ASIAN DEVELOPMENT BANK **PCR:IND 26470**

PROJECT COMPLETION REPORT

ON THE

INDUSTRIAL ENERGY EFFICIENCY PROJECT
(Loan 1343-IND)

IN

INDIA

April 2002

CURRENCY EQUIVALENTS

Currency Unit – rupee/s (Re/Rs)

		At Appraisal	At Completion
Re1.00	=	$0.03	$0.02
$1.00	=	Rs31.37	Rs46.07

ABBREVIATIONS

ADB	–	Asian Development Bank
DID	–	Department of Industrial Development
EA	–	Executing Agency
IDBI	–	Industrial Development Bank of India
IEEP	–	Industrial Energy Efficiency Project
INRM	–	India Resident Mission
NPA	–	nonperforming asset
PMU	–	project monitoring unit
SIDBI	–	Small Industries Development Bank of India
SOE	–	statement of expenditure
TA	–	technical assistance
USAID	–	United States Agency for International Development

NOTES

(i) The fiscal year of the Government and of the Industrial Development Bank of India ends on 31 March. FY before a calendar year denotes the year in which the fiscal year ends, e.g. FY2001 ends on 31 March 2001.

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

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BASIC DATA

A. Loan Identification

1.	Country	India
2.	Loan Number	1343-IND
3.	Loan Title	Industrial Energy Efficiency Project
4.	Borrower	Industrial Development Bank of India (IDBI)
5.	Name of Development Finance Institution	IDBI
6.	Amount of Loan	$150.00 million
7.	Project Completion Report Number	PCR:IND 687

B. Loan Data

1.	Appraisal	
	- Date Started	26 Jun 1994
	- Date Completed	12 Jul 1994
2.	Loan Negotiations	
	- Date Started	05 Oct 1994
	- Date Completed	15 Nov 1994
3.	Date of Board Approval	13 Dec 1994
4.	Date of Loan Agreement	30 Mar 1995
5.	Date of Loan Effectiveness	
	- In Loan Agreement	28 Jun 1995
	- Actual	28 Jul 1995
	- Number of Extensions	1
6.	Terminal Date for Commitments	
	- In Loan Agreement	28 Jul 1997
	- Actual	31 Dec 1999
	- Number of Extensions	3
7.	Closing Date	
	- In Loan Agreement	28 Jul 2000
	- Revised	27 September 2000
	- Number of Extensions	nil
8.	Terms to the Borrower	
	- Interest Rate	Six months variable OCR[1] rate
	- Maturity (number of years)	15 years
	- Grace period (number of years)	5 years
9.	Interest Rate for Subloans	
	- Original	market determined
	- Revised	market determined

[1] OCR = ordinary capital resources.

10. Disbursements

a. Dates

Initial Disbursement	Final Disbursement	Time Interval
29 Mar 1996	27 Sep 2000	4 years, 6 months
Effective Date	**Original Closing Date**	**Time Interval**
28 Jul 1995	28 Jul 2000	5 years

b. Amount ($ million)

Category	Original Allocation	Last Revised Allocation	Net Amount Disbursed	Undis-bursed Balance
1. Project Expenditures	150.00	150.00	150.00	0.00
2. Imprest Account	0.00	0.00	0.00	0.00
Total	**150.00**	**150.00**	**150.00**	**0.00**

C. Implementation Data

1. Number of Subloans 26

2. Sector Distribution of Subloans

Subloan Sector	Projected	Actual	Amount ($ million)
Cement		4	38.12
Chemical		3	26.25
Fertilizers		2	30.49
Paper		3	6.31
Steel		2	10.49
Sugar		9	30.23
Textiles		3	8.08
Total[a]		**26**	**149.97**

3. Size of Subloans (actual) (in $ million)

Range	Number of Subloans	Aggregate Amount
Up to $5 million	16	39.66
$5 million-$10 million	7	44.83
$10 million-$20 million	1	17.09
Over $20 million	2	48.39
Total[2]	**26**	**149.97**

4. Subloans Above Free Limit: $5 million

[2] Does not include $21,146.30 disbursed to cover the excess expenditure under TA 1890-IND: *Industrial Energy Conservation and Environment Improvement*, for $275,000 approved on 19 May 1993.

5. Project Performance Report Ratings

	Rating	
Implementation Period	**Development Objectives**	**Implementation Progress**
From November 1996 to November 1998	AAA	AAA
From December 1998 to September 2000	S	S

D. Data on Asian Development Bank Missions

Mission	Date	Number of Persons	Number of Person-Days	Specialization of Members[a]
Fact-Finding	26 Jan–11 Feb 1994	4	68	a,b,d,h
Appraisal	26 Jun–12 Jul 1994	6	102	a,b,c,d,g,h
Consultation	27 Jul–2 Aug 1994	2	14	d
Consultation	12–13 Sep 1994	1	2	d
Inception	6–17 Feb 1995	2	24	a,d
Review 1	4–15 Nov 1996	2	24	a,d
Review 2	8–15 Dec 1997	2	16	b,i
Review 3	1–3 Jul 1998	2	6	a,d
Review 4	12–13 Oct 1998	2	4	a,d
Review 5	11–13 Feb 1999	2	6	d,e
Review 6	20 Apr 1999	2	2	d,e
Review 7	26 Aug–1 Sep 1999	2	14	d,e
Review 8	17–19 Jul 2000	2	6	d
Review 9[b]	28 Sep 2000	2	2	d,e

[a] a = engineer, b = financial analyst, c = counsel, d = economist, e = procurement/consultant specialist, f = control officer, g = programs officer, h = environment specialist, i = loan administration staff.

[b] This report was prepared by Mythili Ravi, Financial Analyst, and Riti Kapoor, Assistant Project Analyst, India Resident Mission.

I. BACKGROUND

A. History

1. In December 1994, the Asian Development Bank (ADB) approved the Industrial Energy Efficiency Project (IEEP) to promote energy efficiency in Indian industry, consistent with ongoing market-oriented reforms in the country.[1] The Project was intended to support financially viable investments leading to energy efficiency, by firms in the energy intensive industry sector. The IEEP loan of $150 million to Industrial Development Bank of India (IDBI) was onlent to a number of subprojects promoted by IDBI's clients. The loan was fully utilized within the envisaged closing date and was closed on 27 September 2000.

2. In 1964, the Government established the IDBI under an act of Parliament. Initially set up as a wholly owned subsidiary of the Reserve Bank of India, its ownership was transferred to the Government in 1976. A brief history of IDBI's activities, ownership, and resources are discussed in the project completion report of a previous loan to IDBI for small and medium industries.[2]

3. Following the initial public offer and simultaneous offer for sale of shares by the Government made in January 1995, the number of IDBI shares held by the Government was reduced to 72 percent. In 2000, the Government's holding was further reduced to 58 percent when it converted 247,000,000 of its equity shares into 13 percent redeemable preference shares (redeemed in March 2001). With effect from 25 August 2000 IDBI is substantially owned by the Government (58.5 percent) with the public holding the remaining shares.

B. Scope of Operations

4. IDBI, the apex development bank in India, has been engaged in extending long-term finance for industrial development. It has also been assigned the role of principal financial institution for coordinating the activities of institutions engaged in the financing, promotion, or development of industry. Over the years, the term "industry" has been widened to include infrastructure, fisheries, floriculture, road construction, amusement parks, cultural centers, restaurants, travel and transport facilities, film and entertainment industry, etc. Besides catering to the funding needs of industry, IDBI is active in developing and promoting innovations in industry, research, etc. IDBI assists research and development in industry as well as the commercialization of new technology, through its Venture Capital Fund. It also provides other non-fund-based services such as merchant banking, advisory, and legal and market intelligence assistance to industry. The range and types of services have grown in response to the market changes and the competitive environment that emerged during the 1990s.

5. IDBI's fund-based assistance is given in various forms such as loans, subscriptions to primary market instruments, and investments in secondary markets, both in local currency and in foreign exchange. IDBI's outstanding assistance in local currency as of 31 March 2001 at Rs564 billion was over 89 percent of its total assistance.

6. Outstanding assistance in the form of foreign currency as of 31 March 2001 at Rs66 billion was 11 percent of its total assistance. IDBI funds its foreign currency needs by resorting

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[1] Loan 1343-IND: Industrial Energy Efficiency Project, for $150.00 million, approved on 13 December 1994.

[2] PCR: IN.261-93 *Small-and Medium-Scale Industries Project*, (Section I (B) paras. 4, 5, and 6) December 1993, relating to Loan 855-IND: *Small-and Medium-Scale Industries Project*, for $100 million, approved on 3 November 1987. This loan was rated generally successful with respect to achievement of the primary objective, although its success in achieving its second objective was limited.

to commercial borrowings and multilateral and bilateral lines of credit from various international agencies.

C. Relationship with ADB and Other Lenders

7. IDBI has an ongoing relationship with major international lenders such as the Japan Bank for International Cooperation (JBIC), United States Agency for International Development (USAID), and World Bank. The lines of credit availed from these institutions were for various purposes such as foreign exchange needs (during the preliberalization era), pollution control, industry-specific development, and energy efficiency. Presently IDBI has partnered with the multilateral funding agencies on several ongoing projects to reduce air, water, and solid effluents from industrial and municipal facilities. These include (i) Industrial Pollution Prevention Project (World Bank) for waste minimization, resource recovery, pollution abatement, and waste treatment schemes; (ii) Ozone Depleting Substances Phase-Out Project aimed at phasing out the use/production of chlorofluorocarbons and other chemicals (funded by Montreal Protocol Multilateral Fund through the World Bank); (iii) Greenhouse Gas Pollution Prevention project (USAID) to reduce greenhouse gas emissions; (iv) Energy Management Consultation and Training Project (USAID) to improve technological and management capability for the supply and end-use of energy by private sector industry and other users; (v) EXIM J III Line of Credit from JBIC to provide financial assistance to Indo-Japanese joint venture projects in India; and (vi) line of credit from Nordic Investment Bank to provide financial assistance to projects in India with Nordic interest.

8. In 1987, ADB extended a loan to IDBI (footnote 1) for onlending to small and medium industries through the state-level financial institutions. The loan, approved on 3 November 1987, was effective on 24 February 1988. The loan was closed in 1993 and was rated generally successful in achieving the primary objective. The IEEP is the second loan to IDBI.

9. Following the financial sector reform process, IDBI's access to cheap sources of finance such as budgetary support, the Reserve Bank of India, and Government-guaranteed bonds has been phased out. Therefore, for its local currency funding needs, IDBI has been increasingly tapping the Indian bond market where it places bonds privately or through the public issue route. These bonds are well accepted in the markets. IDBI also resorts to fund mobilization through retail fixed deposits, certificate of deposits, etc.

