated 5% per year. Although KERC approved the PPA, it reduced the starting tariff to Rs2.36 per unit, with an annual increase of 2.5%. P-1-CF contested the KERC order in the Karnataka High Court, which decided in favor of P-1-CF (vide its order dated April 2004). The pre-existing PPA became effective again in April 2004, with KPTCL then paying P-1-CF Rs3.00 per unit of power; the current tariff is Rs3.16 per unit. The OEM assessed that the outcome of this subproject would be likely to sustain.

D. Socioeconomic and Environmental Aspects

8. P-1-CF employs about 150 trained people, and benefits several others who are locally involved in outsourced plant services.

9. By the end of March 2005 P-1-CF had invested over Rs900 million in environment protection schemes. A suitable environmental monitoring program is in place, providing continuous emission monitoring. P-1-CF is currently training its employees and implementing systems to obtain ISO 14001 Environment Management System certification.

10. Dry fly ash and bottom ash handling systems have been implemented to reduce water usage. P-1-CF is currently a zero water discharge company.

11. Several afforestation drives have resulted in planting of over 60,000 trees on 110 acres of land, since commercial operation began.

12. Based on the information provided by ICICI Bank and IFCI, the OEM found no significant negative socioeconomic and environmental impacts associated with the subproject.

II. P-2-CF (Hydropower Plant)

A. Background

1. Company and Project

13. P-2-CF is a company promoted in 1994 by BG2 (a family-owned business group, whose core activities are construction and cement production), for the purpose of construction, operation and maintenance of a 3x100 MW run-of-the-river hydroelectric power plant, by constructing a diversion barrage across River-B in the State of Himachal Pradesh.

14. This subproject has a 40-year PPA (up to year 2043) with the Himachal Pradesh State Electricity Board (HPSEB), which guarantees the government of Himachal Pradesh (GOHP) a unilateral right to either (i) purchase the power plant or (ii) extend the term of the PPA for a further 20 years, with a first right to purchase power on the same terms and conditions. In accordance with the agreement with GOHP, 12% of the net annual power generated from the plant would be allocated free to GOHP. Construction on the plant began in 1998 and the project was to be completed by 2001.

15. In accordance with the PPA signed in 1997, the initial capital cost of the power plant was projected to be Rs7.03 billion, excluding escalation and interest during construction. The technological and economic clearance accorded to the project by the Central Electricity Authority was for Rs9.49 billion (December 1993 price level), including interest during construction but excluding escalation. The project cost has since changed due to (i) deviations in quantities of civil work, (ii) extra items, (iii) restoration of damages due to unprecedented flash flood in July 2000, (iv) price escalation, (v) exchange rate variations and (vi) interest during construction. In May 2001, a revised project cost (of Rs16.2 billion) and a revised commissioning schedule were appraised by the lead lender, ICICI, and accepted as Rs16.25 billion. On this basis, P-2-HP and HPSEB agreed on a project cost of Rs15.5 billion for the purpose of tariff setting on a cost-plus basis, as per the Supplementary Agreement concluded in 2003.

16. The project was successfully commissioned on 8 June 2003, with the delay subsequently recognized by parties concerned as due to force majeure conditions, which were outside the control of P-2-CF. Table A5.4 indicates the financing arrangement for the actual project cost claimed by P-2-CF, totaling Rs16.7 billion.

Table A5.4: Financing Arrangement

Item	Amount (Rs billion)
Equity	4.9
Rupee Debt	8.9
Foreign Currency Loan	0.1
Buyers Credit	1.9
Internal Accruals	0.9

Rs = rupees
Source: P-2-CF.

2. Details of Subloan

a. Approval and Disbursement

17. In November 1999, ADB approved subloans of $26.5 million to ICICI and $6.4 million to IFCI for P-2-CF. In May 2000 and October 2000, the subloan amounts were increased respectively to $36.9 million for ICICI and $32.4 for IFCI, totaling $69.3 under the PSIF. ICICI's entire sanctioned subloan amount was disbursed, but IFCI could disburse only $19.6 million, because of the cap on financing local currency costs of power projects, which limited financing provided by IFCI under the PSIF to 20% of the total. Since P-2-CF's foreign currency costs were significantly financed by the time the subloan was approved, IFCI could not disburse more than $19.6 million to P-2-CF. These amounts were disbursed to P-2-CF in the form of rupee-denominated NCDs.

b. Repayment Performance

18. The interest rate of the subloan from IFCI to P-2-CF was initially between 16.5% - 18.5%.[4] Subsequent interest rate decreases in India caused P-2-CF to negotiate with IFCI and ICICI Bank to lower the subloan interest rates. IFCI was unable to accommodate this request, prompting P-2-CF to prepay their loan in 2004. P-2-CF's other lenders agreed to reset interest rates between January to October 2004, lowering the subproject's effective cost of borrowing to 10.5%. In March 2006, ICICI Bank converted the subloan from NCDs to a term loan with an interest rate of 8.5%, repayable by 2016. There was no delay in P-2-CF's repayments and interest payments to ICICI Bank and IFCI.

B. Operational Performance

19. Actual energy generation by P-2-CF has been in keeping with the plant's design energy,[5] as indicated in Table A5.5. According to P-2-CF, its average plant availability[6] in FY2004 and FY2005 was 96.80% and 99.77%, respectively and remained at 97.40% for January 2006. The OEM assessed this subproject as effective.

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[4] The OEM could not verify the initial interest rate of the subloan from ICICI.

[5] Central Regulatory Commission defines design energy as the quantum of energy which could be generated in a 90% dependable year with 95% installed capacity of the generation station.

[6] The plant availability factor of a power plant is the ratio of the amount of time that it is able to produce electricity over a certain period, to the total amount of the time in the period.

Table A5.5: Design and Actual Energy Generation

Year/Month	Saleable Design Energy (in million units)	Actual Saleable Energy (in million units)
FY2004	940.41	990.76
FY2005	1050.06	1041.92
April 05	41.91	33.42
May 05	72.60	101.10
Jun 05	169.62	175.82
Jul 05	183.53	177.38
Aug 05	183.53	190.74
Sep 05	129.54	174.64
Oct 05	69.53	77.44
Nov 05	50.29	45.75
Dec 05	40.98	34.74
Jan 06	37.95	17.46
Subtotal	**2,969.95**	**3,061.17**

FY = fiscal year.
Source: P-2-CF.

C. Financial and Economic Analysis

20. Table A5.6 indicates P-2-CF's satisfactory financial performance, with a return on equity of around 12% in FY2004. Note, however, that the income from sales of power in FY2004 includes the accumulated receivables of Rs997.97 million from HPSEB, due to disallowance of P-2-CF's claims on completed project cost by the Himachal Pradesh Electricity Regulatory Commission and the delay in clearance of the total project cost by the Central Electricity Authority (CEA).[7]

Table A5.6: Summary Income Statements of P-2-CF (Rs million)

Item	FY2005	FY2004
Income from Sale of Power	2,995.2	2,953.1
Other Income	18.3	13.0
Gross Income	**3,013.5**	**2,966.1**
Expenditure		
Operation and Maintenance	31.1	97.0
Employee, Administration and General Expenses	1,55.8	118.7
Interest and Finance Charges	1,273.0	1,312.4
Other Expenses	163.1	96.5
Total Expenditure	**1,623.0**	**1,624.6**
Depreciation	835.6	712.6
Provision for Tax	43.9	49.8
Profit After Tax	**511.0**	**579.1**

Rs = rupees, FY = fiscal year.
Source: Published annual accounts of P-2-CF.

[7] The Himachal Pradesh Electricity Regulatory Commission has not accepted the total project cost of Rs15.5 billion indicated in the Supplementary Agreement, and determined the tariff based on its own project cost calculation. In addition, CEA has also not cleared the total project cost of Rs16.67 billion claimed by P-2-CF.

21. The current agreement between HPSEB and P-2-CF stipulates that HPSEB will reimburse P-2-CF for power consumed by HPSEB at tariffs based on the final decision made by CEA on the total project cost.[8] For P-2-CF power sold by HPSEB to other states, HPSEB will pass on the revenue on the basis of net tariffs realized from these states, after deduction of line losses and transmission charges.[9] The gap in PPA-determined tariffs and the payments thus realized are carried forward as receivables from HPSEB, to be repaid along with interest. P-2-CF's tariffs, as per the PPA, will decrease in future years as loans are repaid and the plant depreciates (indicated in Table A5.7). Against this lower tariff, HPSEB is expected to realize an increasingly higher market price for sale of P-2-CF's power to other states. This gap will therefore narrow, and should fully close by FY2008, with receivables repaid over the next two years.

Table A5.7: PPA-Based Tariff Projections

PPA-based tariff projections	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
Rs/Unit	3.03	2.91	2.93	2.89	2.84	2.80	2.75	2.75	2.68	2.61

FY = fiscal year, PPA = power purchase agreement, Rs = rupees.
Source: P-2-CF.

22. P-2-CF made an initial public offering (IPO) in March 2005, with equity shares of Rs10 priced at Rs32 per share. The issue was oversubscribed by a factor of almost seven. Issue proceeds were intended to fund new P-2-CF projects. Apart from the tariff-related issue discussed above, there are no significant factors affecting the financial performance of P-2-CF. On this basis, the OEM considered P-2-CF financially viable.

23. The project FIRR of 16.13% estimated at appraisal may be high, given the gap between estimated tariff in the PPA and the tariff realized from HPSEB over the first four years.[10] The subloan application documents did not include the EIRR estimation.

24. On the basis of the above, the OEM assessed this subproject as efficient, and its outcome as likely to sustain.

D. Socioeconomic and Environmental Aspects

25. P-2-CF obtained environmental and forestry clearance from the Ministry of Environment and Forests (MOEF) in May 2000 on the premise that they would adopt certain precautionary measures for preventing environmental degradation. The MOEF raised concerns regarding the treatment of the catchment area and the environment management plan. P-2-CF resubmitted its environmental management plan to the satisfaction of MOEF, and it is currently being executed through the state government's forest department. P-2-CF has made a provision of Rs245.20

[8] According to P-2-CF, CEA depends on a project monitor (in this case the Central Public Sector Unit of the National Hydro Power Corporation) to concur with actual spending and the basis of technical claims for unforeseen geography-related issues and delays. National Hydro Power Corporation had already agreed with the final costs as claimed by P-2-CF, and the latter therefore anticipated clearance by CEA would be forthcoming.

[9] According to P-2-CF, HPSEB realizes significantly higher tariffs from Delhi Transco; the Regulator is willing to have the P-2-CF's accumulated receivables from HPSEB adjusted against extra profits earned in future years.

[10] Although the carrying cost of such receivables is also supposed to be reimbursed by HPSEB, it will impact FIRR, as cash flows are impacted over the first two years.

million in the accounts for the year FY2004 for implementing the environmental management plan and the catchment area treatment plan, as well as for payments to the Himachal Pradesh forest department for this purpose.

26. Aside from being the primary source of socioeconomic development, the project has provided several direct and indirect benefits to the region. Roads and bridges were constructed in the vicinity of the project and are maintained regularly by P-2-CF, thus improving access to the region. Funds and expertise for upgrading existing and developing new schools in the region have been provided by P-2-CF. Health care facilities in the form of a hospital, new dispensary, doctors and medical staff, as well as free medicines, have been arranged by the company in the vicinity of the project, for the benefit of the people of adjoining villages. The project provides direct employment to about 200 people, as well as indirect employment to several others.

III. P-3-C (Thermal Power Plant)

A. Background

1. Company and Project

27. P-3-C was established in 1993 as a joint venture between BG-3 (a business group owned by a non-resident Indian) and NA-1 (a North American electricity generation company), for the purpose of setting up a lignite-fired power plant with an installed capacity of 250 MW in the State of Tamil Nadu. Pursuant to a tripartite agreement in February 1998, the interest of BG-3 in the project was acquired by NA-1 and E-2 (a European company). Since then P-3-C has been a joint venture between NA-1 and E-2, each having a 50% share in the equity capital of the company.

28. This subproject has a 30-year PPA with the Tamil Nadu State Electricity Board (TNEB), and is backed by a guarantee from the Government of Tamil Nadu for any defaults of payment by TNEB not covered by letter of credits or escrow account covers. This project is one of the eight original “fast track” projects identified by and enjoying counter-guarantee from the Government of India for servicing of foreign debt, in case of termination of the PPA with TNEB. The plant was constructed in 2002 according to plan.

2. Details of Subloan

a. Approval and Disbursement

29. On 26 November 1999, ADB approved ICICI’s request to extend a subloan of $15.64 million equivalent (Rs730 million) to P-3-C under the PSIF, which was also syndicated with other institutions and banks.[11] ADB actually disbursed $14,06 million for ICICI to purchase the rupee-denominated non-convertible debentures of around Rs654 million.

b. Repayment Performance

30. The effective interest rate of this subloan was 15.7% and was repayable by year 2013. P-3-C prepaid the subloan in March 2005, however. Analysis by OEM of the conditions prevailing at that time suggest the subloan was prepaid because: (i) interest rates began falling

[11] Foreign banks led the loan syndication.

significantly in India in 1999, enabling P-3-C to obtain an alternative less costly refinancing facility; and (ii) the Tamil Nadu Electricity Regulatory Commission and TNEB urged ST-CMS to take all measures to restructure debt to lower fixed costs, in accordance with the PPA with TNEB.

B. Operational Performance

31. P-C-3 has not fully achieved the desired generation of 1,800 million units per annum expected at appraisal (Table A5.8). The plant has been "backed down" due to the high cost of P-3-C compared with other power sources for Tamil Nadu. Available information, such as the Order of the Tamil Nadu Electricity Regulatory Commission for FY2004, suggests that P-3-C is a marginal station under a variable-charge approach and hence runs the risk of being backed down during off-peak periods. Nevertheless, the PLF increased from around 80% in FY2004–FY2005 to 90% in FY 2006, reflecting the growing demand for electricity in the southern region. On this basis, the OEM assessed this subproject as effective.

Table A5.8: Operational Performance

Period	Generation (Million Units)	Plant Load Factor including Deemed Generation (%)	Plant Availability (%)	Auxiliary Consumption (%)
Dec 2002–Mar 2003	353.07	64.88	65.27	9.10
FY2004	1,528.73	80.57	80.55	8.08
FY2005	1,354.71	81.82	81.77	8.00
Apr 2005-Feb 2006	1,279.50	90.14	89.90	8.01

FY = fiscal year.
Source: P-3-C.

C. Financial and Economic Analysis

32. Information concerning financial performance of P-3-C is not publicly available. The available information suggests that the financial performance of P-3-C has been satisfactory.

1. The FIRR and EIRR for the project were estimated at 12.6% and 19.83%, respectively, at the time of subloan approval. The FIRR and EIRR, as reevaluated by the OEM, are slightly lower, primarily reflecting the fact that no incentive payments were received, as production was lower than expected. On this basis, the OEM assessed the subproject as highly efficient.

D. Socioeconomic and Environmental Aspects

33. The unskilled and semi-skilled workforce came from the local area and overseas. A majority of the skilled workforce came from other parts of India. Although the addition of the negligible community workforce associated with P-3-C had very little impact on the services and facilities in the surrounding area, some benefits reached local towns in the form of money spent by the new community. This subproject also had a positive impact on industrial development, through the addition of a new source of power to meet demand.

34. P-3-C employs about 150 full-time staff for operation and maintenance. About 100 additional semi-skilled personnel (e.g., electricians, plumbers) benefited from the plant. In

addition, a further 300 unskilled staff are employed by P-3-C on contractual basis for such services such as security, house-keeping, gardening, vehicle driving, etc.

35. As per agreement with L-1 (a local lignite producer which provided the 220 acres of land for the power plant and its associated facilities), of the 50 families displaced in connection with the plant, 25 were provided permanent employment by P-3-C, while the rest were accommodated by L-1.

36. P-3-C is committed to pollution prevention, continual improvement of their environmental performance, and creation of benchmark standards by (i) complying with statutory and other requirements, (ii) optimizing energy and water consumption, (iii) reducing dust emissions and effluents, (iv) effectively managing solid and hazardous wastes, (v) encouraging employee participation on environmental issues, and (vi) ensuring cost effective and timely resolutions to environmental issues.

37. P-3-C allocates an annual budget of Rs202.8 million for environmental management, including the annual maintenance cost for the stack and testing laboratory, and the manpower (including direct employment and outsourced consultants) involved in environmental monitoring. It achieved a safety excellence award for having no lost-time accidents in 2003 and 2004, and it is likely to receive an award for 2005. It has also successfully implemented ISO 14001 for environmental management.

38. Among its environmental management initiatives, P-3-C has undertaken the following steps:

(i) Land area equivalent to 25% of the plant area was to be developed as a green belt with planting of specific varieties in keeping with the guidelines of the Tamil Nadu Pollution Control Board (TNPCB) and the MOEF. P-3-C successfully completed these initiatives, and the forest area was maintained both within the plant and in the adjoining villages.

(ii) Online monitoring of stack air quality is conducted, with display of readings for suspended particular matter, respirable particular matters, oxides of nitrogen, oxides of sulfur, carbon and lead. In addition, P-3-C has appointed an environment consultant to conduct a monthly analysis of stack air as well as ambient air quality. Six monitoring stations have been established in a 5 km radius around the plant; ambient air quality readings are reported on a monthly basis to the TNPCB. In addition, TNPCB officials carry out independent analysis of effluent water and ambient air. To date all such analyses have yielded results within permitted levels under TNPCB and MOEF guidelines for thermal power plants in India.

(iii) In accordance with the Government's guidelines for fly ash utilization, P-3-C provides for fly ash to be collected and sold to Madras Cement Limited, whose factory is located about 40 km from the plant site. Bottom ash is washed into an ash pond. P-3-C has implementing a zero-water discharge project under which clarified water from the ash pond is treated and reused as make up water in the raw water system of the plant. Reuse of effluent water has drastically reduced the ground water extraction and utilization, from 990 cubic meters per hour to 250–300 cubic meters per hour, which will have a beneficial impact on the groundwater table.

39. Social measures implemented by P-3-C include:

(i) providing drinking water to about 1,500 families in six large adjoining villages;

(ii) providing make-up water twice a year for the village reservoir, which is used for irrigation and sanitation;

(iii) organizing a medical camp, providing free health check-ups for adjoining villages once per year, and a free eye camp twice per year;

(iv) building, for its employees, a self-sufficient housing colony with modern amenities and school transport for children.

IV. P-4-F (Thermal Power Plant)

A. Background

1. Company and Project

40. P-4-F was incorporated in 1995 as a joint-venture between L-1 (a family-owned local company specializing in power generation) and E-3 (a European company) to construct, own, and operate a 355 MW naptha-based combined cycle power plant in the state of Andhra Pradesh. P-4-F was the first project cleared by the CEA under the international competitive bidding route for power projects in India. Table A5.9 indicates the key project data as per appraisal. The plant was commissioned successfully and on schedule on October 2000, subsequent to financial closure and commencement of construction in December 1998. The actual subproject cost was Rs11 billion. P-4-F entered into a PPA with Andhra Pradesh State Electricity Board for guaranteed purchase of up to 80% of the capacity for a period of 15 years.

Table A5.9: Key Subproject Data

Item	Rs million	$ million
Total Project Cost	**10,640**	**266.00**
Foreign Currency Cost	6,534	163.40
Local Currency Cost	4,106	102.70
Proposed Financing	**10,640**	**266.00**
Equity (Foreign Currency)	1,134	28.35
Equity (Local Currency)	2,266	56.65
Rupee Loans	1,840	46.00
Foreign Currency Loan	5,400	135.00
Planned Project Completion	October 2000	

Rs = rupees.
Source: Asian Development Bank project files.

2. Details of Subloan

a. Approval and Disbursement

41. On 26 October 1998, ADB approved a subloan of $18.75 million to IFCI against the P-4-F subproject under the PSIF facility. This was subsequently reduced to $9.375 million (Rs375

million) on 5 February 1999, due to revised means of financing. The entire sanctioned subloan amount was disbursed by IFCI in the form of rupee-denominated NCDs. The effective interest rate of this subloan to P-4-F was IFCI's prime lending rate + 3.5%, and was repayable in 34 equated quarterly installments, commencing from 15 October 2001, after a grace period of 18 months.

b. Repayment Performance

42. P-4-F's interest payments and repayments have been regular.

B. Operational Performance

43. Linkage of natural gas through the Gas Authority of India Limited and modifications in plant design have enabled it to operate on natural gas since September 2001, with enhanced installed capacity of 368 MW. The project generates close to 2,300 MU per annum, with a PLF of 71%, compared with PLF projections of 90% in the appraisal documents; the lower actual levels reflect constraints in the supply of gas. Nonetheless, P-4-F evidently contributed to reducing the peak deficit in the southern grid from 14–15% in FY2000 to around 8% at present. On this basis, the OEM assessed this subproject as effective.

C. Financial and Economic Analysis

44. At the time of appraisal the FIRR and EIRR were projected at 21.1% and 16.1%, respectively. Incentive payments are unlikely to accrue at lower-than-expected PLFs, and thus actual FIRR and EIRR are likely to be lower than projected. The financial data on P-4-F is not publicly available, but the information submitted to IFCI indicates that P-4-F has been profitable (Table A5.10). On the basis of the limited available data, the OEM tentatively assessed this subproject as efficient.

Table A5.10: Financial Performance

Rs million	FY2005	FY2004	FY2003	FY2002	FY2001
Revenues	5,597	5,528	5,642	5,971	2,801
Gross Profit	2,602	2,432	2,482	3,289	2,048
Interest	597	822	985	1,047	386
Depreciation	843	866	875	835	359
Profit After Tax	1,077	743	710	772	14

Rs = rupees, FY = fiscal year.
Source: IFCI.

45. Availability of gas remains a crucial issue in Andhra Pradesh, and the sufficiency of the gas linkage is an inherent risk for P-4-F.[12] Nevertheless, the OEM considered that P-4-F's operations are likely to sustain for the following reasons. First, the PPA provides for reimbursement of full fixed costs if the plant is made available (although not necessarily producing) 68.5% of the time, year-round. P-4-F has consistently recovered its fixed costs by achieving over 80% availability. Second, it is considered likely that the southern grid power deficit will continue, at least in the medium term.

[12] Gas supply has been a countrywide issue in India. Reportedly, almost all gas-based power stations currently operate at below 60% PLF. It is also reported that over 3,000 MW of projects that have closed financially have been put on hold by the Ministry of Power because the gas linkage is insufficient.

D. Socioeconomic and Environmental Aspects

46. Based on the information provided by IFCI, the OEM did not discern any adverse environmental impacts from this subproject. The project did not involve any resettlement or land acquisition issues, because it was transferred from Andhra Pradesh Industrial Infrastructure Corporation. It is a modern combined cycle gas turbine plant, and has no recorded issues with regards to effluent gases or effluent water.

V. P-5-F (Hydropower Plant)

A. Background

1. Company and Project

47. P-5-F was incorporated by BG-4 (a family-owned business group with core activities in textile and garment manufacturing) to build, own, and operate a 86 MW hydropower plant by utilizing water from River-B in the state of Himachal Pradesh. At appraisal the entire electricity output was proposed to be wheeled across for consumption of sponsor group companies in Rajasthan. Total cost of the project was Rs3.520 billion ($480.92 million) to be financed by a debt/equity component of 70:30. The actual project cost of was Rs3.2 billion, financed with Rs0.66 billion of equity and Rs2.55 billion in debt. Project construction began in April 1999 and was expected to be commissioned in October 2001. The project was commissioned ahead of schedule in July 2001.

48. P-5-F is the first medium or large operational private sector hydro project in the country. Constructed at a cost of Rs37.5 million per MW, it set a new benchmark in hydropower construction in the country. It is also the first merchant hydropower plant in the country and does not have a long-term PPA with any buyer to date.

49. In 2005, LI-1 (a local investment company) acquired 49% of the holding in P-5-F at a premium of Rs18.20 per share of Rs10 each. The proceeds are to be utilized for construction of another 192 MW hydro project in Himachal Pradesh, being constructed by P-5-F.