D. Relevance of Design and Formulation

10. In its development program, the Government has given high priority to energy efficiency and related environmental improvements. The Government's overall thrust has been to expand domestic energy supply, while simultaneously increasing the efficiency of energy use through appropriate pricing and other demand management measures. The IEEP aimed to support investments in energy efficiency and related environment improvement measures by Indian industry, which was consistent with the Government's approach to efficiency of energy use under its National Energy Efficiency Program. The IEEP was to support an increase in the economic and technical efficiency of energy use, an objective that has become increasingly important due to the gap between energy demand and supply.

11. ADB's operational strategy for India was designed to support economic growth with the focus on efficient industrialization of the economy. In so far as efficiency of Indian industry was restricted by power shortages, any effort to conserve energy or increase its availability would help remove this constraint. The IEEP was designed to play an important role in improving

energy efficiency within subsectors where market forces create the appropriate incentives. ADB's involvement in the IEEP and in the sector was part of its aim to strengthen the Government's efforts to improve energy efficiency as well as the environment.

E. Related Technical Assistance

12. At the time of IEEP loan negotiations in October 1994, the Government asked for technical assistance (TA) to improve IDBI's capacity to identify, appraise, and implement energy efficiency and environmental management projects. ADB agreed to the request and approved a TA.[3] The TA was generally successful in producing useful information and awareness about the need and scope for promoting energy efficiency in selected high-energy intensity industries. But due to the delays in TA processing and implementation, the TA reports became available only after a substantial part of the loan was approved and disbursed. The TA completion report (Appendix 1) concluded that the TA could have been more useful if it had been fielded prior to loan approval.

II. IMPLEMENTATION

A. Lending Policies

13. IDBI's lending policies have been guided by the overall economic policies and objectives of the Government. Under the Industrial Development Bank of India Act, IDBI is empowered to finance and develop industrial ventures, which include the manufacturing and infrastructure sectors. It is also engaged in coordinating the working of institutions engaged in financing, promoting, and developing industries. Its policy is to help efficient industries grow by extending assistance for projects, nonproject funding needs, technology upgradation, and energy conservation and pollution control in industry. Development of industry is also carried out through venture capital funding—both directly and through other funds—and financial services. Its contribution to capital market development has been through promotion of various institutions in association with other financial institutions. Some of these are National Stock Exchange, Stock Holding Corporation of India, National Securities Depositories, and Credit Analysis and Research. It also promoted the Investor Services of India, IDBI Capital Market Services, IDBI-Principal Asset Management Co., IDBI Bank, etc.

14. IDBI's appraisal methods, which have evolved over 36 years, are based on sound financial and commercial principles of viability. IDBI's lending procedure includes the following stages (i) inquiry stage, (ii) application stage, (iii) site visits, (iv) preparation of an appraisal note, (v) evaluation by IDBI committee, (vi) issuance of a letter of intent, and (vii) preparation of a legal agreement for lending for suitable projects. Approval of loans or other forms of assistance takes place under a three-tier structure at the zonal, corporate, and board levels. The Zonal Committee at the zonal level, the Credit Committee (at the corporate level), and the Executive Committee of the board decide on the approval of the facility, depending on the project size and IDBI's exposure to the company/group. Once the committee gives its final approval, a letter of intent is issued to the company; this is followed by legal documentation.

15. The lending procedure followed by IDBI is comprehensive, based on accepted methods of evaluation and collective wisdom, and is transparent. While the evaluation includes assessment of information on expected energy consumption, along with that of other utility

[3] TA 2403-IND: Energy and Environmental Management of the Industrial Development Bank of India, for $585,000, approved on 26 September 1995.

needs of the project, a serious attempt to evaluate alternate opportunities for efficient energy use and environmental management is not made. But, the sponsor company is required to furnish appropriate clearances from the environmental agencies (Pollution Control Boards, Ministry of Environment & Forests, etc.) in order to satisfy IDBI loan requirements.

B. Characteristics of Subloans

16. The report and recommendation of the President (footnote 1) identified promotion of energy efficiency and related environmental improvement in the industry sector as the primary objective of the loan. Sectors in which such viable energy efficiency/environment management projects were expected were in the relatively energy-intensive industries, such as, chemical, aluminum, copper, paper, pharmaceuticals, sugar, iron and steel, and textiles. However, there was no preallocation by subsectors or categories of goods and services. Eligibility of the loan included (i) modification of existing production processes by installing equipment for energy efficiency and optimization of overall plant operations, (ii) technological restructuring of existing production facilities, and (iii) energy-efficiency-related licensing or other technology-acquisition subprojects. During the loan negotiations, cogeneration was also added to the list of eligible projects, considering the potential to capture waste heat in certain process/energy intensive industries, and also the potential for conversion of biomass waste into heat/electrical energy.

17. The loan was fully utilized within the closing date. A wide range of projects in most of the identified subsectors benefited under the loan (Appendix 2). The cement sector received assistance for four units; three involved the switch-over from the energy intensive wet process to dry process technology, with the fourth designed for using slag as a raw material for manufacture of Portland slag cement leading to environmental improvement besides energy efficiency. Chemical and paper units (three each) put up facilities for process technology changes leading to energy efficiency, two steel projects recovered waste heat, three textile projects modernized processes leading to energy savings. Nine sugar projects were covered under the loan. Some of these put up high-pressure boiler and turbines for using bagasse to cogenerate power and steam. The residual steam generated was meant for use in processing, and surplus power generated by high-pressure steam was to be fed to the grid. A few of the sugar unit projects entailed process energy savings. The fertilizer sector was included in the IEEP, conditional upon the Government's commitment to introduce market-based reforms. Two fertilizer subprojects envisaging substantial energy savings were also included. One of these relates to the recovery of waste heat from the sulphuric acid plant of its phosphatic fertilizer project. Although the fertilizer sector has still not been completely deregulated, currently urea is the only fertilizer whose pricing is controlled by a cost plus subsidy scheme—the retention pricing scheme. In the hydrocarbon sector, which caters to fertilizer industry as input, the Government announced in 1997, a phased withdrawal of the administered pricing mechanism. Full withdrawal was targeted with effect from 1 April 2002. Producer prices, including those for natural gas, are slowly but steadily being linked to global prices. The refinery gate prices for major products (gasoline, high-speed diesel, kerosene, liquefied petroleum gas) are still controlled but through adjusted import parity. The prices for naphtha, furnace oil, Low Sulphur Heavy Stock, bitumen, and paraffin wax were decontrolled in 1998. The price of aviation fuel was decontrolled in 2001. The September 1997 pricing order envisages 100 percent fuel oil parity by 2002. Progressive steps are being taken to reform pricing in the product and inputs of the fertilizer sector. All the subprojects assisted were in the private sector except one, which was in the public sector. The subproject investments were guided by market imperatives and funded by resources that were priced at market-related interest rates. Thus the loan achieved its objective to support market-based investments in energy efficiency measures, well spread across most of the identified subsectors.

18. Some of the subprojects involved technical/process improvement resulting in energy savings. Quite a number put up cogeneration facilities to produce power and/or process steam. Use of waste heat and bagasse for power generation aided supply of surplus power to the grid. Of the 26 subprojects, 8 were cogeneration projects using either process steam/gases or bagasse as the primary fuel, with a potential for generating 280 megawatts, of which some were intended for captive consumption and the surplus for wheeling to the grid. Except for two subprojects in the fertilizer sector, all the other subprojects were in industry subsectors with market-based pricing mechanisms. The subprojects, located in over 9 states, were well spread geographically in various parts of the country.

19. Subloans varied from a low of $270,000 for a paper mill to over $26 million for a cement modernization project. Sixteen of the 26 subloans were below the free limit of $5 million, while seven subloans fell in the $5 million to $10 million category. Only three subloans were larger than $10 million. The IEEP catalyzed an investment of $1,064 million for which promoters contributed $366 million (34 percent of the project cost). The ADB loan contributed 14 percent of the total cost with the balance from other loans.

20. ADB did not require prior review of procurement procedures. IDBI was required to satisfy itself that the procurement procedures adopted were appropriate and that canvassing to select suppliers and contractors was fair. All applications from IDBI were supported by an auditor's certificate regarding compliance with this requirement.

21. The IEEP envisaged policy and other measures to support enterprise autonomy, market-related pricing, strengthening of the institutional structure for energy efficiency and environmental management at the enterprise level, continuation of policy reform for market-determined pricing for energy inputs and products of industrial enterprises to provide adequate economic incentives for energy efficiency, and fiscal and other incentives for energy efficiency and environmental management initiatives. The Energy Management Center, functioning under the Ministry of Power in collaboration with European Community, has been focusing its attention on research; training of senior technical personnel; development of data on energy usage; and dissemination of information to the main energy consuming sectors through workshops, seminars, multimedia awareness campaigns, etc. The Energy Management Center also helps formulate policy and design programs on energy conservation. A proposal has been formulated for enactment of enabling legislation on energy conservation giving the central and state governments the requisite statutory powers to promote and enforce a progressive regime of energy conservation in the country. To operationalize these concepts, a bill has been passed for setting up a bureau of energy efficiency. Energy conservation standards will be prescribed for equipment or appliances consuming, generating, transmitting, or supplying energy; preferential treatment will be given for energy efficient equipment and appliances; an energy conservation fund will be developed at the center and state levels to utilize any grant or loans made available to promote energy conservation; energy audits will be mandatory; and consumer awareness campaigns developed.

22. For price reforms, the Government has taken measures to gradually deregulate the sector. In the power sector a number of initiatives have been undertaken to reform state electricity boards, introduce private participation in transmission and distribution, etc. The Electricity Regulatory Commissions Act provides for the establishment of central and state electricity regulatory commissions, rationalization of electricity tariffs, development of transparent policies for subsidies, promotion of efficient and environmentally benign policies, etc. The hydrocarbon sector is being deregulated with the gradual dismantling of the administered pricing mechanism.

23. The Department of Industrial Development (DID) was expected to periodically review the policy framework and make appropriate recommendations for any necessary adjustments. DID, in coordination with IDBI, was also expected to report on project benefit monitoring and evaluation. During implementation, although a number of reform measures and a few meetings were undertaken during the initial period of project implementation, DID did not issue any review reports on the policy framework in coordination with the implementing agency.