2. Details of Subloan

a. Approval and Disbursement

50. In October 2000, ADB approved a subloan of $15.47 million to IFCI for P-5-F. Since the construction of the project had already commenced by the time of project approval, P-5-F arranged for funds from other lenders on the basis of IFCI's appraisal of this subproject. The disbursal amount was therefore only $3.21 million, which was in the form of rupee-denominated NCDs. The interest (at the rate of 15.5%) was to be repaid by the 10th year after commissioning of the project, through quarterly installments.

b. Repayment Performance

51. P-5-F prepaid this loan along with the prepayment premium, as cheaper lines of finance became available from commercial banks in India immediately after completion of the project. P-5-F's interest payments and prepayments before the prepayment were regular.

B. Operational Performance

52. The design energy for P-5-F was indicated at 372 million units, which appears unlikely to be achieved by P-5-F, as it has already experienced several dependable years, but has fallen short of the design energy (Table A5.11). Nevertheless, this is not a serious concern as the plant has no long-term PPA, and trades primarily as a merchant power plant.[13] P-5-F has provided 12% of its power to the Government of Himachal Pradesh at no cost. It also supplies power at negotiated rates to the neighboring states of Delhi and Haryana. The first-year tariff was set at Rs2.65 per unit for FY2002, which is very low in merit order in the northern region. It has thus proven to be a low-cost power source for the neighboring states, and has helped redress acute power shortages in the northern grid. Therefore, the OEM assessed this subproject as effective.

Table A5.11: Operational Performance (Million Units)

Item	FY2005	FY2004
Gross Generation	275.4	346.2
Auxiliary Consumption	2.8	3.7
Free Energy to State Government	40.9	51.4
Free Energy to HPSEB for wheeling	9.3	11.6
Net Sale outside the State	**222.3**	**279.5**

FY = fiscal year; HPSEB = Himachal Pradesh State Electricity Board.
Source: Published Annual Accounts of P-5-F.

C. Financial and Economic Analysis

53. P-5-F's financial performance has been outstanding[14] (Table A5.12). Realized tariffs in excess of Rs2.50, combined with its low construction cost, have earned high profits in the last 3 years. On this basis, the OEM assessed this subproject as very efficient.

[13] Design energy forms the basis for tariff determination on projects that have executed long-term PPAs and are under regulatory purview. P-5-F, being a merchant plant (without a long-term agreement), sells power essentially at periodically negotiated rates. These negotiated rates are reflective of marginal costs in the market and do not depend on the plant's parameters (e.g. design energy or availability). Not achieving design energy in the case of P-5-F has more to do with faulty design energy estimates at the point of project award by the Government of Himachal Pradesh, than with actual plant performance.

[14] Based on the annual accounts, the return on equity of P-5-F appears to be over 30% in FY2005. P-5-F explained that the return in this calculation included the capital gains realized through divestment from the associated company.

Table A5.12: Summary Income Statements (Rs million)

Item	FY2005	FY2004
Income from Sale of Power	511.9	640.5
Other Income	29.5	16.4
Gross Income	**541.4**	**656.9**
Expenditure		
Operation and Maintenance	126.0	114.0
Interest and Finance Charges	188.5	156.7
Other Expenses	26.0	28.3
Total Expenditure	**340.5**	**299.0**
Depreciation	102.7	105.7
Provision for Tax	(58.5)	100.4
Profit After Tax	**156.7**	**151.9**

( ) = negative.
FY = fiscal year.
Source: Annual Accounts of P-5-F.

54. P-5-F is expected to remain competitive owing to its merchant status in a power-starved northern grid and likely to earn progressively higher tariffs. This will continue to yield high returns for P-5-F in the following years, as repayment of loans and depreciation will reduce P-5-F's generation costs. On this basis, the OEM assessed that the P-5-F's operations are most likely to sustain.

55. Though IFCI's appraisal documents projected cash flows and financial parameters, it did not contain FIRR and EIRR computations. The OEM could not obtain sufficient information to calculate the FIRR and EIRR.

D. Socioeconomic and Environmental Aspects

56. P-5-F is a run of the river hydropower plant which did not involve any rehabilitation and resettlement in the region. It has been engaged in maintaining access roads to the project site and has undertaken repair works to ensure year-round accessibility to the project site.

57. The project is the largest organized industrial activity in this remote location and has contributed to economic development of the region. It employs about 150 people directly, and contributes to the indirect development of ancillary service establishments. P-5-F also has a small project township, which houses a healthcare facility open to local communities. It has also funded the development of schools in the region.

VI. TR-1-C (Bypass Road)

A. Background

1. Company and Project

58. The project envisaged construction of a two-lane bypass on National Highway 4 connecting city A and city B in the southern state of Karnataka. The traffic within city A was as high as 45,000 passenger car units (PCUs) per day, indicating extremely congested conditions. This adversely affected through traffic, which passed through the towns of city A and city B. The construction of the bypass was aimed at easing the traffic situation in the region.

59. The project was awarded to TR-1-C on a build-operate-transfer basis. TR-1-C was a new special purpose vehicle promoted by IC-1, a reputed Indian corporate.

60. To make the bypass accessible to traffic as soon as possible, the project was implemented in two phases. The total length of the bypass was 30.35 km. Under Phase I of the project, TR-1-C constructed 18 km of the bypass. Under Phase II of the project, the remaining 12.35 km were constructed.

61. The project was completed on 24 October 2000, largely as originally planned, with Phase I completed on 7 June 2000, and Phase II on 24 October 2000.

62. The initial project cost was estimated at Rs775 million (Table A5.13). The revised cost of the project on completion was Rs940 million. The overrun of Rs165 million was due to additional earth and pavement work. The original and revised means of financing for the project are provided in Table A5.14.

Table A5.13: Cost Breakdown (Rs million)

Particulars	Original	Completed
Construction Cost	577.0	741.3
Interest during Construction	51.0	105.1
Preliminary and Preoperative	35.0	51.2
Provision for Contingency	59.0	0.0
Debt Service Reserve Fund	42.0	42.0
Free Cash and Bank Balance	11.0	0.4
Total	**775.0**	**940.0**

Rs = rupees.
Source: ICICI Appraisal Report and Project Completion Report.

Table A5.14: Means of Financing (Rs million)

Particulars	Original	Final
Equity Share Capital	209.0	209.0
Non-Convertible Debentures from ICICI	500.0	450.0
Infrastructure Bonds (IDBI)	0.0	125.0
Rupee Loan (Subordinated)	50.0	140.0
Bank Guarantee from Promoters for Debt Service Reserve Account	16.0	16.0
Total	**775.0**	**940.0**

ICICI = Industrial Credit and Investment Corporation of India Limited, IDBI, Rs = rupees.
Source: ICICI appraisal report and project completion report.

2. Details of Subloan

a. Approval and Disbursement

63. ADB approved the subloan of $7.58 million to ICICI for TR-1-C in November 1999. ICICI drew a sum of $6.48 million to purchase NCDs issued by TR-1-C, and the balance was cancelled. The availed loan was within the prescribed cap of 30% of project cost.

b. Repayment Performance

64. In March 2001 ICICI sold the NCDs of TR-1-C to the Debenture Securitization Trust (DST), a trust established by ICICI. An investor had subscribed to the PTCs issued by the DST at an annualized yield of 12.75%. As this subproject did not generate enough revenues to make the subloan interest payments, ICICI Bank switched to a “step–up” interest rate from the constant interest rate throughout the regime, keeping the overall yield at the same level. In December 2004, TR-1-C prepaid the debentures without charging any prepayment fee. Consequently the DST also prepaid the corresponding amount of the PTCs held by the investor.

B. Operational Performance

65. The road was designed for 30,000 PCUs per day. According to PCR projections, traffic between the two cities was expected to be 34,000 PCUs per day, of which 20,875 PCUs per day (more than 60%) would be diverted to the bypass. In March 2001, 11,350 PCUs were using the bypass (33%).

66. ICICI commissioned a traffic study in April 2001, which showed that the actual traffic was lower than that projected because: (i) actual growth in corridor traffic was lower than projected; (ii) enforcement of the ban on through commercial traffic was inadequate, resulting in lower-than-projected diversion to the bypass; (iii) the notification from the Government of Karnataka banned only the through truck traffic from entering city A and city B, whereas the concession agreement provided for banning of all through commercial traffic. At present through commercial vehicles other than trucks (e.g., private tourist buses, mini buses, and light commercial vehicles) remain able to use city roads. While the actual toll rates were as projected, toll collections were lower because of lower than projected traffic.

67. The OEM could not obtain any further updated information on TR-1-C's operations, and thus could not assess the effectiveness of this subproject.

C. Financial and Economic Analysis

68. The post-tax FIRR, as provided by ICICI Bank in the data sheet dated 1998, was 24.9%. The FIRR based on actual performance of the project was not available. During its first year, the project earned lower revenues than projected at appraisal, largely due to lower traffic volumes, and the local authorities' failure to implement the ban on use of the existing road by commercial vehicles. In the first 6 months of operations, toll revenues totaled Rs47.5 million, with a cash loss of Rs22 million in that period. The performance was expected to improve, as enforcement of the ban has reportedly improved.

69. The traffic within City A reached 45,000 PCUs per day, indicating extremely congested conditions. This adversely affected the through traffic forming a major share of the National Highway 4 traffic, which had to pass City A and City B. Data showed that the average time required for a truck to commute from City A and City B was reduced from 100 minutes to 40 minutes after the completion of bypass road. It was expected that traffic congestion between City A and City B would be reduced and 20,875 PCUs (above 60%) of the traffic would be diverted to the bypass. In March 2001 about 11,350 PCUs were using the bypass. The EIRR (post tax) as per ICICI's analysis at appraisal in 1998, was 36.7%. Since no subsequent information is available, the OEM could not reevaluate the EIRR.

70. Due to data constraints, the OEM could not assess the efficiency and sustainability of this subproject.

D. Socioeconomic and Environmental Aspects

71. Based on the information provided by ICICI Bank, the OEM did not find any significant negative socioeconomic and environmental impacts associated with this subproject.

VII. TR-2-F (Port)

A. Background

1. Company and Project

72. BG-5 (a family-owned diversified business group with core activities in trading and retailing) incorporated TR-2-F in 1993 to develop and implement Port-A in Gujarat State in the western part of India. BG-5 originally conceived Port-A as a captive port and later envisaged developing a multipurpose finger-type jetty along with a barge jetty and port back up facilities, including godowns for general cargo, a liquid storage tank farm, a chemical terminal and a liquid petroleum gas terminal. Port-A was one of the first few full-fledged port projects developed through private sector initiatives.

73. At IFCI appraisal in 1996, the cost of the project at completion was estimated at Rs3.370 billion, with proposed financing as per Table A5.15.

Table A5.15: Financing Plan (Rs million)

Item	Amount
Debt	
IFCI –PSIF	1,000.0
IFCI- Foreign Currency Loan	500.0
Exim Bank of India	500.0
Equity	1,370.0
Total	**3,370.0**

Exim = Export-Import, IFCI = Industrial Finance Corporation of India Limited, PSIF = Private Sector Infrastructure Facility, Rs = rupees.
Source: Appraisal document of IFCI.

74. At the time the project was conceptualized by TR-2-F, the government of Gujarat State (GOG) lacked a clear, declared policy regarding the development of ports through private initiatives. In July 1997, GOG announced build-operate-own-transfer policy guidelines for the ports sector, supported under the Gujarat Public Sector Resource Management Program.15 TR-2-F took the opportunity to develop the project as a full-fledged modern port, rather than a captive port, as other new ports established in the same area under the new port policy could adversely affect the viability of TR-2-F's port. Accordingly, TR-2-F sought GOG approval to develop the port within the framework of the new port policy. GOG approved TR-2-F's proposal in September 1997. Subsequently, TR-2-F established TR-2-FG, along with the GOG-owned Gujarat Port Infrastructure Development Company Limited, and further proposed restructuring of the ongoing project to ensure optimum development of the port within the framework of the new port policy. The lenders approved the restructuring proposal in November 2000.

75. The salient features of the restructuring proposal were, (i) TR-2-FG would be the developer of the port and provider of basic port infrastructure facilities, (ii) TR-2-F would remain as the terminal operator of the multipurpose port terminal, (iii) the expenditure on the construction of the multipurpose port terminal and approach road would be transferred to TR-2-FG, (iv) TR-2-F would continue to be the independent owner of all the facilities in the approximately 1.2 km2 backup area relating to the multipurpose port terminal, and additional facilities to be developed from time to time on the balance of the land proposed to be acquired on a freehold basis, (v) TR-2-F (being the private promoter of TR-2-FG) would have the right to decide jointly with Gujarat Port Infrastructure Development Company Limited, the functions of TR-2-FG, and granting of sub-concessions. As the private sector partner of TR-2-FG, TR-2-F would be vested with first right to all future developmental activities to be undertaken by Port-A.

76. To facilitate the segregation of the port development activities and port operator function between TR-2-FG and TR-2-F, TR-2-FG would: (i) enter into a detailed concession agreement with Gujarat Maritime Board for the development of Port-A; (ii) provide port infrastructure facilities and services (e.g. jetties, wharfs, quays, a railway line, and dredging) and common user facilities (e.g. roads, power, water); (iii) provide ship-related services such as pilotage, berthing etc; (iv) acquire about 20 km2 of port backup land on lease from Gujarat Marketing

[15] ADB. 1996. *Report and Recommendations of the President to the Board of Directors on Proposed Loan to India for Gujarat Public Sector Resource Management Program*. Manila. (Loan 1506-IND, for $250 million, approved on 18 December 1996).

Board and make it available to selected parties such as Hindustan Petroleum Corporation for establishing port backup facilities; and (v) assume the role of port conservator.

77. The project underwent changes in scope and facilities, resulting in an all weather direct berthing deep-sea port capable of receiving ships up to 70,000 dead weight tonnage, and featuring (i) a T-shaped multipurpose jetty 381 meters [m] long comprising a western berth (216.5 m long) and an eastern berth (164.5 m long); (ii) facilities for berthing of ships at front and rear faces of the two berths, providing effective berthing length of 815 m, capable of handling both general and liquid cargos (with one berth dedicated for liquid cargo only); and (iii) backup facilities, comprising (a) closed godowns (45,570 m^2); (b) open storage space (217,000 m^2); (c) chemical terminal (assorted tank capacity 100,000 kilo-liters [kl]); (d) petroleum, oil, and lubricant storage tanks (120,000 kl); and (e) storage tanks for edible oils (45,000 kl). The liquid petroleum gas storage originally planned was shelved in view of storage capacities being planed at near by refinery complexes.

78. The above changes increased the project cost to Rs3.900 billion, which was apportioned between TR-2-F (Rs1.94 billion) and TR-2-FG (Rs1.96 billion). The revised project cost was funded as shown in Table A5.16.

Table A5.16: Revised Financing Plan (Rs million)

Item	As per Original Plan	As per Revised Plan		Total
		TR-2-F	TR-2-FG	
Equity Share Capital	1,370.0	648.0	662.0	1,310.0
Debt				
IFCI - PSIF	1,000.0	0	1,000.0	1,000.0
IFCI – FX loan	500.0	500.0	0	500.0
Exim Bank of India	500.0	200.0	300.0	500.0
Loans from Commercial Banks and others	0	590.0	0	590.0
Total	**3,370.0**	**1,938.0**	**1,962.0**	**3,900.0**

BG-5 = a family-owned diversified business group with core activities in trading and retailing, FX = foreign exchange, GPIDCL = Gujarat Port Infrastructure Development Corporation Limited, IFCI = Industrial Finance Corporation of India Limited, PSIF = Private Sector Infrastructure Facility, Rs = rupees.
Source: IFCI's internal documents.

79. In April 2000, IFCI requested that ADB transfer the subloan from TR-2-F to TR-2-FG. ADB agreed through its letter of 10 October 2000. At about the same time TR-2-FG further expanded the scope of the project by undertaking the following expenditures: (i) construction of a railway link between Port A and Town-A, (ii) construction of a quay, and (iii) additional expenditures on shared services and oil terminals for Indian Oil Company Limited etc. As a result, the cost escalated further to Rs7.61 billion (Table A5.17).

Table A5.17: Final Financing Plan (Rs million)

Particulars	Amount
Equity	
BG-5	1,188.0
GPIDCL	150.0
Others (FIs and others)	62.0
Equity Premium	420.0
Internal Generations	719.7[a]
Total Loans (including PSIF)	5,069.9
Total	**7,609.6**

BG-5 = a family-owned diversified business group with core activities in trading and retailing, FIs = financial institutions, GPIDCL = Gujarat Port Infrastructure Development Corporation Limited, IFCI = Industrial Finance Corporation of India Limited, PSIF = Private Sector Infrastructure Facility, Rs = rupees.

[a] Land development charges from oil companies for setting up of single buoy mooring and crude oil tankage.

Source: Various IFCI internal documents.

2. Details of Subloan

a. Approval and Disbursement

80. ADB approved a loan of $12.970 million equivalent to Rs500 million on 27 March 1998. Following this, IFCI requested ADB on 6 July 1998 to increase the ADB subloan by an additional Rs500 million. ADB approved an increase of $12.50 million (equivalent to Rs500 million) increasing the aggregate sanction to $25.07 million (equivalent to Rs1 billion) which was within the cap of 30% of the project cost. Out of the total approved amount, IFCI drew an aggregate loan of $23.56 million (equivalent to Rs970 million) in a number of tranches between April 1998 and March 2000. The subloan was repayable in 40 quarterly installments to be made from 15 July 2002 to 15 April 2012, with an interest rate of 16.22%.

b. Repayment Performance

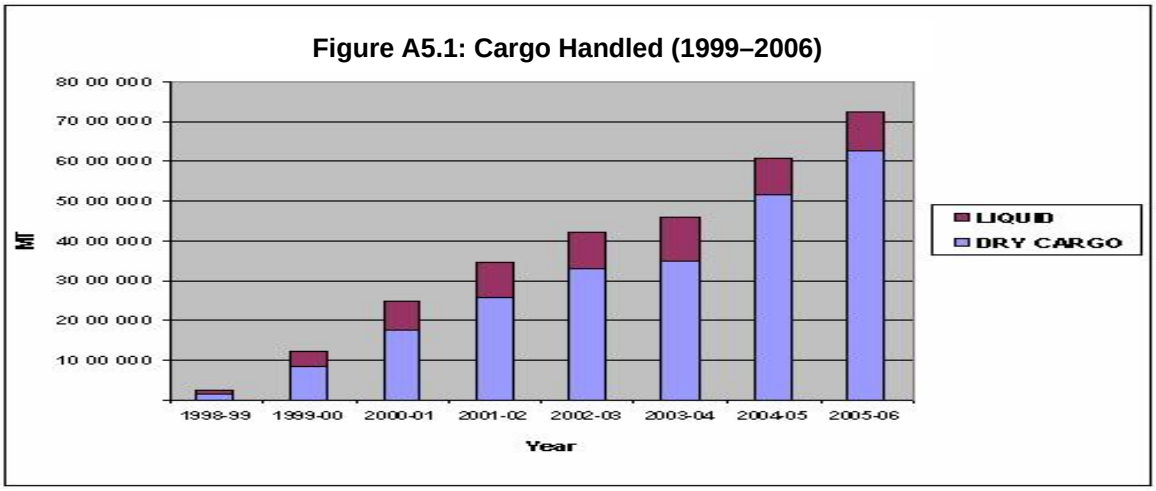
81. TR-2-FG began commercial operations in October 2001 and made a small profit of Rs35 million during the first 6 months. Its operations were not as projected due to (i) unforeseen external events, such as riots in Gujarat; (ii) delays in realization of receivables due from Indian Railways, because the Railway Operational Agreement was not executed; and (iii) delays in disbursement of loans for funding of the expansion programs, which prompted the diversion of internally generated funds to project expansion and diversification. Moreover, TR-2-F assumed a number of projects, including the expanded ongoing port project, simultaneously, and thus faced a liquidity problem. It consequently defaulted, both in its principal installment and interest payment to IFCI and other lenders.

82. In 2002, TR-2-FG finalized the sale of its stake in affiliated C-1 (a container company of BG-5) to MN-1 (a multi-national company specializing in cargo handling services and port management throughout Europe, the United States, South America, Asia, Africa, and Australia). As part of this deal, TR-2-FG transferred the expenditure of Rs3.12 billion incurred on the quay to C-1. Utilizing the cash proceeds from this transaction, TR-2-FG prepaid the subloan and overdue interest accrued in 2003. The relatively high interest rate of the subloan and the IFCI's tight liquidity situation were the underlying factors for the prepayment.

B. Operational Performance

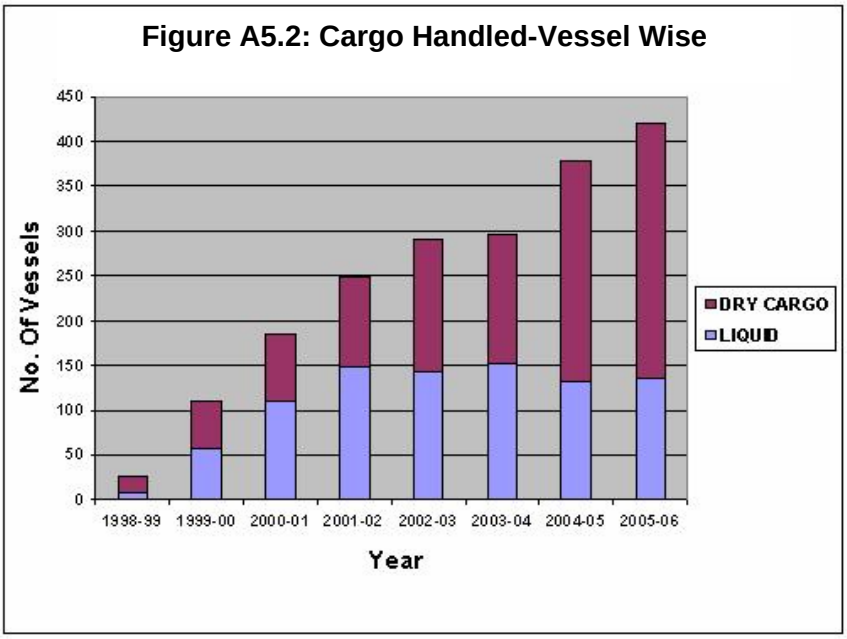
83. Figure A5.1 shows the cargo handled by Port A since it commenced operation (including partial operational years before it started commercial operations in October 2002). Over the years, Port A has emerged as India's largest private sector port and one of the fastest growing. The port has grown today to handle almost 10 times the cargo it did at inception in 1998. During FY2006 (up to 16 March 2006), it has handled 7.8 mt of cargo, and is expected to finish the year (ending 31 March) with 8 mt. The share of dry cargo handled at the port in FY2005 was around 85%. During the current year the share of dry cargo over the entire year would be about 80%.

Figure A5.1: Cargo Handled (1999–2006)

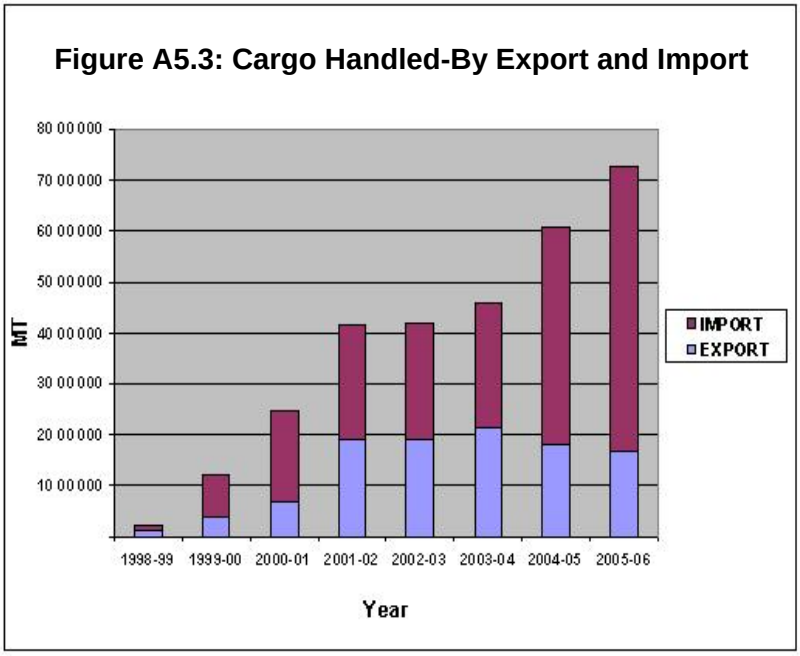


Note: 2005-06 figures are estimates. According to TR-2-FG, up to 16 March it had already handled 7.8 mt of cargo, is expected to handle around 8 mt for the FY ending 31 March, higher than that projected.
Source: TR-2-FG's Website.