C. Implementation and Internal Operations of Subprojects

24. The main events in project implementation are furnished in Appendix 3. Implementation of the IEEP was smooth, without any major problems. The IEEP was the first line of credit to IDBI with a stated objective of energy efficiency and environmental management. (The earlier line of credit was meant to be a general resource support channeled through IDBI to the state financial institutions for small and medium industries). Considering this, the initial steep learning curve is reflected in slow disbursements initially. The main reasons appear to be the following:

(i) Initially, the IDBI and ADB implementing teams had to engage in dialogue to agree on the kind of projects that would be acceptable under the loan. When more and more subprojects were identified and reviewed, these disconnects were bridged.

(ii) The responsibilities for eligible project identification and submission of withdrawal applications in IDBI were initially divided between two different departments but were later centralized. Project identification was done in an ad hoc manner by the project monitoring unit (PMU), which had to contact each of several groups processing projects in IDBI headquarters and branches spread across India.

(iii) The frequency of dialogue and interaction between IDBI and ADB was limited until the IEEP was transferred to the India Resident Mission (INRM).

(iv) Variation between the respective disbursement procedures and documentation of IDBI and ADB inhibited quick drawdown of funds by IDBI, even though it had funded the subprojects out of its own resources as a bridging mechanism until reimbursement by ADB. ADB suitably amended the procedure to synchronize it with IDBI's procedure, after which the pace of disbursements picked up.

(v) The industry did not receive adequate publicity on the availability of the ADB line of credit.

25. The report and recommendation of the President (footnote 1) did not estimate an implementation/drawdown schedule. Annual data on projected and actual disbursements of the loan are given in Appendix 4. The dedication and efforts of the PMU in IDBI, together with equally responsive ADB officials, revision of statement of expenditure (SOE) limits, and delegation of project administration to INRM helped implement the IEEP by the original loan closing date.

26. Physical implementation of a majority of the subprojects was satisfactorily completed. Out of the two projects that were not implemented, one was that of Swadeshi Mills Ltd. Though the sub-borrower had imported the machinery which had been received at the site, the subproject was not implemented due to financial failure of the company, which had been registered under the Board for Industrial & Financial Reconstruction, the statutory body for

dealing with financially weak companies in India. Bellary Steel and Alloys Ltd. was another company that did not fully implement the subproject, being affected by industry-related problems and resultant financial troubles. The general sluggishness and competitive pressures in the caustic soda industry, in which Gujarat Alkalies and Chemicals Ltd. was the market leader, affected its financial performance, despite implementation of the cogeneration plant.

27. The IEEP assisted 26 subprojects involving 31 energy improvement schemes. These included replacement of high energy consuming equipment with modern equipment with better energy efficiency, process improvements, retrofitting, heat transfer equipment, replacement of low pressure boilers with high pressure ones, back pressure turbines, equipment for waste heat recovery, power plant based on bagasse, and other measures aimed at reducing energy use or converting waste into steam/power. At the appraisal stage, the implementing agency and ADB, both ensured that all the subprojects were targeted at achieving energy efficiency varying from 19.8 to 175 percent, as against the minimum stipulated 18 percent. From the energy audit reports (received for 17 schemes) and progress reports received from IDBI, 15 of the 31 schemes appear to have been implemented successfully and have achieved the minimum stipulated energy efficiency. Two schemes did not achieve the stipulated minimum savings; of these one achieved only 50 percent of the projected savings. However, this subproject in the chemical sector had obtained ISO 9002 certification for quality control and applied for ISO 14001 for environmental management systems. In the case of another project involving three schemes, all three achieved the projected energy savings. However, savings in percentage terms in two of the individual schemes were much higher at 25 and 46 percent, while the third scheme achieved only 6.7 percent. The audit report does not comment on average for the three schemes, and hence assessing the achievement of the minimum stipulated threshold by the subproject as a whole is difficult.

28. The annual savings in use of power and financial savings by 10 subprojects are reported to be 343 million units of electricity and Rs1.6 billion ($ 41 million). In addition, some export surplus power to the grid. Some of the companies also achieved process steam savings and savings in other fuel, on which precise data are not available. Besides the reported energy savings, other benefits reported include uninterrupted power supply, lower down time, and better efficiency due to qualitative improvements in the production process. With this feedback and the review missions' observations, a majority of the subprojects and the schemes can be considered to have achieved the stated objectives of energy savings. A detailed analysis of energy efficiency envisaged and that actually achieved is given in Appendix 5. While all the subprojects had an indirect beneficial environmental impact by reducing energy consumption, some of the processes had direct environmental mitigation measures.

29. All the subprojects were financed on commercial terms with rates of interest ranging between 15 and 20 percent, thus proving the IEEP assumption of market-induced investment for energy efficiency for resultant improvements in cost of Indian industry. The estimated economic internal rate of return for subprojects varied from 12 to 51 percent, as against the loan covenant of at least 12 percent. The estimated financial internal rate of return ranged between 14.8 and 41 percent and was always more than the cost of capital. The estimated debt service coverage ratio was at least 1.5, as per the loan criterion and debt-equity ratio not more than 1.5. All the subprojects had obtained the necessary approval from the local environmental authorities for conformity to the regulations of the state and the country.

30. Thus the IEEP substantially achieved its targets of energy efficiency, environmental improvement, and technological improvements relating to energy efficient processes. Also the

projected energy savings provided adequate incentives for investments in the subprojects, even at market rates of interest.

D. Operational Performance of IDBI

1. Organization, Management, and Staffing

31. IDBI is a professionally managed organization. Its board of directors, headed by a chairperson and managing director, consists of professionals from diverse fields, representatives of minority shareholders, and the nominees of the Government, the major shareholder with a 58.47 percent holding in IDBI's equity capital. The day-to-day operations are headed by the chairperson and managing director, with the support of the executive directors and a sizeable pool of competent and experienced professionals drawn from various disciplines. Decentralized operations, delegation of authority, and sound operational systems and procedures evolved over three and half decades of experience enable it to be the right institution to implement a project of this kind. With its head office in Mumbai, IDBI has five zonal offices in Chennai, Delhi, Guwahati, Kolkata, and Mumbai, and branch offices spread across the country.

32. During IEEP implementation, IDBI was reorganized, based on a comprehensive performance improvement program drawn up with the help of an international management consultant firm. The exercise was driven by the imperatives of an early strategic repositioning on the organizational front to maintain its leadership position in the emerging financial system. Based on the consultant’s report, IDBI is presently organized into operational departments in functional areas such as project appraisal, corporate finance, merchant banking, corporate advisory services, treasury, foreign exchange services, and resources. These departments are supported by service departments such as corporate accounts, legal services, budget and planning, economic research, market research, public relations, information technology, internal audit, library, and human resource development. The various departments are organized under specific groups to facilitate proper distribution of responsibility among the respective group heads that are of the rank of an executive director. The organization structure is in Appendix 6. Besides these departments at the corporate office in Mumbai, IDBI’s branch offices, which

perform operational functions, are organized under five zones reporting directly to the respective executive director.

2. Personnel Administration

33. As a part of its human resource development efforts, IDBI has been exposing its officers and staff to need-based training programs conducted by Jawaharlal Nehru Institute for Development Banking, Hyderabad, IDBI’s own training institute, and other reputed institutions in India and abroad. The institute, established in June 1991 as a premier training institute in development banking, has attempted to benefit from international expertise by inviting reputed international institutes to conduct its programs. It has also been exploring the scope for establishing sustainable collaboration with the World Bank Institute, Washington, US. IDBI has been implementing/administering a number of lines of credit extended by the multilateral agencies, which are intended for energy conservation, environmental management, etc. in Indian industry, thus building upon expertise in this area.

34. As of 31 March 2001, IDBI had 2,903 employees of whom 1,447 were officers including professionals in accountancy, management, engineering, law, computers, economics, and

banking. IDBI has a good and cordial relationship with its employees and their association/union. Since inception in 1964, IDBI's employees have not taken any major industrial action. The compensation package for its staff is reportedly governed by directives of the Government, the majority shareholder in IDBI, and is not market related.

3. Lending Operations

35. IDBI, with its long-standing business relationships with all major industrial houses and proven core competence in project financing, has a well-established system of project appraisal and monitoring. Its memorandum on project appraisal includes an analysis of the promoters' background, as well as technical, commercial, marketing, social/environmental, and financial aspects of the project. IDBI's loan products offer varying repayment periods ranging from 1 year for short-term loans for AAA-rated companies, to almost 15 years for an infrastructure project. IDBI's loan monitoring procedure is well established and has attained a level of maturity over more than three and a half decades of its operations in the field of project finance.

4. Other Operations

36. While retaining its traditional focus on project finance, IDBI has made attempts to expand its area of operations and is attempting to draw up a detailed plan to transform itself into a universal bank. From the role of an apex institution for term finance that included, inter alia, resource support to state financial institutions, policy coordination, etc, IDBI's focus has now shifted to being a one-stop shop for finance and related advisory services to industry directly. IDBI's changing role has been brought about by the maturing of institutions such as Small Industries Development Bank of India (SIDBI) on the one hand and financial sector reforms that have resulted in withdrawal of certain fiscal benefits and access to cheaper long-term finance for IDBI. Besides traditional support to industrial projects in terms of rupee/foreign currency term loans, IDBI's basket of products has expanded to include other forms of nonproject lending such as asset credit, short-terms loans, lease finance, and merchant banking services such as issue management, corporate advisory services, debenture trusteeship services, venture capital finance, and valuation services.

E. Financial Performance of IDBI

37. Data on IDBI's loan approvals and disbursements are furnished in Appendix 7. While its loan approvals registered a compound annual rate of growth of 15.5 percent and disbursements 8.8 percent, yearly growth rates have registered spikes perhaps due to bunching of large projects in specific years. Hence a better measure, in terms of outstanding asset portfolio buildup, is given in Appendix 8.

38. IDBI's asset buildup registered consistent growth during IEEP implementation. However, the impact of the recent downtrend in industry since the late 1990s is reflected in the reduced growth rate during FY2000 and an actual marginal reduction of its portfolio in FY2001. During this period Indian industry was restructuring itself, faced with competition following globalization and reform processes introduced by the Indian government. As a result, capacities have been consolidated with simultaneous reduction in credit off-take. On the other hand, financial institutions are also facing the challenges of the financial and capital market reforms. All these factors have together reduced the scope for growth in assets while simultaneously building up stress assets in the financial sector.