84. According to IFCI's internal report, prepared in 2002 at the time of acceptance of prepayment of the subloan, Port A was expected to handle 9.80 mt of cargo in FY2006 and 11.83 mt of cargo in FY2011. Though the operational performance is still below projections, it shows healthy growth in the last 2 years. The number of vessels calling on the port has increased over the years: 375 vessels called during FY2005, and the number is expected to reach 400 in FY2006. Considering the overall favorable economic environment in India in general, and the import–export cargo that would be generated by the large projects being planned at the site adjacent to Port A (including a 4,000 MW ultra mega power project being planned by the Government through private sector participation), traffic at Port A in the coming year is expected to be well within the projections. On this basis, the OEM assessed this subproject as effective.



Source: TR-2-FG's Website.



Source: TR-2-FG's Website.

85. In the past the share of import cargo was between 50% and 80% (Figure A5.3). During the FY2005 the import cargo constituted 70% of the total cargo and is expected to be around 75% during the current year. The main dry cargo commodities that are imported at Port-A include coal (40% of imported dry cargo), di ammonium phosphate, (28%) and muriate of potash (18%). The imported liquid cargo commodities include vegetable oil (41% of imported liquid cargo), degummed soya bean oil, sunflower oil, and cotton seed oil (17%), high speed fuel oil and fuel oil (9%) and methanol (9%). The dry cargo exported commodities consist of clinkers (33% of exported dry cargo), steel pipes (19%) and bentonite (18%). The liquid cargo that is

exported from Port A includes refined soya bean oil (51%), caustic soda lye (28%) and ethyl alcohol (16%).

C. Financial Analysis

86. TR-2-FG did not share its financial statements with the OEM. TR-2-F is not a listed company, and information could therefore not be gathered through secondary sources. IFCI shared the internal document it prepared (in October 2003) while examining TR-2-FG's proposal to merge with TR-2-F, which provided a summary of financial results for the 15-month period ending 31 December 2002 (Table A5.18) and the financial position as of end March 2003 (Table A5.19).

Table A5.18: Summary of Financial Highlights (Rs million)

Particulars	Period ending 31 Dec 2003 (15 months)	Period ending 31 March 2003 (3 months)
Income from Operations	535.17	143.50
Profit Before Income Tax	327.91	77.00
Interest	256.61	92.80
Depreciation and Write Offs	97.88	39.90
Operating Profit/Loss	(26.58)	(55.70)
Other Income	51.12	0.00
Profit Before Tax	24.54	(55.70)
Tax	0.03	0.00
Profit After Tax	24.51	(55.70)
Cash Accruals	122.39	(15.80)

( ) = negative, Rs = rupees.
Source: IFCI.

Table A5.19: Financial Position (Rs million)

Particulars	As of 30 Sep 2001	As of 31 Dec 2002	As of 31 March 2003
Share Capital	1,396.04	1,400.00	1,400.00
Reserves (including Share Premium)	420.00	444.50	421.30
Deferred Amount on Infrastructure Usage from Indian Oil Corporation and Guru Govind Sigh Refinery Limited	0.00	672.30	666.30
Misc. Expenses Not written off	4.72	3.45	3.20
Net Worth	1811.32	2513.35	2484.40
Fixed Assets (including Capital in Progress)	4889.05	5195.94	7885.90
Port Infrastructure Development	526.25	2718.15	0.00
Current Assets	183.19	236.48	506.90
Secured Loans	3580.99	4965.18	5254.90
Current Liabilities	206.91	672.04	686.00
Debt Equity Ratio	1.98	1.98	2.11
Current Ratio	0.89	0.35	0.74
Fixed Asset Coverage Ratio	1.51	1.59	1.50

Rs = rupees.
Source: IFCI.

87. The key findings regarding TR-2-F's financial performance, based on Tables A5.18 and A5.19 are as follows. During the 15-month period ending 31 March 2002, TR-2-F's profit before

income and tax stood at Rs327.91 million, but operations resulted in an operating loss of Rs26.58 million. However, TR-2-F made a profit after tax of Rs24.51 million due to other income of Rs51.12 million (the IFCI document did detail the other income). Second, the debt equity ratio, as of end FY2003, was 1.98, indicating that the project was not excessively leveraged, considering that infrastructure projects of such size in India could leverage to a DER of over 2.3.

88. Subsequent to prepayment of the subloan under the PSIF, TR-2-FG approached lenders with a proposal to merge TR-2-F into TR-2-FG. Upon the consent of lenders, the respective Boards of TR-2-FG and TR-2-F approved the merger in mid 2003. The rationale provided for the then proposed merger were: economies of scale, avoidance of duplication of work, achievement of cost effectiveness, optimization of resources, and achievement of synergy of operations resulting in improved returns on investment. The merger was also expected to provide better single-point customer service. The effective date of merger was 1 April 2003. The requisite legal formalities have since been completed and the High Court of Gujarat has given approval for the merger during FY2006. The financial projections that were provided in the document prepared for obtaining lenders' approval for the merger are provided in Table A5.20.

Table A5.20: Future Working Results (Rs million)

Item	FY2004	FY2005	FY2006	FY2010	FY2014
Income	2,180	3,227	4,336	7,644	10,065
Expenses	918	1221	1,532	2,110	2,620
Revenue Amortization Income	262	262	262	0	0
PBIT	1,000	1,744	2,542	5,534	7,445
Financial Charges	446	459	472	222	4
Depreciation	353	372	375	382	383
PBT	201	913	1,695	4,930	7,058
Tax	15	70	130	378	542
PAT	186	843	1,565	4,552	6,516

PAT = Profit After Tax, PBIT = Profit Before Interest and Tax, PBT = Profit Before Tax, Rs = rupees.
Source: IFCI.

89. The financial projections in Table A5.20 could not be strictly compared with the financial projections provided in the appraisal document submitted to ADB along with PSIF application. The project subsequently underwent several changes, resulting in revisions in capital expenditure, implementation and expenditure schedule, contributors to the revenue stream, etc. The OEM sent a detailed questionnaire to IFCI with a request to obtain the required operational and financial information from TR-2-F, or provide it from its records. Unfortunately there was no response; consequently, comments cannot be made on the FIRR.

90. A limited analysis of the above projections shows that the profit before tax to sales ratio will improve from 28% in FY2005 to about 70% in FY2014. During the same period profit before tax to sales ratio will improve from 26% to about 64%. This takes into account the impacts associated with development of one of India's largest special economic zones adjacent to Port A. Moreover, the OEM considered that Port A will not be (i) constrained by the policy and institutional environment; and (ii) exposed to significant environment, social, technological and natural resources risks. On this basis, the OEM assessed that the outcome of this subproject is mostly likely to sustain.

D. Economic Analysis

91. According to IFCI's appraisal report the port project was expected to play an important role in the economic development of Gujarat in particular, and of the country in general. It was expected to result in economic savings, by reducing congestion at Kandla (the only major port in Gujarat). The average turnaround time for ships calling on Port A, compared to Kandla, is considerably shorter. This can translate in savings of both cost and time. Excluding the crude oil and petroleum, oil, and lubricant products handled at Kandla, the two ports handle similar amounts of cargo (8 mt at Port A, and 9 mt at Kandla port. However, Port A has 4 berths as compared with 18 berths at Kandla. Port A brings significant efficiencies that result in considerable economic benefits, due to reduced congestion and fuel cost savings. Other key factors contributing to better performance of Port A, as compared to Kandla port, are (i) higher draft at Port A; (ii) increased mechanization; (iii) better productivity; and (iv) Port A offers all services, including custom clearances, under one roof, resulting in time savings improved service. Based on these observations, the OEM assessed this subproject as efficient.

92. IFCI did not include an EIRR for the subloan application documents submitted to ADB. Due to data constraints the OEM could not independently compute the EIRR.

E. Socioeconomic and Environmental Aspects

93. The socioeconomic impact of Port A project can be summarized as follows:

(i) The port is presently contributing to direct employment of around 2,500 people (skilled and unskilled) and indirect employment of around 2,000 people.
(ii) During the construction stage the project provided employment to around 2,000 people for 3 years.
(iii) The population of the village next to Port A has increased from around 8,000 in year 2001 to around 40,000 in the year 2006, largely due to the project's increased economic activities.
(iv) The port has facilitated the implementation of other projects, such as BG-5's edible oil refinery 5, a pipe plant, and a coking coal plant.
(v) BG-5 is developing one of the country's largest special economic zones next to Port A.
(vi) Taking advantage of the existing port, the Government has identified the location next to Port A for establishment of a 4000 MW ultra mega power plant.
(vii) TR-2-FG established residential colonies for more than 500 employee families.
(viii) TR-2-FG constructed a private school in collaboration with a reputable education society that operates schools throughout India.[16]
(ix) TR-2-FG has entered into an agreement with one of the most reputable hospital chains in India to establish a full-fledged 40 bed hospital in TR-2-FG's township, the facilities of which will benefit the local population.

94. Regarding environmental aspects, a brief discussion with TR-2-FG officials revealed that: (i) TR-2-FG generally addressed environmental issues; (ii) a yearly audit of environmental related compliance is carried out, and for the last 3 years TR-2-FG was ISO 9000 compliant in these respects; (iii) TR-2-FG was working to provide adequate greenery; and (iv) a sprinkler

[16] It has 650 students and offers classes up to 12th standard (pre-university level). The school is open to children of non-employees of TR-2-FG.

system is installed in open storage yards to reduce the amount of dust going in to the atmosphere. The OEM did find any specific adverse environmental impacts, nor did the port result in any relocation or rehabilitation issues.

VIII. TE-1-C (Fixed and Mobile Telephone Service)

A. Background

1. Company and Project

95. TE-1-C, a subsidiary of LT-1 (a local manufacturer of telecommunication and cable television equipment), was incorporated on 24 April 1995. The Department of Telecommunications issued a license to TE-1-C in March 1998 to provide basic telecommunication services in the State of Rajasthan under the fixed-license regime.[17] Subsequently TE-1-C migrated to a revenue sharing regime. It had made capital and other expenditures of over Rs1.5 billion (funded entirely by equity) before it launched commercial operation (in June 2000) as one of the first private region-based, fixed-telephone service providers in India. In November 2003, TE-1-C migrated to the united license regime,[18] under which it can provide basic as well as mobile telephony service in Rajasthan. However, TE-1-C is currently not offering fully mobile, code division multiple access (CDMA) -based services, due to interconnection problems with Bharat Sanchar Nigam Limited (BSNL), as well as issues related to spectrum availability and regulatory clearance; it hopes to start offering these services in 2006. As of end October 2005, four fixed-service providers operate in Rajasthan, of which TE-1-C (with 194,001 subscribers) is the second largest.[19]

96. At appraisal, TE-1-C's peak funding requirement during FY2000-FY2005, or the total subproject cost, was estimated at Rs9.62 billion. This included the capital expenditure of Rs8.36 billion for the supply of imported and domestic equipment, handsets, billing and customer software, construction of backbone and access, maintenance of the entire network, and buildings and other infrastructure. On this basis, TE-1-C requested financial assistance of Rs4.84 billion from ICICI. Table A5.21 indicates the project cost and the financing plan at appraisal in 2000. The actual project cost was largely as per plan.

[17] In the fixed-line arena, incumbent publicly owned Bharat Sanchar Nigam Limited (BSNL) and Mahanagar Telephone Nigam Limited have dominated the Indian market (in terms of the number of subscribers) with their total market share of over 85% (as of August 2005), followed by six private sector operators. Of the six private operators, TE-2-C and one other are restricted to a single licensed area (i.e., Rajasthan and Panjab, respectively), while the remaining four operate in multiple licensed areas.

[18] By August 2005, the subscriber base of private operators (including fixed and mobile lines) was around 54 million, which corresponded to more than 50% of the nationwide market share. This reflected the rapid increase in the number of mobile phone subscribers (from 1.2 million in end FY1999, to 6.5 million in end FY2002, and 52.17 million in end FY2005); mobile phone subscriptions have been promoted significantly by private operators.

[19] In Rajasthan, like most other states, BSNL is the largest fixed-line operator, offering 2 million telephones.

Table A5.21: Project Cost at Appraisal and Proposed Financing (Rs million)

Sources of Funds	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	Total
Opening Cash balance		54.5	50	50	50	50	254.5
Equity Funding	1,521.1	613.7	1,009.4	761.3	528.5	403.5	4,837.5
Debt drawdown		2,134.8	1,009.4	761.3	528.5	403.5	4,837.5
Cash Losses		(397.90)	(448.90)	(198.80)	196.70	540.20	(308.70)
Deposits (Subs & NIU)	4.6	165.5	230.6	258.4	301.4	107.1	1,067.6
Total	**1,525.7**	**2,570.6**	**1,850.5**	**1,632.2**	**1,605.1**	**1,504.3**	**10,688.4**
Project Funding Requirement	**1,466.6**	**2,748.5**	**2,018.8**	**1,522.6**	**1,057.1**	**806.9**	**9,620.5**

( ) = negative, FY = fiscal year, NIU = network interface unit, Subs = subscribers.
Source: ICICI appraisal documents.

2. Details of Subloan

b. Approval and Disbursement

97. ADB approved ICICI's request to extend the subloan of $9.62 million equivalent to TE-1-C on 6 December 2000.

98. Of the sanctioned subloan amount of $9.62 million, ICICI disbursed $8.92 million equivalent. The subloan was repayable by 2005 and the interest rate was fixed at the prime lending rate +1%, which was equivalent to 14%. This rate was maintained throughout the loan tenure.

b. Repayment Performance

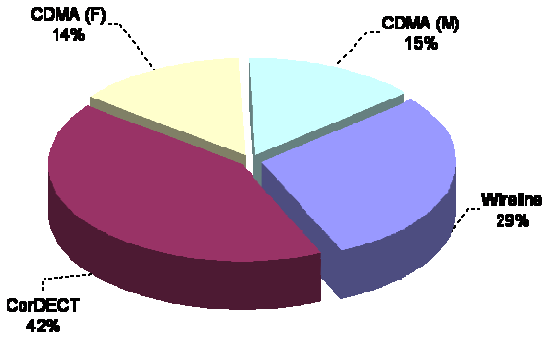
99. TE-1-C prepaid the subloan in May 2004 without prepayment charges. Interest payments by TE-1-C before prepayment were regular.

B. Operational and Financial Performance

100. As of February 2006, TE-1-C is operational in 123 cities and 4,000 villages covering nearly 60% of the addressable population in the state of Rajasthan. With over 4,000 km of fiber network and 100,000 copper access points, TE-1-C currently serves over 220,000 active voice and data customers. TE-1-C is offering wireline, code division multiple access (CDMA)-based mobility, CDMA-based fixed services, and CorDECT[20]-based wireless in local-loop services to its customers (the proportion of customers utilizing various services is shown in Figure A5.4).

[20] CoreDECT is a wireless local loop standard developed in India based on the digital enhanced cordless technology (DECT).

Figure A5.4: Customer Base Profile – Technology Wise



Source: TE-1-C.

101. Table A5.26 indicates that the number of subscribers as of end FY2005 was about 20% lower than projected at appraisal. Nevertheless, the OEM assessed this subproject as effective as it remained the second largest fixed phone operator in Rajasthan, while competing against larger operators with nationwide coverage in fixed and mobile phone services.

102. TE-1-C explained that delays in receiving interconnection from the incumbent affected the subproject outcome. TE-1-C was forced to lay its own optic fiber backbone, as BSNL declined to share its infrastructure.[21] TE-1-C's business model has changed significantly since appraisal, because of changing market conditions; falling mobile phone tariffs and changes in interconnection pricing regime have adversely impacted TE-1-C.[22]

103. The OEM observed that TE-1-C's technical innovations and improvements in economic efficiency include the:

(i) lowest cost per line for universal access services operations in the country;

(ii) a billing system that was developed in-house, contributing to reduced capital expenditures;

[21] One component of BSNL revenues is rental of leased lines; TE-1-C would have plausibly assumed that it could develop capacity through leases. It is the responsibility of the regulator to regulate BSNL's discriminatory practices through corrective action.

[22] The business model changed because of changing market conditions. TE-1-C took a fixed-service license, and planned to rollout a fixed network. Due to severe competition in mobile services, however, mobile tariffs became comparatively very low over the last few years, and much of the anticipated demand for TE-1-C's services shifted to mobile services. In addition, fixed operators were allowed to use wireless in local-loop technology for faster rollout. One of the fixed operators used wireless in local-loop to roll out limited mobile services, leading to subscriber expectations of similar services from all fixed operators. The licensor subsequently allowed fixed operators to convert their license to a unified license, through which they could provide any kind of service (fixed or mobile).

(iii) value-added services, including caller ring back tunes, 32-party conferencing, video on-demand, a unified messaging platform, game shows, and occasion-based contests;

(iv) the first introduction of pre-paid services on a fixed network by a fixed-service provider; and

(v) benchmarking by the Telecommunications Regulatory Authority of India quality report, with respect to four out of six service parameters: (a) time to connection (first), (b) meantime to repair (first), (c) customer complaint closure (first), and (d) customer request closure (first).

Table A5.22: Summary Analysis of Operational Performance

Item	As of 31 March 2002 per ICICI PCR, May 2002			As of 31 March 2005 per data provided by TE-1-C to ADB mission		
	Projected at Appraisal	Actual	Reasons For Deviation	Projected at Appraisal	Actual	Reasons For Deviation
Number of subscribers	61,648	27,150	Delay in rollout mainly because of non-availability of interconnection point from BSNL	273,011	220,000	About 20% lower than projections mainly due to remaining interconnection issues with BSNL
Revenues (Rs million)	692.4	351.4	Lower revenues due to lower subscribers	2,464	1,342	Lower revenues due lower subscribers and reaching out to less paying subscribers than projected

ADB = Asian Development Bank, BSNL = Bharat Sanchar Nigam Limited, ICICI = Industrial Credit and Investment Corporation of India Limited, PCR = project completion report, Rs = rupees.
Source: ICICI's PSIF completion report.

104. Table A5.23 indicates that the decline in tariffs and lower-than-expected number of subscribers resulted in financial losses in FY2004 and FY2005. In response, TE-1-C sold its equities in MP-1[23] in FY2005.

[23] MP-1 was promoted by the TE-2-C with a foreign partner. TE-2-C made a substantial profit (Rs629 million) on the sale of its 67.5% stake in MP-1, which it disclosed as an exceptional item in its profit and loss account in FY2005. The OEM was informed that the cash generated from the MP-1 sale was utilized to reduce TE-2-C's debt burden from about Rs4.7 billion to Rs3.1 billion, thus reducing company's interest costs.

Table A5.23: Summary Income Statement (Rs million)

Item	FY2004	FY2005
Net Revenues	951	1,225
Network Operating Cost	(501)	(590)
Other Costs	(321)	(364)
Operating Earnings before Interest, Depreciation and Amortization(Operating EBITDA)	**129**	**271**
Other Income	4	11
Earnings before Interest, Depreciation Amortization and Tax (EBITDA)	**133**	**282**
Dep. and Amortization	(577)	(706)
Earnings before Interest (EBIT) and Tax	**(444)**	**(424)**
Finance Cost	(500)	(422)
Earnings before Tax (EBT)	**(944)**	**(846)**[a]

( ) = negative, Rs = rupees.

[a] In FY2005, the results represented above exclude an additional income on sale of investment (accrued on account of its investment in MP-1, which specializes the mobile telephone business) of Rs629 million.

Source: TE-1-C.

105. No information was provided by ICICI Bank/TE-1-C to enable the OEM to recalculate the FIRR. According to PSIF-related documents provided by ICICI, the projected FIRR for TE-1-C was 16.77%. As cash accruals are much lower than expected, on a similar project cost and interest burden, it is expected that the project FIRR would be lower than projected. EIRR was not computed in ICICI's appraisal report, nor in the application submitted to ADB for PSIF loan approval.

106. Considering both the technical innovations demonstrated by TE-1-C and its weak financial performance, the OEM assessed this subproject as partly efficient. To assess the sustainability, further study of the market conditions in Rajasthan, as well as the business prospect of the fully mobile CDMA services that TE-1-C will be offering, would be necessary.

C. Socioeconomic and Environmental Aspects

107. As per its February 2006, TE-1-C's subscriber base of 220,000 corresponded to a teledensity of 0.3% in the state of Rajasthan, which has a total teledensity (mobile teledensity + fixed teledensity) of about 10% compared with the national figure of 12%.

108. No documented environmental and social impact analysis was done by ICICI during appraisal. Based on available information, the OEM did not find any specific adverse environmental impact from this subproject.

109. According to TE-1-C's annual report, the Company has taken various social initiatives. It operates a full-fledged school program, inviting students from different institutions and providing technology training. To allow free flow of information to school children and to offer convenience to patients and visitors at a hospital, the Company has connect-a-school and connect-a-hospital programs, wherein it installs and operates free phones at various schools and hospitals. To

increase the availability of telecom facilities to the general public, the company has installed coin collection boxes and information kiosks at various bus stands and airports in Rajasthan.

110. As an element of corporate social responsibility, TE-1-C provides 200 mobile public call office rickshaws run by handicapped people, using CDMA-based fixed wireless terminals. Of the 200 terminals, about 40% are deployed in Jaipur, and the rest are in other areas of the TE-1-C network. Such a facility provides employment to the handicapped but also improves the availability of telecom services.

IX. TE-2-C (Mobile Telephone Service)

A. Background

1. Company and Project

111. TE-2-C was incorporated in May 1995 as a joint venture between BG-6 (a local family-owned business group with a core activity in manufacturing of tractors) and HK-1 (a Hong Kong, China-based joint venture company specializing in telecommunication businesses) to provide global system for mobile communication (GSM) technology in three areas: Haryana, Uttar Pradesh West and Kerala. BG-6 held 51% of TE-2-C's equity, while HK-1 held the remaining 49%. TE-2-C started commercial operations in December 1996. The financing requirements of telecommunication projects in India have typically been calculated on the basis of "peak negative cash flow". On this basis, during appraisal in 2001 TE-2-C and ICICI estimated the company's funds requirements to be Rs13.62 billion, up to the period ending FY2002. Of that sum, Rs3.66 billion was to be financed with equity capital and the rest with loans (Tables A5.24 and A5.25). Rs7.87 billion of the Rs13.62 billion was capital expenditure, including the cost of land and buildings, switches, intelligent network, optic fiber and network equipments.

Table A5.24: Project Cost (Rs million)

Fund Requirement	Up to FY2000	FY2001	FY2002	Total
Capital Expenditure	5,487	1,040	1,345	7,872
License Fee	3,319	220	506	4,045
Cash Loss (profit)	2,497	329	(1,749)	1,077
Foreign Exchange Losses	364	174	216	754
Pre-op Expenditure	184	0	0	184
Working Capital	(770)	308	147	(315)
Total	**11,081**	**2,071**	**465**	**13,617**

( ) = negative, FY = fiscal year.
Source: ICICI appraisal report.

Table A5.25: Financing Plan (Rs million)

Means of Financing	Up to FY2000	FY2001	FY2002	Total
Equity Capital	3,100	560	0	3,660
Promoter Loan	900	0	0	900
Rupee Loan	3,690	1,310	250	5,250
Foreign Currency Loan	2,437	1,155	215	3,807
Vendor Credit Loan	954	(954)	0	0
Total	**11,081**	**2,071**	**465**	**13,617**

( ) = negative, FY = fiscal year.
Source: ICICI appraisal report.

112. Given the massive rollout requirements, resulting from India's low teledensity, the telecommunication industry requires continuous, sizeable capital infusions to increase penetration and geographical coverage. BG-6 was able to meet these funding requirements through its agribusiness, until three successive monsoon failures severely impacted the tractor industry. The entry of new companies, including well-financed multinationals, exacerbated the problem. In response, in 2001 BG-6 pursued scale benefits by bidding for four more cellular circles (Himachal Pradesh, Rajasthan, Uttar Pradesh East and Punjab). The licenses were obtained in a separate legal entity (TE-2-CS), with 100% ownership by BG-6.