39. IDBI follows Reserve Bank of India guidelines, issued from time to time, for classification of its assets, income recognition, and provisioning of its asset portfolio. Appendix 8 provides an analysis of IDBI's direct finance portfolio during FY1995–FY2001 along with the extent of provisions made. IDBI's gross nonperforming assets (NPAs) were around 10 percent up to FY1998, but registered an increase in the last three years. At 31 March 2001, NPAs stood at 14.80 percent. This increase is substantially due to the factors described in the para 38. However, IDBI's capital adequacy was satisfactory at 15.8 percent as of 31 March 2001.

40. Once a loan account is categorized as NPA, IDBI recognizes income on realization. When a loan is written off partially or fully, efforts to recover the outstanding balance continue. As and when funds are realized for these outstanding amounts, they are credited to the revenue account.

41. To contain NPAs, IDBI has set up close monitoring cells to constantly monitor the performance of assisted companies to improve recovery and initiate timely remedial action. Further, restructuring committees have been set up in various zones to tackle NPAs. The restructuring committees look into the long-term viability of projects and recommend restructuring schemes to various delegated authorities. For expeditious decision making, committees headed by the deputy managing director and the chairperson & managing director have been set up. As a proactive measure to improve the credit quality, security mechanisms are being strengthened.

F. Financial Statements and Ratios

1. Balance Sheets

42. Consistent growth of IDBI's operations is reflected in its asset buildup, which has been funded mainly by issue of bonds and accretion to reserves (Appendix 9). During FY2001 however total assets were reduced marginally with a corresponding reduction in bonds and reserves. Operations for FY2001 were impacted by the slowdown in the industry and competitive pressures on IDBI.

43. IDBI's share capital remained practically unchanged, except for the reduction of Rs180.74 million due to the forfeiture of 18.07 million partly paid-up shares. During FY2001, 247 million equity shares of the Government were converted into redeemable preference shares. As a result, the Government's shareholdings were reduced from 72.14 to 58.47 percent with effect from 25 August 2000. IDBI also issued bonus shares in the ratio of three shares for every five shares held by the shareholders. Increasing emphasis on direct finance to corporates and direct investments in equity/securities is revealed from the balance sheet. Indirect finance by bills rediscounting and resource support to state institutions have shown a declining trend.

2. Income Statements

44. IDBI's profits increased continuously up to FY1998, but started to fall from FY1999 onwards. A part of the profits (Rs3,600 million) during FY2001 arose from capital gains on disinvestment of a part of it's equity in SIDBI (Appendix 10). In addition, IDBI has not made provisions on certain restructured loan accounts, pending clarification from the Reserve Bank of India in the matter. Without the profit on sale of investments in SIDBI and with provisions for restructured cases, IDBI's net profits would have been still lower. Reduction in profits partly reflects the downtrend in the industry sector and the reduced share of low cost funds in IDBI's resources. Also the reform process has resulted in competitive pressures in the financial sector.

3. Key Ratios

45. Data on key performance ratios of IDBI are furnished in Appendix 11. IDBI's capital adequacy ratio has been consistently higher than the stipulated norms. As of 31 March 2001 it was 15.8 percent. Its debt-equity ratio has also been consistently lower than the stipulated maximum. Both the capital adequacy and debt-equity ratio stipulations were healthy and more than fulfilled the ADB covenants. The declining return on net worth, return on assets, and earnings per share, however, are a cause for concern. Improvement in book value of share up to FY2000 reflects accretion to its reserves. The improvement in FY2001 is, however, mainly due to capital reduction. IDBI would need to embark on expansion into more profitable avenues, while targeting containment of NPAs.

G. Covenants

46. The status of compliance is furnished in Appendix 12. IDBI has been generally in compliance of most of the loan covenants. After the closing date, the return on average net worth at 7.5 percent for FY2001 was marginally less than the stipulated 8 percent. This was due to shrinking margins in the financial sector and the recent recessionary trends in the industry. Competitive pressures following macroeconomic and industrial reforms have caused shocks in the industry sector particularly for the traditional subsectors, causing increased incidence of loan defaults. While IDBI's consistently healthy capital adequacy ratio has been its strength, shrinking margins in recent times have affected its profitability. Hence IDBI is in the process of evolving into a universal bank with a range of financial products and services, for which it has appointed an international consulting company to draw up a suitable plan.

47. The covenant relating to submission of energy audit reports is primarily the responsibility of the subborrower. While these companies undertake energy use analysis and report them in their annual reports as required under the Companies Act, specific energy audit reports exclusively relating to investment covered under the IEEP are available for 17 of the 31 schemes assisted. The reasons for inadequate compliance of this covenant are as follows:

(i) Barring a few of the subprojects, most had energy efficiency as part of an overall modernization/process technology upgradation and expansion program. While the expected energy savings attributable to the specific process change or equipment that enabled it could be estimated, isolation of actual energy savings achieved by the company only out of the investment in energy efficiency, would involve considerable technical input and is sometimes not feasible.

(ii) IDBI did not have the required technical capacity to undertake such audits on its own.

(iii) IDBI, in the normal course of monitoring, does not insist upon an energy audit report, although the covenant has been stipulated specifically for the subprojects assisted under the ADB loan. As cited in the TA report, monitoring of the implementation and performance of the individual subprojects is vested with the satellite offices of the IDBI, with the PMU acting as an interface between ADB and these offices. The process of timely compliance of norms, which are exclusive to the ADB loan without overlap with those of IDBI, is not efficiently interwoven into the system and process of IDBI.

(iv) The implementation period of the IEEP coincided with several macroeconomic changes in the financial sector and banking that lead to increased competition. Many subborrowers had access to finance without time-consuming compliance requirements. Hence considerable persuasion was needed on the part of the PMU and ADB to obtain the energy audit reports.

(v) Many of the IEEP subprojects were part of an overall process modernization plan, out of which the exclusive impact of IEEP-financed investment cannot be evaluated without adding to the subborrowers' costs.

Of the remaining subprojects, most were implemented and IDBI has confirmed that they achieved the minimum stipulated level of energy savings, though there is not enough data on actual level of energy savings achieved.

H. Performance of ADB

48. ADB's performance during project implementation was satisfactory. The initial delays were made up by close coordination of ADB staff with the PMU during the subsequent period. ADB staff's flexible approach to practical problems of the PMU helped to effectively solve problems within the scope and development objectives of the IEEP. ADB was expected to field review missions at least once every six months. Nine review missions were fielded during the five-year implementation period. After the loan was delegated to INRM in June 1998, seven review missions resulted in more intensive follow-up and closer interaction. Although the first withdrawal application was received almost two years after loan effectiveness, the pace of disbursement picked up substantially in the third and fourth year of implementation. This was partly a result of synchronization of ADB's documentary requirements for withdrawal applications with the disbursement procedures of IDBI. Further, the SOE procedures were initially allowed for contract values of $500,000 or less. However, based on revised ADB policy for SOE limits for development financial institution loans, ADB increased the SOE limit during project implementation to $5 million. This step also helped in allowing speedy withdrawals under the loan, as more contracts could be covered under the simplified SOE procedure.

III EVALUATION

A. Loan Appraisal

1. Distribution of Subloans

49. At appraisal the loan was expected to be available to specific development projects in the private sector and eligible public sector industrial enterprises for energy efficiency purposes and related environmental improvements. Energy efficiency projects (including cogeneration) in the aluminum, cement, chemical, copper, sugar, mini-steel, nonferrous metals, pharmaceuticals, pulp and paper, and textile subsectors were preferred. Energy efficiency projects in other subsectors such as fertilizers, which are designed to be competitive and otherwise meet the selection criteria outlined in the scheme, were also included to be eligible provided the Government had committed to introduce market-based reforms in the sector. While the loan funds were well distributed among most of the chosen subsectors, notable exceptions were aluminum, copper, and pharmaceuticals sectors. This may be partly a reflection of the relatively lower share of these subsectors in IDBI's overall portfolio. Two units in the fertilizer industry received funds under the loan, even though the industry is characterized by regulated input prices and subsidy on output. The analysis by the industry expert of TA 2403 (footnote 3) would

perhaps justify this deviation from the appraisal intent. The author argues that there is competition for the major input of fertilizer and power, namely, gas. In the context of ever-growing demand for power, and depleting gas reserves, availability and price of gas were uncertain. In addition, the cost of stand-alone/greenfield fertilizer projects was getting too high to be viable. In this scenario, revamping involving capacity addition, energy efficiency, and process efficiency were the preferred options. In anticipation of the move to market-based pricing for both inputs and outputs by the Government, many fertilizer plants opted for the revamp route, which was expected to add capacity more efficiently. These initiatives hence merited consideration for ADB assistance, notwithstanding administered prices for inputs and output in the industry.

50. The identified purposes for loan eligibility were (i) modification of existing production processes by installing equipment for energy efficiency and optimization of overall plant operations, (ii) technological restructuring of existing production facilities, and (iii) energy-efficiency-related licensing or other technology-acquisition subprojects. While the loans were basically given for specific energy efficiency and environmental management measures, very often they formed a part of the company's strategy to reduce its cost of production involving other process / technological upgradation. No specific case of assistance for license or technology acquisition occurred, perhaps due to demand and supply constraints. What is noteworthy is the use of bagasse for cogeneration of power/steam in sugar mills, which not merely enhanced sugar units' competitiveness, but also contributed to supply of surplus power to the grid. Although cogeneration was not specifically included or excluded at appraisal, the inclusion of cogeneration projects based on their merits during loan negotiations reflects ADB's flexible approach in achieving the objective and was in line with the rationale for the loan.

2. Covenants

51. IDBI displayed its commitment to meeting the IEEP's objective and fulfilled most of the covenants. The progress reports were received with a time lag, while the energy audit reports were not prepared at regular intervals. IDBI, through its established monitoring systems and procedures, has ensured that all the projects excepting two were implemented. However its performance with respect to quantification of the actual energy saved could have been better. IDBI seems to have faced certain practical difficulties in this regard, which are highlighted in para. 47.

3. Quality of Appraisal

52. Appraisal of the IEEP required a detailed study of the opportunities available and the prevalent status of the need and appetite for industry in taking up energy efficiency and environmental management measures. It was rightly assessed that energy efficiency and related environmental management measures would be needed, considering the compulsion for the industry to change over from a protected to an open environment. In the absence of detailed data or research on the various specific opportunities in each energy intensive industry, a concurrent ADB TA rightly included in its scope, such research and documentation. In retrospect, however, much more would have been achieved in a shorter time if the TA study had preceded the loan, instead of it being concurrent with it. The appraisal rightly recognized the need for the Government to create the enabling environment by introducing market-based reforms and incentives.