113. The business environment changed soon thereafter, and government licensing policy was altered to allow CDMA technology-based mobile telephony, and introduction of a unified access service licensing regime. These changes, coupled with aggressive rollout and subscriber acquisition efforts by a larger CDMA-based mobile operator, mounted a formidable challenge to existing GSM-based cellular operators. The various operators committed very substantial funds (for network expansion and sales and marketing expenses) to sustain and increase their market share in the very competitive mobile industry. Coupled with competition-driven tariff declines, this led to significant financial constraints for the smaller, regional players. Combined with a lack of support from its joint venture partner and the financial crunch in BG-6's core businesses, BG-6 failed to operationalize any of its new acquisitions.

114. BG-6 consequently explored options to exit from the telecommunication business and sold its newly acquired Punjab license to another GSM-based mobile operator. T-1 (another GMS mobile operator) bought 100% of TE-2-C (with holding rights to the three additional circles) for an enterprise value of around Rs11.25 billion, including Rs2.75 billion in cash to TE-2-C shareholders and acquisition of Rs8.5 billion of existing company debt. Both of the principal shareholders (BG-6 and JV-1) disposed of their respective equity holdings in TE-2-C to T-1 by share purchase agreement dated 15 January 2004.

115. At the time, TE-2-C, was the market leader in Uttar Pradesh West, with a subscriber base of around 365,000. In Kerala and Haryana, it was the second-largest operator with a subscriber base of around 340,000 and 365,000, respectively. The revenues for TE-2-C for the year ended 31 March 2004 were about Rs4.500 billion, with earnings before interest, tax depreciation and amortization (EBITDA) margin of around 35%. However, as of 31 December 2003, driven by past accumulated losses of Rs9.536 billion, it had a negative net asset value of Rs (-) 4.277 billion.

116. At the time of the deal, T-1 was a GSM operator in five circles (Maharashtra, Gujarat, Andhra Pradesh, Madhya Pradesh and Delhi). T-1's subscriber base was around 2.2 million on

31 December 2003, making it the fourth largest GSM operator in India. After the merger with TE-2-C, its subscriber base increased to over 3 million, but it continued to be the fourth largest.

117. The total revenues of T-1 for the year ended 31 March 2004 were estimated to be over Rs13.000 billion, with an EBITDA margin of around 30%. At 31 March 2004, T-1 had a net asset value of about Rs8.500 billion, including accumulated losses of over Rs20.000 billion. T-1 undertook a leveraged buy out, with the entire acquisition funded out of a short-term bridge loan of Rs2.750 billion (used to pay off the TE-2-C shareholders). In addition, T-1 took on TE-2-C's books, including its debt of over Rs8.000 billion.

2. Details of Subloan

a. Approval and Disbursement

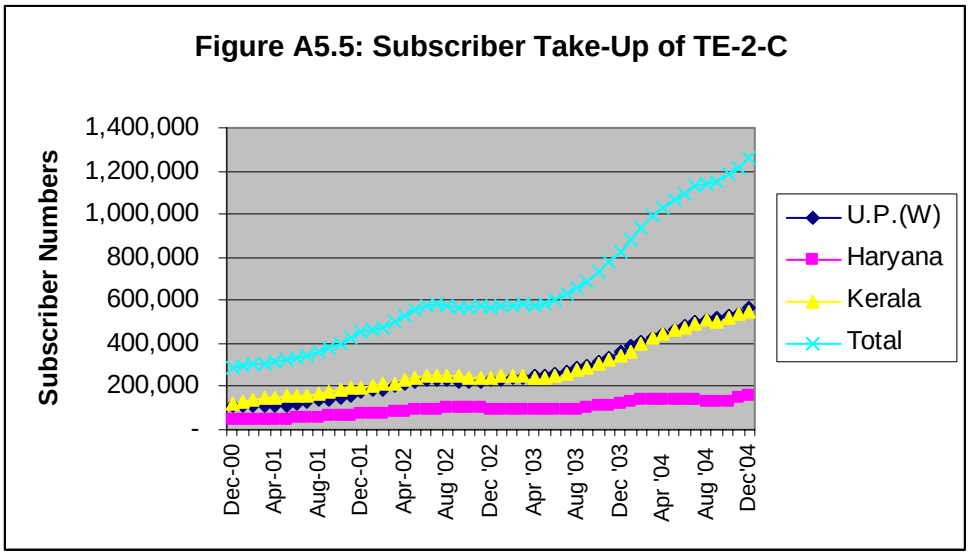
118. ADB approved ICICI's extending the subloan of $31.83 million equivalent in July 2001. Earlier, ADB had advised ICICI that TR-3-C (a port subproject under the PSIF), which had previously been approved by ADB, was ineligible for ADB financing because state-owned companies owned a majority of the shares. ICICI was consequently requested to substitute a $32.7 million disbursement for TR-3-C. As a standby arrangement, ICICI submitted TE-2-C as a proposed replacement for TR-3-C in May 2001. In November 2002, ADB approved an increase in the subloan to TE-2-C by $30.32 million. TE-2-C fulfilled the telecommunications sectoral criteria under the PSIF: the project, by virtue of its licensed areas of operation, should be located in a non-metropolitan area and in the states of Uttar Pradesh West, Haryana and Kerala. Of the sanctioned subloan amount of $66.81 million, ICICI disbursed the entire amount in rupees to TE-2-C. Based on its projected cash flow generation report, ICICI fixed the repayment schedule over 3.75, years with an initial moratorium of 4.25 years. The subloan amount was to be covered by issue of NCDs, with a 14.5% interest rate maintained throughout the loan tenure.

b. Repayment Performance

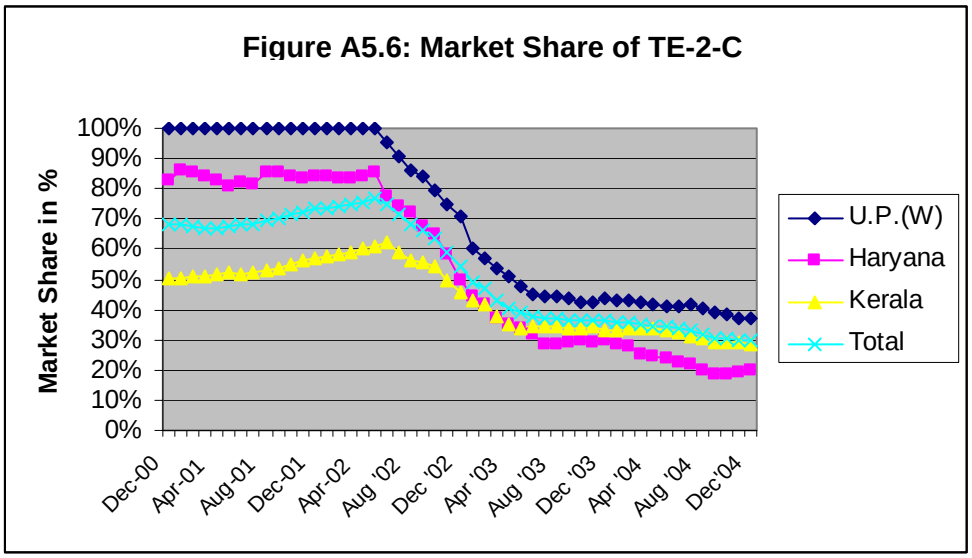
119. On acquisition by T-1, TE-2-C prepaid the subloan in June 2004. The OEM could not verify TE-2-C's repayment and interest payment performance prior to the prepayment.

B. Operational and Financial Performance

120. Figure A5.5 shows the constant increase in TE-2-C's subscribers in the three states during 2000-2004. Figure A5.6 shows the significant reduction in market share, from the middle of 2002. This indicates the rapid increase in demand for mobile telephone service and the inability of TE-2-C to undertake network expansion to meet the demand.



Source: Cellular Operators Association of India.



Source: Cellular Operators Association of India.

121. Table A5.26 indicates that the subproject met appraisal projections for the number of subscribers, as of end FY2004. In this regard, this subproject can be assessed as effective. However, its revenue was lower than projected because of the decline in tariffs, reflecting the fierce competition in the market, and resulting in financial losses during FY2000-FY2004 (Table A5.27). Competing operators in the Indian market compensated for the lower revenue per user by expanding their networks and taking on more subscribers. TE-2-C was not able to adequately expand, nor to increase subscriber uptake, and was therefore unable to spread its costs, part of which were fixed, to a larger revenue base. This resulted in a lower-than-projected margin. Based on this observation, the OEM assessed this subproject as inefficient.[24] Evidently, TE-2-C could not sustain the outcome of this subproject, resulting in acquisition by T-1.

[24] EIRR was not computed in either ICICI's appraisal report or the application submitted to ADB for subloan approval

Table A5.26: Summary Analysis of Operating Performance

Item	As of 31 March 2002 per ICICI PCR, May 2002			As of 31 March 2004 per data provided by ICICI to ADB mission		
	Projected at Appraisal	Actual	Reasons for Deviation	Projected at Appraisal	Actual	Reasons for Deviation
Number of subscribers	448,378	500,805	Higher cellular uptake	993,936	1,000,000	No significant deviation
Revenues (Rs million)	4,516.625	2,915.6	Lower average revenue per user, due mainly to higher-than-expected proportion of prepaid subscribers	10,213	4,393	Lower average revenue per user due to significant sharp drop in tariff.

ADB = Asian Development Bank, ICICI = Industrial Credit and Investment Corporation of India Limited, PCR = project completion report, Rs = rupees.
Source: ICICI Bank.

Table A5.27: Summary of Financial Highlights (Rs million)

	FY2000	FY2001	FY2002	FY2003	FY2004
Income	**1,464.8**	**1,977.2**	**3,512.4**	**4,213.6**	**4,399.1**
Operating income	1,119.3	1,892.7	2,990	4,025.1	4,209.1
Other income	2.4	6.1	41.5	7.1	35.7
Change in stocks	(8.3)	(1.1)	(1.1)	(0.8)	(0.5)
Non-recurring income	351.4	79.5	482	182.2	154.8
Expenditure	**1,256.9**	**1,869.5**	**1,871.8**	**5,680.9**	**2,784.5**
Operating expenses	182.8	418.9	441	1,269.9	1,480.9
Purchase of finished goods	75.9	28.8	75.2	0.3	0.2
Energy (power and fuel)	41.8	54.5	78.5	92.5	96
Salaries and wages	155	206.9	272.6	310.3	349.6
Indirect taxes	2.5	2.1	2.2	20.6	4.5
Other expenses	795.2	1,156.4	999.5	924.5	853.3
Less: expenses capitalized	0	0	0	0	0
Non-recurring expenses	3.7	1.9	2.8	3,062.8	0
Profits / losses					
Profit Before Depreciation, Interest and Tax	**207.9**	**107.7**	**1,640.6**	**(1,467.3)**	**1,614.6**
Financial charges	1,008.6	1,322.3	1,285.3	1,101.5	984.5
Profit Before Depreciation and Tax	(800.7)	(1,214.6)	355.3	(2,568.8)	630.1
Depreciation	551.6	729.6	1,096.2	1,234.1	1,681.2
Profit Before Tax	(1,352.3)	(1,944.2)	(740.9)	(3,802.9)	(1,051.1)
Tax provision	0	0	0	0	0
Profit After Tax	**(1,352.3)**	**(1,944.2)**	**(740.9)**	**(3,802.9)**	**(1,051.1)**

( ) = negative, FY = fiscal year, Rs = rupees.
Source: Center for Monitoring Indian Economy.

C. Socioeconomic and Environmental Aspects

122. Based on an industry study,[25] it is estimated that the project would be providing direct employment to about 1,700 people and indirect and support employment to about 36,000 people.

123. No documented environmental and social impact analysis was done by ICICI during appraisal. Based on the information available, the OEM did not discern any specific adverse environmental impact from this subproject.

[25] Source: www.gsm.org; “Economic Benefits of Mobile Services in India”, A Case Study for GSM Association.