53. IDBI's appraisal and monitoring systems and procedures are sound and well established with over three and half decades of project lending operations. Being the apex development

bank in industrial finance with the experience of coordinating the activities of institutions engaged in financing, promotion and development of industry, IDBI's strength lies in its skills in industrial project appraisals. Its technical capacity to undertake energy audits on its own was however limited. Successful completion of most of the subprojects reinforces IDBI's skills in identification, appraisal and monitoring of the energy efficiency projects. In retrospect it appears a little more analysis could have been made of the implementation arrangements to ensure that the issue of energy audit compliance was adequately addressed and dovetailed into the implementation process.

B. Implementation

54. IEEP implementation followed the intended project milestones and substantially achieved the intended objectives. The time period for subloan commitments was extended to realistically include more eligible projects for full utilization of the loan within the closing date. In terms of the range of subsectors that received assistance, the IEEP can be judged a success. The entire loan was fully disbursed within the closing date without any need for extension, largely due to the dedication and commitment shown by both the PMU and the ADB team responsible for its implementation. With appropriate design of the implementation process, interweaving of project objectives in IDBI's business processes, and an incentive structure, more could have been achieved in the area of evaluation of the project benefits.

55. IDBI, with its historical development orientation, was well suited to appraise and monitor the IEEP. IDBI had experience implementing a number of energy efficiency and environmental improvement projects: the World Bank's Industrial Pollution Control Project and its ongoing Ozone Depleting Substances Phase-out Project, Greenhouse Gas Pollution Prevention Project (USAID) and Energy Management Consultation and Training Project (USAID),[4] IDBI was well equipped and had the required expertise to implement the IEEP.

56. As regards policy reforms to support efficient energy use, some steps have been taken by the Government. DID convened very few meetings, although it is the coordinating point for monitoring IEEP implementation and taking stock of the status of the introduction of market-based measures to create the right enabling environment for energy efficiency and environmental management steps in the industry. Although monitoring meetings could have been more frequent, the Government did take a number of measures during project implementation in the areas of price reforms in energy sector and privatization initiatives.

IV. ASSESSMENT AND RECOMMENDATIONS

A. Relevance

57. The IEEP was and continues to remain relevant given the continued emphasis that ADB and the Government place on the importance of efficient energy use as a demand-side management approach to power availability in the country. The proposed energy efficiency bill to be introduced reiterates this point. According to the sector studies under the TA, the potential for energy efficiency measures in Indian industry is considerable. The timing of the IEEP was also appropriate, when the industry was gearing up to meet the challenges of competition through cost-cutting measures. Traditional industry, with a large share of energy costs in overall production costs, was geared to undertake energy efficiency measures and ADB's line of credit was timely.

[4] Please see para. 7 for a brief description of these projects.

B. Efficacy in Achievement of Purpose

58. The IEEP substantially achieved its immediate objective of assisting industrial projects with an envisaged energy efficiency of 18 percent. It also achieved the objective of channeling funds for investments that were financially viable. The subprojects also had an indirect impact on reducing environmental pollution by reducing greenhouse gas emissions. Waste heat and other biomass waste were converted into energy, thus contributing to an improved environment. The IEEP, together with the TA, has increased the likelihood of subprojects contributing to the wider development goal of promoting energy efficiency in industry. The demonstrative impact of successful subprojects is expected to be significant.

C. Efficiency in Achievement of Outputs and Purpose

59. All the investments were financially viable. All the subprojects were funded by loans at market-related interest rates. There was also considerable leverage of ADB funds in the IEEP. The overall estimate of investment catalyzed is $1,064 million as against ADB's investment of $150 million in 26 subprojects. The available report from 10 subprojects suggests annual financial savings of $41 million, which is indicative of the potential savings of the IEEP. It would be reasonable to conclude that the loan was efficient in achieving its purpose.

D. Preliminary Assessment of Sustainability

60. Considering that a majority of the subprojects were implemented and are reaping financial returns without any subsidy in cost of funds, the IEEP appears quite sustainable and potential for similar funding is indicated. Prospects for sustainability would have been greater if the TA had been more effective in suggesting an acceptable manner in which the recommendations could have been integrated in IDBI's business processes.

E. Other Impacts

61. The investments were very often not merely energy saving, but had other positive impacts on the environment, enabling pollutants to be reduced and waste to be used productively. Some of the sponsor companies also enjoyed the benefits of quality power without interruptions; this resulted in improved product quality, lower down time, and better overall efficiency.

F. Overall Assessment

62. The IEEP's development objectives were, by and large, fully achieved. The IEEP catalyzed a large amount of investment, with funds mobilized at market costs. While the IEEP was conceived to support market-based investments in line with the Government's demand-side management program, an interesting outcome was the supply of surplus power to the grid, generated by subprojects from waste heat.

63. IDBI, the Executing Agency, was effective in channeling the loan funds and its historical development role and experience in encouraging investment in energy efficiency measures helped in this regard. Most of the subprojects implemented energy efficiency measures. However a few failures resulted from developments in the industry in which the company operated, or from other failures of the company concerned. On an overall assessment it would be reasonable to conclude that the project was substantially successful in achievement of its objectives.

G. Lessons Learned

64. Judging from project implementation, industry has considerable awareness of the benefits of introducing energy efficiency measures. The scope for investments in this field is substantial, particularly in small and medium sectors of industry, which the IEEP did not cater to. This was partly due to the final cost of funds to the subborrowers, which were not concessional. Another factor is that IDBI is mainly engaged in assistance to large-scale industrial units, as its small-scale operations were transferred to SIDBI.

65. Delegation of the IEEP to INRM contributed to the IEEP's success, which achieved its development objectives within the envisaged time frame. Experience with the IEEP indicates that sufficient efforts are needed before loan effectiveness to explain ADB's procedures on procurement, environmental aspects, disbursements, etc. to the PMU officials well in advance and to obtain agreement on administrative arrangements.

66. IDBI, with its historical experience in development banking and years of expertise in project finance was an effective agency for channeling funds under the IEEP. However the recent financial sector reforms and globalization of Indian industry have closed IDBI's access to low-cost funds, made its income taxable, and compelled it to reorganize its priorities. Hence a subsequent project might need an incentive structure to enable sustained long-term commitment of IDBI in partnerships focusing on energy efficiency and environmental management objectives of ADB.

H. Recommendations

67. Since potential for undertaking energy efficiency in industry is still large, ADB could consider a follow-up loan.

68. A detailed assessment of the implementation arrangements in the early stages of the project cycle will be helpful in ensuring that the development objectives are adequately addressed and dovetailed into the implementation process.

69. To ensure continuity and effective realization of the project objectives, the composition of the PMU during project implementation should be retained throughout the project, without major changes.

70. To build on the development impact and its sustainability, a detailed study of the actual results of the IEEP could be carried out and success stories circulated to encourage replication.

71. The introduction of compulsory energy audits to assess energy use in industry vis-à-vis best practices in the world could be a good tool to promote better energy use, as could the use of awards, certification, etc.

72. TA of the kind approved for capacity building of EA and data base creation that would help spread awareness and create demand for the loan, should ideally precede loan effectiveness.

TECHNICAL ASSISTANCE COMPLETION REPORT

TA No. & Name TA2403 IND: Strengthening the Capacity of IDBI in Energy Efficiency and Environment Management		**TA Amount Approved:** $585,000	**SOURCE:** Asian Development Bank and the Government of France TA Grant Fund
Executing Agency: Industrial Development Bank of India (IDBI)		**TA Amount Undisbursed:** $8,190	**TA Amount Utilized:** $434,430
Date: Approval: 26 September 1995	**Signing:** 1 November 1996	**Field:** 01 January 1997	**Closing:** Original: June 1998 Actual: November 1999

A. DESCRIPTION

1. ADB approved a loan of $150 million in December1994 for the Industrial Energy Efficiency Project (IEEP) to the Industrial Development Bank of India (IDBI). The IEEP objective is to improve the efficiency of energy use in Indian Industry by promoting best methods to upgrade production technology of existing units, recover waste heat, and generally promote better energy management and conservation. The Government has also accorded high priority to energy conservation to deal with the serious problems of energy shortages and environmental degradation associated with suboptimal use of energy resources. At the time of the IEEP loan negotiations in October 1994, the Government asked ADB for technical assistance (TA) to improve IDBI's capacity to identify, appraise, and implement energy efficiency and environmental management projects. ADB acceded to the request and prepared a capacity building TA for IDBI. The TA was signed 16 months after the loan became effective.

B. OBJECTIVES AND SCOPE

2. The TA objective is to strengthen IDBI's capabilities in three areas: policy and program development for IEEP; institutional strengthening through training and raising of awareness about the need to improve energy efficiency. To achieve these objectives, the TA envisaged the following scope of work: (i) review existing policies, procedures, and capabilities of IDBI, in the area of the IEEP, and design an institutional strengthening program including training needs; (ii) analyze energy conservation and environmental management in a number of energy intensive sectors; (iii) introduce and incorporate energy conservation and environmental impact analysis into IDBI's project appraisal methods for IEEPs; (iv) design and implement appropriate project selection and operational procedures for IEEPs; (v) provide on-the-job training in energy conservation, environmental impact assessment through day-to-day work participation, workshops, seminars, and energy audits; (vi) improve IDBI's management information base by suggesting reference material and books on industrial energy efficiency and environmental management; and (vii) raise general awareness among IDBI officers and the industry at large about the need for and the benefits of improving energy efficiency and environmental management.

C. INPUTS EVALUATION

3. The TA envisaged a total of 30 person-months of consulting inputs comprising 10 person-months of international consulting (IC) and 20 person-months of domestic (DC). Subsequently, 1.5 person-months of IC inputs were added to oversee editing of selected sector reports for publication and placing on the Internet, and for organizing international training programs and study tours. An additional 10.05 person-months of DC inputs were also added for. (i) abridging and editing five sector reports; (ii) preparing a sector report for the textile-spinning sector; (iii) increasing the duration of the existing experts to accommodate additional work on certain sectors; and (iv) coordinating workshops. The Executing Agency constituted a task force of five officers drawn from the finance and technology departments to regularly interact with the TA consultants and facilitate their work. The IC's contribution and their workshops and training programs were highly appreciated by the Executing Agency. Most of the DCs were also rated high by the Executing Agency. The Asian Institute of Management conducted a five-day intensive training program for 10 midlevel officials on the following topics: energy efficiency concepts, energy audit, energy systems, and appraisal of energy efficiency projects. Training was imparted through lectures, case studies, and field visits. Additional work and late response from 1DBI on the draft final reports caused much of the delay in implementation (estimated using consultants' pending claims).

4. There appears to be an asymmetry between the pattern of work stipulated by the terms of reference and the duration and type of consulting inputs. Of the three main TA objectives, the institutional strengthening and policy and

program development components received only six of the 40 person-months of consulting inputs, while the rest of the inputs were expended on preparing sector reports on energy efficiency, and their editing for publication. Considerably more inputs for institutional strengthening and adding an organizational behavior expert to the team of consultants would have resulted in a more balanced application of consulting inputs to effectively address the TA objectives.

D. OUTPUTS EVALUATION

5. The consultants have produced 11 sector reports covering the intensity of use of energy, potential for energy conservation, areas for technological upgrading, and the sources of those technologies. The sectors studied are: aluminum, cement, copper, chemicals, fertilizer, iron and steel, paper and pulp, sugar, textile-spinning, textiles-weaving and processing, and zinc. The Executing Agency has generally appreciated the quality and content of these reports. Out of these 11 sector reports, 5 have been selected for publication viz., cement, fertilizer, paper and pulp, sugar and textiles. IDBI will publish the sector reports and place them on the Internet. The Petroleum Conservation Research Association and the Energy Management Center of the Ministry of Power have agreed to assist in distributing the sector reports through their channels. Besides the sector reports, the consultants also produced a report on policy and procedure development for IDBI. This report is short of expectations of both IDBI and ADB staff. While the consultants have been able to suggest some procedures for identifying and assessing energy efficiency projects, they have not been able to indicate a satisfactory and acceptable manner of integrating their recommendations in IDBI's business processes. They suggested creation of a special division reporting to the top management to institutionalize the knowledge on energy efficiency and environmental projects. But this would make promotion of energy efficiency a staff function rather than a line function and could diminish its importance in IDBI's business processes.

6. While the training programs are of high quality, certain deficiencies were pointed out on their coverage, which arose due to their short duration. The deficient areas are inadequate field visits and discussions on the practices adopted by South-East Asian and other developed countries on energy efficiency and environmental management.

E. OVERALL ASSESSMENT/RATING

7. The TA was generally successful in producing useful information and awareness about the need and scope for promoting energy efficiency in selected high energy intensity industries. The sector reports produced by the consultants will be of invaluable use to IDBI and the industry at large. The increased awareness is expected to result in substantial energy savings in the medium tern, which is the ultimate objective of this TA and the associated loan. The keenness shown by the official agencies to propagate the reports reflect their usefulness. But the TA has not been able to effectively integrate its findings on the identification and processing of energy efficiency projects with IDBI's business processes and organizational structure due to inadequate consultant inputs.

F. MAJOR LESSONS LEARNED

8. The TA was originally conceived to assist IDBI in identifying and appraising the subloans under the IEEP (Loan 1343-IND). But due to the delays in TA processing and implementation, the TA reports became available only after a substantial part of the loan was approved and disbursed. Notably, even at the late stage, the TA findings did have a positive impact on the quality of administration of the associated loan. Therefore, the TA could have been more useful had it been fielded prior to the approval of the loan. Instead, it was fielded 18 months after the loan became effective. Another TA (TA 2193-IND: Energy Efficiency Support Project) given to Industrial Credit and Investment Corporation of India (ICICI), overlapped to some extent with the work done under this TA in 8 out of the 11 sectors. This TA would have contributed more had it focused primarily on policy and program development, training, and institutional strengthening of IDBI. But the input structure did not permit it. TA resources could also have been allotted to conduct energy audit of a sample of the industries assisted under the above-mentioned loan.

G. RECOMMENDATIONS AND FOLLOW-UP ACTIONS

9. The TA was generally successful in providing considerable high-quality information to promote energy efficiency in various sectors. But, integration of TA findings into the business processes of the DFIs needs to be accomplished, possibly with ADB TA, before the proposed second energy efficiency loan is given to IDBI/ICICI.

Approved Subloans

Subloan Number	Sub-borrower Description	Subloan Committed ($)	Subloan Disbursed ($)	Purpose
001	The Svadeshi Mills Co. Ltd.	535,067.19	535,067.19	Cogeneration
002	EID Parry (India) Ltd.	7,681,206.00	7,681,206.00	Modernization
003	Bellary Steel and Alloys Ltd.	5,122,462.00	5,122,462.00	Modernization
004	Madras Fertilizers Ltd.	8,100,500.00	8,100,500.00	Modernization
005	Kothari Sugars and Chemicals Ltd.	1,415,000.00	1,415,000.00	Modernization
006	Kanoria Sugar and General Manufacturing Co. Ltd.	1,097,999.00	1,097,999.00	Modernization
007	Seshasayee Paper and Boards Ltd.	-	-	-
008	Balrampur Chini Mills Ltd.	6,112,942.00	6,112,942.00	Modernization cum expansion
009	Sree Rayalaseema Alkalies and Allied Chemicals Ltd.	6,283,000.00	6,283,000.00	Modernization
010	Upper Ganges Sugar and Industries Ltd.	3,599,137.00	3,599,137.00	Modernization
011	Yash Papers Ltd.	270,000.00	270,000.00	Modernization cum expansion
012	Indian Seamless Steels and Alloys Ltd.	-	-	-
013	DCW Ltd.	2,884,500.00	2,884,500.00	Modernization
014	Associated Cemeent Company Ltd. - Sindri	2,722,846.75	2,722,846.75	Modernization cum expansion
015	Associated Cement Company Ltd. - Lakheri	4,409,341.00	4,409,341.00	Modernization cum expansion
016	Bajaj Hindustan Ltd.	1,647,059.00	1,647,059.00	Modernization
017	Associated Cement Companies Ltd.	26,005,284.25	26,005,284.25	Modernization cum expansion
018	Lloyds Metals and Engineers Ltd.	-	-	-
019	Gujarat Alkalies and Chemicals Ltd.	17,089,400.00	17,089,400.00	Expansion
020	Tamil Nadu Cements Corp. Ltd.	-	-	-
021	Oswal Chemicals and Fertilizers Ltd.	22,386,017.00	22,386,017.00	Expansion
022	Sunflag Iron and Steel Company Ltd.	5,371,000.00	5,371,000.00	Modernization
023	Sun Paper Mills Ltd.	2,534,273.00	2,534,273.00	Cogeneration
024	Star Paper Mills Ltd.	3,502,150.00	3,502,150.00	Modernization cum expansion
025	Tulsipur Sugar Company Ltd.	3,433,814.00	3,433,814.00	Modernization cum expansion
026	Oudh Sugar Mills Ltd.	3,946,900.00	3,946,900.00	Modernization
027	Indo Rama Cement Ltd.	4,985,951.00	4,985,951.00	Expansion
028	KCP Sugars and Industries Corporation Ltd.	-	-	-
029	Sintex Industries Ltd.	6,160,516.51	6,160,516.51	Modernization
030	Aunoday Mills Ltd.	1,385,639.00	1,385,639.00	Modernization
031	Godavari Sugar Mills Ltd.	1,296,849.00	1,296,849.00	Cogeneration
Total		**149,978,853.70**	**149,978,853.70**	

Subloan Number	Means of Finance: Equity/Internal Accruals /Promoters Contribution (Rs million)	Equity/Internal Accruals /Promoters Contribution (%)	ADB's contribution (Rs million)	ADB's contribution (%)	Other Loans (Rs million)	Other Loans (%)	Total Cost of Subproject (Rs million)	Total Cost of Subproject (%)
001	12.50	25.00	36.50	73.00	1.00	2.00	50.00	100
002	232.00	31.00	371.65	49.50	146.35	19.50	750.00	100
003	110.00	26.83	203.95	49.74	96.05	23.43	410.00	100
004	1,210.00	26.00	250.00	6.00	3,040.00	68.00	4,500.00	100
005	90.00	25.50	63.00	17.80	200.00	56.70	353.00	100
006	22.00	12.90	85.00	50.00	63.00	37.10	170.00	100
007	-	-	-	-	-	-	-	-
008	150.00	34.40	217.60	50.00	67.70	15.60	435.30	100
009	99.25	25.40	216.75	55.60	74.00	19.00	390.00	100
010	160.50	31.40	47.20	9.20	302.80	59.30	510.50	100
011	4.80	26.20	9.15	50.00	4.35	23.80	18.30	100
012	-	-	-	-	-	-	-	-
013	115.00	25.00	197.15	43.00	147.85	32.00	460.00	100
014	180.00	50.30	81.25	22.70	96.75	27.00	358.00	100
015	180.00	44.40	143.40	35.40	81.60	20.20	405.00	100
016	92.50	50.00	92.50	50.00	-	-	185.00	100
017	850.00	41.00	937.00	46.00	263.00	13.00	2,050.00	100
018	-	-	-	-	-	-	-	-
019	1,750.00	55.00	641.30	20.00	788.70	25.00	3,180.00	100
020	-	-	-	-	-	-	-	-
021	5,260.00	33.00	250.00	2.00	10,290.00	65.00	15,800.00	100
022	111.15	24.00	188.85	41.00	161.30	35.00	461.30	100
023	95.00	40.00	106.65	45.40	33.35	14.60	235.00	100
024	315.00	35.60	129.80	14.70	440.20	49.70	885.00	100
025	315.00	52.10	134.20	22.20	155.80	25.70	605.00	100
026	55.00	11.46	63.03	13.13	361.97	75.41	480.00	100
027	500.00	33.33	250.00	16.67	750.00	50.00	1,500.00	100
028	-	-	-	-	-	-	-	-
029	116.50	25.00	249.70	53.50	100.30	21.50	466.50	100
030	100.00	30.30	61.00	18.48	169.00	51.21	330.00	100
031	291.00	26.94	57.00	5.28	732.00	67.78	1,080.00	100
Total	**12,417.20**		**5,083.63**		**18,567.07**		**36,067.90**	