OVERVIEW OF SUBPROJECT PERFORMANCE

Item	Relevance[a]	Effectiveness[b]	Efficiency[c]	Sustainability[d]
P-1-CF (Thermal Power Plant)	Relevant	Effective	Highly Efficient	Likely
P-2-CF (Hydro Power Plant)	Relevant	Effective	Efficient	Likely
P-3-C (Thermal Power Plant)	Relevant	Effective	Highly Efficient	Likely
P-4-F (Thermal Power Plant)	Relevant	Effective	Efficient	Likely
P-5-F (Hydro Power Plant)	Relevant	Effective	Highly Efficient	Most Likely
TR-1-C (Bypass Road)	Relevant	Information Not Available	Information Not Available	Information Not Available
TR-2-F (Port)	Relevant	Effective	Efficient	Most Likely
TE-1-C (Fixed and Mobile Telephone Service)	Relevant	Effective	Partly Efficient	Information Not Sufficiently Available
TE-2-C (Mobile Telephone Service)	Relevant	Effective	Inefficient	Not Applicable Due to the Merger

[a] Measured by the compliance with the subproject criteria of the Private Sector Infrastructure Facility.
[b] Measured by the achievement of the targeted production or incomes.
[c] Measured by the economic internal rate of returns or other relevant data.
[d] Measured by the likelihood that human, institutional, financial, and other resources are sufficient to maintain the outcome over its economic life.
Source: Operations Evaluation Mission.

CORPORATE DEBT MARKET DEVELOPMENT IN INDIA[1]

1. From FY1986, public sector undertakings have been issuing bonds, which are subscribed mainly by institutional investors, including banks. There has been limited interest in the market by retail investors. Recent interest rate declines have encouraged the corporate sector to utilize the bond market, rather than rely on the banking system for loans. Issuance of corporate bonds has risen sharply during the last decade, although a small decline in the amounts raised through bonds was recorded in fiscal year (FY) 2004. Even in the present buoyant equity market, 68% of the resources raised (in FY2004 and FY2005) were through bonds placements; this figure reached 83% to 91% in the preceding 7 years (Table A7.1). Most issues are now held in dematerialized form in the depository.

Table A7.1: Resources Raised in the Financial Market

Year	Public Equity Issues (Rs million)	Debt Issues (Rs million)			Resource Mobilization (Rs million) (2+5)	Share (%) of Private Placement in		Share (%) of Debt in Total Resource Mobilization (5/6*100)
		Public Issues	Private Placements*	Total (3+4)		Total Debt (4/5*100)	Total Resource Mobilization (4/6*100)	
1	2	3	4	5	6	7	8	9
FY1996	88,820	29,400	100,350	129,750	218,570	77.34	45.91	59.36
FY1997	46,710	70,150	183,910	254,060	300,770	72.39	61.15	84.47
FY1998	11,320	19,290	309,830	329,120	340,440	94.14	91.01	96.67
FY1999	5,040	74,070	387,480	461,550	466,590	83.95	83.05	98.92
FY2000	29,750	46,980	550,730	597,710	627,460	92.14	87.77	95.26
FY2001	24,790	41,390	524,560	565,950	590,740	92.69	88.80	95.80
FY2002	10,820	53,410	454,270	507,680	518,500	89.48	87.61	97.91
FY2003	10,390	46,930	484,240	531,170	541,560	91.16	89.42	98.08
FY2004	178,210	43,240	484,280	527,520	705,730	91.80	68.62	74.75
FY2005	214,320	40,950	553,840	594,790	809,110	93.12	68.45	73.51

FY = fiscal year, Rs = rupees.
Source: *Report on High Level Expert Committee on Corporate Bonds and Securitization* (December 2005).

2. Corporate bonds can be issued through private placements or public issues. Major issuance is currently through private placement, due to the obvious advantages of finer pricing, lower cost of issue, a shorter time frame and minimal regulatory approvals. Public sector undertakings, banks and other financial institutions have issued more than 80% of the privately placed corporate bonds. Issuance of bonds by the corporate sector for manufacturing and services has remained low, equaling around 9% of the total mobilization in FY2005, down from 14% in FY2000.

[1] This section summarizes the *Report on High Level Expert Committee on Corporate Bonds and Securitization*, issued in December 2005. (http://finmin.nic.in/downloads/reports/Report-Expert.pdf#search='High%20Level%20Expert%20Committee%20on%20Corporate%20Bonds%20and%20Securitization').

3. Regulations make the bond market available only to the top-rated companies, keeping private sector mobilization through bonds low.[2] Almost all (97%) of the total privately placed debt issued in FY2005 was credit rated, suggesting that credit rating is effectively a prerequisite for bond market access. The ease with which funds can be raised in overseas markets is also a contributing factor. Moreover, investors in corporate debt instruments are excessively safety conscious, with almost no demand for papers rated below AA or its equivalent by rating companies (Table A7.2).

Table A7.2: Corporate Bonds – Outstanding Issues (as of 25 August 2005)
(Rs million)

Rating Class	Number of Issues	Market Share (%)	Issue Size (Rs million)	Market Share (%)	Market Capitalization (Rs million)	Market Share (%)
AAA/MAAA	955	61.61	926,090	69.81	938,720	69.68
AA+/LAA+/MAA+	320	20.65	196,050	14.78	198,210	14.71
AA/LAA/MAA	175	11.29	132,480	9.99	136,920	10.16
AA-/LA-	31	2.00	12,720	0.96	13,220	0.98
A+/LA+	16	1.03	15,450	1.16	15,590	1.16
A/LA/MA	16	1.03	15,120	1.14	15,290	1.13
A-	12	0.77	10,630	0.80	10,650	0.79
BBB+	11	0.71	8,330	0.63	8,770	0.65
BBB/LBBB	8	0.52	7,220	0.54	7,250	0.54
B	6	0.39	2,570	0.19	2,570	0.19
Grand	1,550	100.00	1,326,660	100.00	1,347,190	100.00
Rating Not Available	82		99,060		99,160	

Rs = rupees.
Source: *Report on High Level Expert Committee on Corporate Bonds and Securitization* (December 2005).

4. Privately placed bonds generally lack liquidity in the secondary market, as many investors hold these bonds to maturity. In addition, the secondary market in corporate debt papers suffers from chronic illiquidity. Very little trading of corporate debt papers occurred during the last 2 years, accounting for about 3% of the total debt traded in the market (Table A7.3). The low level of corporate bond activity results from the limited number of players that dominate the market, and inadequate disclosures about securities issued mainly through private placement. There was very little or no retail interest in corporate debt, due to the institutional structure of the market.

[2] The Reserve Bank of India (RBI) issued instructions to all the banks and primary dealers that their investments in unlisted corporate bonds should not exceed 10% of their investment portfolio of non-statutory liquidity ratio securities. At one point banks were not allowed to lend at rates lower than the prime lending rate (PLR) of respective banks. Banks intending to extend loans to their borrowers with high credit ratings, at rates lower than their respective PLRs, camouflaged these as investments in privately placed bonds, because RBI's interest rate directive did not apply to lending by way of investments in bonds. After RBI removed the restriction on sub-PLR lending, banks were no longer tempted to resort to investment in bonds merely to lend below the PLR.

Table A7.3: Secondary Market Activity in Debt Securities

Year	**Corporate Debt** (Rs million)	**Market Share** (%)	**Government Securities** (Rs Million)	**Market Share** (%)	**Total** (Rs million)
FY2004	419,770	2.60	15,751,330	97.40	16,171,100
FY2005	379,690	3.24	11,342,220	96.76	11,721,910

FY = fiscal year, Rs = rupees.
Source*: NSE Factbook 2005*, *CCIL Factbook 2005*. Quoted in *Report on High Level Expert Committee on Corporate Bonds and Securitization* (December 2005).

MANAGEMENT RESPONSE TO THE PROJECT PERFORMANCE EVALUATION REPORT FOR THE PRIVATE SECTOR INFRASTRUCTURE FACILITY IN INDIA (Loans 1480/1481-IND)

On 29 November 2006, the Director General, Operations Evaluation Department, received the following response from the Managing Director General on behalf of Management:

A. Overall Comments

1. Management finds that the OED report is well written and covers major relevant aspects of the loan projects. We take note that the overall rating of Loan 1480-IND is successful and that of Loan 1481-IND is partly successful and that there is no specific follow-up action identified for ADB or the Borrowers. We appreciate the key issues and lessons that the OED report identified and will utilize them in our future relevant projects.

B. Specific Comments

2. The report suggests that the modality of the Private Sector Infrastructure Facility (PSIF) was not fully appropriate in achieving its secondary market objective of corporate debt market development and using a program loan might have been more appropriate (para. 35). However, we would like to point out that ADB did provide a program loan on capital market development, Loan 1408-IND: Capital Market Development Program (approved on 28 November 1995) that included debt market components right before the PSIF was conceived. This program was rated successful. The PSIF was designed to complement the program. Furthermore, when it was clear that while a primary market was active, a liquid and deep secondary debt market was not developing in spite of earlier efforts, ADB provided technical assistance to India (TA 3473-IND: Development of a Secondary Debt Market, approved in July 2000). Subsequently, a follow-up program on capital market development focusing on long-term debt market development was included under the country assistance program. Due to political economy considerations, this was, however, not pursued at the time at the request of the Indian Government.

3. Furthermore, the promissory notes issued by sub-borrowers were securitized under the PSIF to allow the participating financial institutions (PFIs) the flexibility to float these securities in the Indian capital market to help develop the debt market in securities. This instrument was chosen because the timing for issuance of these securities could not be determined precisely due to the fact that the point of commercialization of the subprojects nor the conditions prevailing in the capital market could not be determined in advance, but a credit rating was needed for the securities to be issued in the market. Consequently, a corporate bond was not possible for sub-borrowers to issue as suggested in the report (para. 35), at the time when the loan was contracted. Credit rating agencies in India were consulted regarding what instrument would be appropriate to utilize under the project.

4. It may be important to clarify why subloans under the PSIF were denominated in Indian rupees instead of US dollars (para. 82). The purpose for the rupee conversion of foreign exchange loans from ADB by the PFIs to the subloan borrowers was to insulate the subloan borrowers from foreign exchange risk. In the past, under development financial institution (DFI) loans, the foreign exchange risk was invariably passed on to subloan borrowers by PFIs, sometimes with disastrous consequences as subloan borrowers were not in a position to hedge themselves. Consequently, under the PSIF, the onus of the responsibility to hedge the foreign exchange risk was passed on to the PFIs who were better able to cover themselves. There is no currency mismatch as the subloan borrower simply purchases foreign exchange (about equal to the inflow from ADB's loan in foreign exchange), with the proceeds of its rupee loan to finance its importations, that were also readily available in the market due to the large inflows that India was experiencing after it opened its current account and the improving currency reserves of the country, while keeping its liabilities in Indian rupees. The PFIs, on the other hand, hedged their positions by either entering into a commercial foreign exchange swap or switching the foreign exchange to finance exporters. Under the Innovation and Efficiency Initiative (IEI), ADB does the swap or raises local currency through a local bond issue itself.

5. On para. 85, quote "5Had the floating interest rate lending been more actively used, there might have been less instances of prepayment under the PSIF." unquote. It should be noted that the prepayments occurred mainly because interest rates for Indian rupees declined rapidly in the domestic market following the economic slowdown in India. The reverse could have equally happened under a different economic scenario. Borrowers opt for fixed rates for long-term loans to avoid the interest rate risk. Consequently, the downside of unhedging their positions is exposing themselves to possible losses from interest rate fluctuations. Moreover, the choice between the floating and fixed rates of interest was at the option of the subloan borrower. Nonetheless, if the point is for India to have used the floating rate system more extensively in practice at the time, then the point is well taken. This reflects more critically the broader lesson for India to have allowed the introduction of hedging mechanisms and of more innovative instruments to be used in practice in parallel, in order to help mitigate market risks at a time when it was undergoing financial markets' liberalization. The introduction of options and futures (derivative instruments) and deregulation of the insurance industry were policy components of ADB's Capital Market Development Program in India and the subject of continuing dialogue with the Government. The phenomenal growth of the options and futures market and liberalization of the insurance industry as well as pension and provident funds in India are proofs that India has heeded these lessons well.