CHRONOLOGY OF MAIN EVENTS IN PROJECT IMPLEMENTATION

Date	Event
1993	
1 Dec	First listing in *Asian Development Bank Business Opportunities*
27 Dec	Concept clearance approved
1994	
26 Jan–11 Feb	Fact-finding
1 Jun	Management review meeting
26 Jun–12 Jul	Appraisal
27 Jul–2 Aug	A consultation mission visited India and met with officials from the Department of Economic Affairs (DEA) to discuss the restructuring of the Project
24 Aug	Staff review committee meeting
12–13 Sep	A consultation mission visited India to hold policy dialogue with the Government in accordance with Management instructions. The mission met with officials from DEA, Ministry of Petroleum and Natural Gas, Oil and Natural Gas Corporation, and Industrial Development Bank of India (IDBI).
5 Oct–15 Nov	Loan negotiations
21 Nov	Board circulation
13 Dec	Board approval
1995	
30 Mar	Loan and Guarantee agreements signed
19–24 Apr	Inception mission
24 Apr	Circulation of Project Administration Memorandum to the Executing Agency
28 Jul	Loan declared effective
16 Nov	Approval of first subproject by ADB
16 Nov	Subloans approved for Svadeshi Mills Co. Ltd. and EID Parry (India) Ltd. for $0.54 million and $7.68 million respectively
22 Dec	Subloan approved for Bellary Steel and Alloys Ltd. for $5.12 million
1996	
18 Jan	Subloan approved for Madras Fertilizers Ltd. for $8.10 million
24 Jan	Subloan approved for Kothari Sugars and Chemicals Ltd. for $1.42 million
24 Jan	Subloan approved for Kanoria Sugar and General Manufacturing for $1.09 million
29 Mar	First disbursement under the Project
2 May	Subloan approved for Sree Rayalaseema Alkalies and Allied Chemicals for $6.28 million
8 May	Subloan approved for Yash Papers Ltd. for $0.27 million
21 Oct	Subloan approved for DCW Ltd. for $8.10 million

4–15 Nov	Review Mission (1). The Mission visited Mumbai and New Delhi to meet with officials from DEA, Ministry of Industry, Ministry of Power, IDBI, National Council of Applied Economic Research, Tata Energy Research Institute, and Indian Seamless Steel and Alloys Ltd. The Mission discussed (i) policy coordination—institutional framework and pricing structure; (ii) institutional aspects and operational and financial performance of IDBI; (iii) loan utilization by IDBI—commitment of subloans and their implementation status, and field visit of Indian Seamless Steels and Alloys Ltd.; (iv) loan disbursement; (v) implementation of technical assistance (TA) 2403-IND: Energy and Environment Management of IDBI; and (vi) compliance with loan covenants.
1997	
11 Feb	Subloans approved for Associated Cement Company–Sindri and Associated Cement Company—Lakheri for $2.72 million and $4.41 million respectively
19 Feb	Subloan approved for Associated Cement Companies Ltd. for $26.01 million
20 Feb	Subloan approved for Bajaj Hindustan Ltd. for $1.65 million
4 Jun	Subloan approved for Gujarat Alkalies and Chemicals ltd. (GACL) for $17.09 million
28 Jul	Terminal date for commitments in loan agreement
8–15 Dec	Review Mission (2). The Mission visited Mumbai and New Delhi to meet with officials from DEA, Ministry of Industry, Ministry of Power, IDBI, and GACL. The Mission discussed (i) policy coordination and institutional framework; (ii) price liberalization; (iii) loan utilization by IDBI—commitment of subloans and their implementation status and field visit to GACL; (iv) loan disbursement; (v) implementation of TA 2403; and (vi) compliance with loan covenants.
1998	
1 Jun	Administration of project implementation of project transferred to the India Resident Mission (INRM) from ADB headquarters.
10 Jun	Subloan approved for Oswal Chemicals and Fertilizers Ltd. for $22.39 million
1–3 Jul	Review Mission (3). The Mission visited Mumbai to meet with officials from IDBI and representative of local consultants. The Mission (i) reviewed the implementation of the TA 2403; and (ii) discussed outstanding matters under the Project.
3 Sep	Subloans approved for Balrampur Chini Mills Ltd. and Upper Ganges Sugar and Industries Ltd. for $6.11 million and $3.60 million respectively
17 Sep	Resident representative, INRM approved IDBI's proposed extension of the closing date for subproject approvals from 28 January 1998 to 31 December 1998
12–13 Oct	Review Mission (4). The Mission visited Mumbai to meet with officials from IDBI. The Mission (i) participated in the tripartite meeting to discuss the draft final report submitted by the consultants of the TA 2403, (ii) reviewed the overall progress in TA implementation to ensure completion of the remaining work before the end of December 1998, (iii) reviewed the existing subprojects under the captioned loan with a view to identify and

	weed out slow-moving subproject, and (iv) discussed outstanding issues on the newly proposed subprojects under the Project.
19 Nov	Subloans approved for Sunflag Iron and Steel Co. Ltd., Sun Paper Mills Ltd., and Star Paper Mills Ltd. for $5.37 million, $2.53 million, and $3.50 million respectively
4 Dec	Resident representative, INRM gave approval for increase of the authorized subloan balance of Oswal Chemicals and Fertilizers Ltd. by $17 million to $22.72 million
1999	
11–13 Feb	Review Mission (5). The Mission visited Mumbai and Chennai to meet with officials from IDBI, Swadeshi Mills, Tamil Nadu Cements, Madras Fertilizers and EID Parry. The Mission (i) reviewed the existing pipeline of subloans; (ii) identified slow-moving projects for cancellation, and assessed the disbursement target for the year; (iv) identified new project proposals to ensure full utilization of the loan; and (v) visited one subproject site in Mumbai and two in the Chennai region to assess their progress and impact on the stated project objectives.
25 Mar	Subloans approved for Tulsipur Sugar Co. Ltd., Oudh Sugar Mills Ltd., and Indo Rama Cement Ltd. for $3.43 million, $3.95 million, and $4.99 million respectively.
20 Apr	Review Mission (6). The Mission met with officials from IDBI to (i) decide on cancellation (partial or full) of the subloan to Seshasayee Paper Boards, (ii) discuss options to ensure full utilization of the loan, (iii) assess disbursement targets for calendar year 1999 and the first six months of calendar year 2000, (iv) discuss the outstanding issues concerning approval of two new subloans (Birla Cement and Indo-Nissan) pending with ADB, and (v) review the progress of implementation of TA 2403.
10 Aug	Subloans approved for Sintex Industries Ltd. for $6.16 million
26 Aug–1 Sep, 7 Sep	Review Mission (7). The Mission met with officials from IDBI, Department of Industrial Policy and Promotion, Ministry of Industry, Bellary Steels and Alloys Ltd., Indo Rama Cement Ltd., Oswal Chemicals & Fertilizers Ltd., and Sree Rayalaseema Alkalies & Allied Chemicals Ltd. The Mission (i) visited four subproject sites in as many sectors, in various parts of India, to assess their progress; (ii) reviewed the existing pipeline of subprojects to assess disbursement status and pending issues relating to environment and procurement certification; and (iii) discussed outstanding issues pertaining to the new project proposals Arunodaya Textiles and Godavari Sugars.
19 Nov	Resident representative, INRM gave approval for increase of the authorized subloan balance of GACL by $2 million to $17.089 million.
31 Dec	Actual terminal date for commitments
2000	
16 Jun	Subloans approved for Arunoday Mills Ltd. and Godavari Sugar Mills Ltd. for $1.39 million and $1.30 million respectively.
5 Jul	Resident representative, INRM gave approval for increase of the authorized subloan balance of GACL by $7.5 million.
17–19 Jul	Review Mission (8). The Mission met with officials from IDBI, GACL and Gujarat Chemical Port Terminal Company Ltd. (i) to assess the status of

	GACL sub project implementation and discus its financial condition for considering IDBI's request to increase the subloan size by $7.347 million; and (ii) to review, with IDBI, the existing pipeline of projects to ensure successful conclusion of the loan by 28 July 2000 as scheduled.
28 Jul	Loan closing date
7 Aug	Resident representative, INRM gave approval for increase of the authorized balance of subloan 29-Sintex Textiles by $0.36 million to $6.16 million.
13 Sep	Resident representative, INRM gave approval for increase of the authorized balances of (i) the subloan 10-Upper Ganga Sugars to $3.598 million, (ii) the subloan 26-Oudh Sugars Mills to $4.009 million.
21 Sep	Final disbursement under the Project
27 Sep	Loan account closing date
28 Sep	Review Mission (9). The Mission met with officials from IDBI to discuss outstanding issues pertaining to postclosure loan covenants regarding energy audit reports and submission of project completion report.

PROJECTED AND ACTUAL DISBURSEMENTS OF LOAN PROCEEDS

($ million)

Calendar Year	Disbursements	
	Projected [a]	Actual
1994	0.00	0.00
1995	5.00	0.00
1996	13.50	19.42
1997	18.50	51.07
1998	29.50	38.01
1999	25.30	34.66
2000	6.80	6.84

[a] Projections as made in the annual loan financial information system.

Source: Loan Financial Information System of Asian Development Bank

SUBPROJECTS – ENERGY EFFICIENCY ENVISAGED AND ACHIEVED

Subloan 001	Swadeshi Mills Ltd.
Project	Cogeneration plant – waste heat
Power generation	2.6 megawatt (MW)
Status	Project execution suspended due to financial failure of the sponsor company

Subloan 002	EID Parry India Ltd.
Project	Bagasse based cogeneration project envisaging generation of
Power generation	24.5 MW
Status	Implemented successfully. Export to grid 14.5 MW. Also achieved 20% energy savings per ton of production

Subloan 003	Bellary Steels & Alloys Ltd.
Project	Cogeneration project (12 MW) from waste gases
Power generation	12 MW
Status	Project implementation not yet complete.

Subloan 004	Madras Fertilisers Ltd.
Project	Integrated scheme for modernization of NKP, Urea and Ammonia Plant, resulting in energy savings.
Power generation	Not envisaged
Status	Project implemented successfully. Achieved savings of 18.7% in urea revamp and 23.85% in ammonia revamp as against the expected savings of 31.49% and 34.21% respectively

Subloan 005	Kothari Sugars
Project	Cogeneration plant of 12 MW based on bagasse
Power generation	12 MW
Status	The project was implemented. Due to other problems such as low capacity utilization of the sugar unit supplying the cane, it could not operate at full capacity of 12.5 MW. It operated the plant at an estimated capacity of 4.5 MW as against 3 MW earlier.

Subloan 006	Kanoria Sugars & General Manufacturing Co. Ltd.
Project	Modernization and effluent treatment plant
Power generation	Not envisaged
Status	Project implemented. But no energy audit report submitted.

Subloan 008	Balrampur Chini Mills Ltd.
Project	Modernization
Power generation	Not envisaged
Status	Project implemented. But no energy audit report submitted.

Subloan 009	Shree Rayalaseema Alkalies and Allied Chemicals Ltd.
Project	Modernization
Power generation	Not envisaged
Status	Project implemented. Energy audit report submitted. Actual reported savings about 9.7% as against 19% envisaged.

Subloan 010	Upper Ganges Sugar & Industries Ltd.
Project	Modernization
Power generation	Not envisaged
Status	Project implemented. Energy audit report submitted. No actual savings as against 21.5% envisaged.

Subloan 011	Yash Papers Ltd.
Project	Modernization
Power generation	Not envisaged
Status	Project implemented. Energy audit report not submitted.

Subloan 013	DCW Ltd.
Project	Modernization
Power generation	Not envisaged
Status	Project implemented. Energy audit report submitted. Sch. 1 Savings as projected, but only 6.7% Sch .2 Savings 20-29% as against 20-30% projected Sch. 3 Savings 64% as against 41% projected

Subloan 014, 015 & 017	ACC Ltd.
Project	Modernization by conversion of wet process to dry process
Power generation	Not envisaged
Status	Project implemented. Energy audit report not submitted. Company prepaid the loan to IDBI.

Subloan 016	Bajaj Hindustan Ltd.
Project	Modernization
Power generation	Not envisaged
Status	Project implemented. Energy audit report not submitted.

Subloan 019	Gujarat Alkalies & Chemicals Ltd.
Project	Cogeneration with waste heat recovery
Power generation	90 MW
Status	Project implemented. Energy audit report submitted. Exported 30 MW surplus power to the grid.

Subloan 021	Oswal Chemicals & Fertilisers Ltd.
Project	Cogeneration with waste heat recovery
Power generation	110 MW
Status	Project implemented. Energy audit report submitted. Company generated 32.5 MW of power due to low capacity utilization of the sulphuric acid plant.

Subloan 022	Sunflag Iron & Steel Co. Ltd.
Project	Cogeneration with waste heat recovery
Power generation	15 MW
Status	Project implemented. Energy audit report submitted. Company generated about 16 MW power.

Subloan 023	Sun Paper Mills Ltd.
Project	Cogeneration of 5.8 MW 7 process steam of 15.6 tons per hour
Power generation	5.8 MW
Status	Project implemented. Energy audit report submitted. Company generated about 3.5 MW power.

Subloan 024	Star Paper Mills Ltd.
Project	Modernization
Power generation	Not envisaged
Status	Project implemented. Energy audit report submitted. In three schemes it achieved energy savings of 89% and 35% savings in electricity and 27% and 12% in other fuel.

Subloan 025	Tulsipur Sugar Co. Ltd.
Project	Modernization
Power generation	Not envisaged
Status	Project implemented. Energy audit report submitted. Company saved energy in various sections ranging between 25% and 64%

Subloan 026	Oudh Sugar Mills Ltd.
Project	Modernization and expansion
Power generation	Not specified
Status	Project implemented. Energy audit report submitted. Company saved energy of 4%. It also increased its steam turbine output from 76 million units to 130 million units.

Subloan 027	Indo Rama Cement Ltd.
Project	New plant for production of slag cement from waste slag from neighboring steel mill.
Power generation	Not envisaged
Status	Project implemented. Energy audit report submitted. The use of slag is environmentally friendly for it deals with disposal of slag. Also unit consumption of energy per ton of slag cement is expected to be 27% less than that of

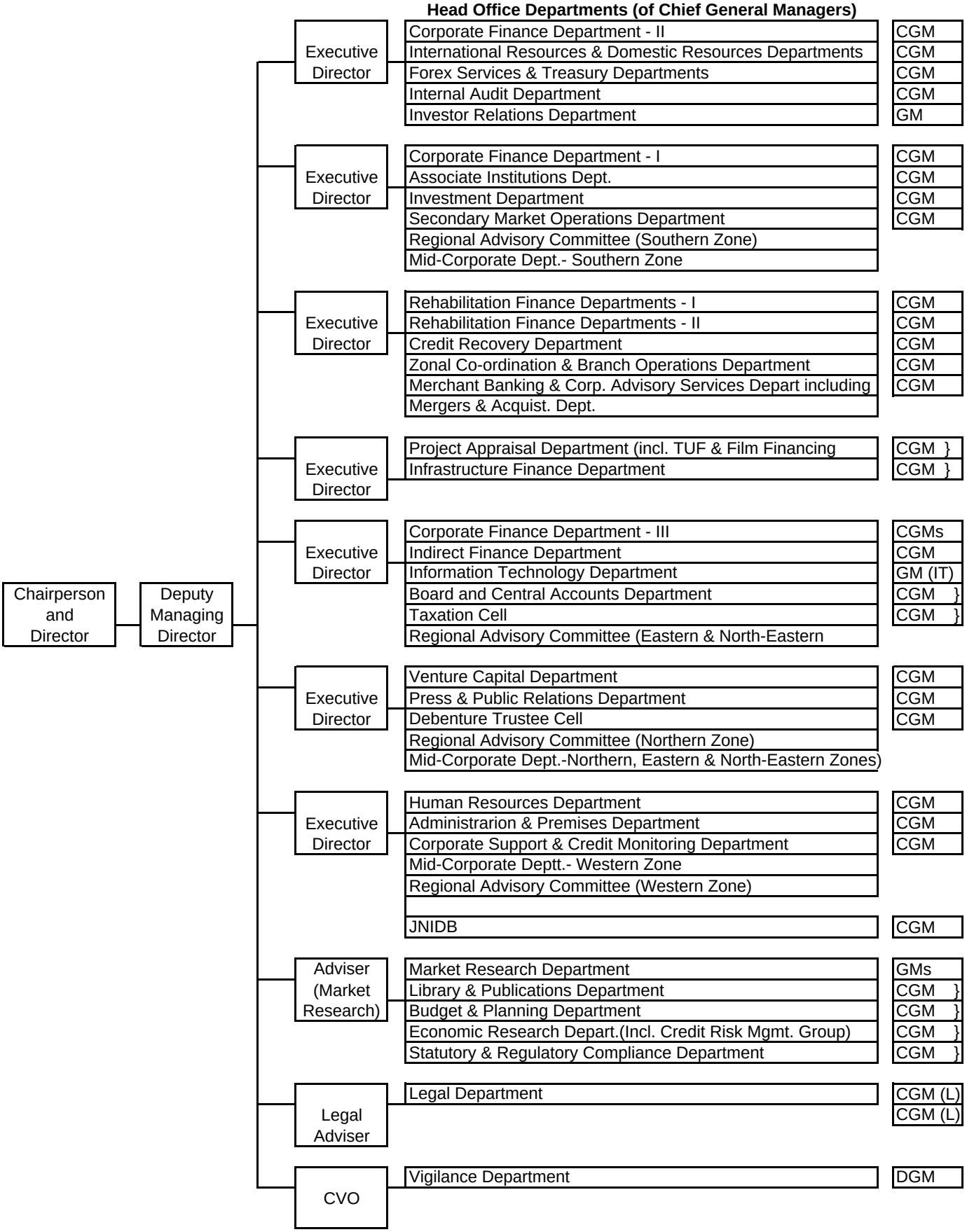
	ordinary portland cement. It also substitutes a large amount of fuel oil with blast furnace gas for its process resulting in substitution of more than 80% of light diesel oil need. Project implemented and in operation.

Subloan 029	Sintex Industries Ltd.
Project	Modernization
Power generation	Not specified
Status	Project implemented. Energy audit report submitted. Energy savings 34%

Subloan 030	Arunodaya Mills Ltd.
Project	Modernization
Power generation	
Status	No report on progress

Subloan 031	Godavari Sugar Mills Ltd.
Project	Bagasse-based cogeneration
Power generation	24 MW
Status	No report on progress.

Organization Chart



Note: CGM = chief general manager; GM = general manager; DGM = deputy general manager; AGM = assistant general manager; MGR = manager; IT = information technology; JNIDB = Jawaharlal Nehru Institute of Development Bank

Zonal/Branch Offices

Eastern Zone	
Eastern Zonal Office	CGM
Calcutta B. O.	GM
Bhubaneswar B. O.	GM
Patna B. O.	GM
Ranchi B.O.	AGM

North - Eastern Zone	
North - Eastern Zonal	GM
Agartala B. O.	MGR
Dimapur B. O.	MGR
Shillong B. O.	MGR
Aizawl B. O.	MGR
Itanagar B. O.	MGR

Northern Zone	
Northern Zonal Office	CGM
New Delhi B. O.	CGM
New Delhi B. O.	GM
Chandigarh B. O.	GM
Jaipur B. O.	GM
Kanpur B. O.	GM
Jammu B. O.	DGM
Shimla B. O	AGM
Varanasi B. O.	MGR
Meerut B. O.	AGM
Ludhiana B. O.	AGM

Western Zone	
Western Zonal Office	CGM
Mumbai B. O.	GM
Mumbai B. O.	GM
Ahmedabad B. O.	GM
Bhopal B. O.	GM
Pune B. O.	GM
Panaji B. O.	DGM
Indore B. O.	AGM
Surat B. O.	AGM
Nagpur B. O.	AGM
Rajkot B. O.	AGM

Southern Zone	
Southern Zonal Office	CGM
Chennai B. O.	GM
Chennai B. O.	GM
Bangalore B. O.	GM
Kochi B. O.	GM
Hyderabad B. O.	GM
Coimbatore B. O.	GM
Vishakhapatnam B. O.	AGM
Mangalore B. O.	AGM
Vijayawada B. O.	AGM

LENDING OPERATION

Table A7.1: Approvals
(Rs million)

Instrument	31/Mar/97	31/Mar/98	31/Mar/99	31/Mar/2000	31/Mar/01
Direct Finance					
Rupee Loans	73,990	127,550	153,690	158,910	176,320
Foreign Currency Loans	20,260	40,470	13,840	48,240	23,790
Underwriting and direct subscription to shares, bonds and debentures of industrial concerns	7,090	23,990	21,940	27,440	46,830
Equipment Leasing	2,890	2,430	2,450	3,650	2,500
Guarantees for loans and deferred payments	14,060	13,000	17,760	11,760	23,590
Subtotal	118,290	207,440	209,680	250,000	273,030
Indirect Assistance					
Refinance of industrial loans	7,450	3,730	910	2,410	3,630
Bills finance	13,750	9,070	6,750	7,230	2,860
Loan to and investments in shares and bonds of financial institutions	440	590	950	9,680	2,460
Others	-	-	-	340	5,130
Subtotal	21,640	13,390	8,610	19,660	14,080
Total	139,930	220,830	218,290	269,660	287,110

Table A7.2: Disbursements
(Rs million)

Instrument	31/Mar/97	31/Mar/98	31/Mar/99	31/Mar/2000	31/Mar/01
Direct Finance					
Rupee Loans	74,650	97,260	98,790	107,840	111,190
Foreign Currency Loans	17,920	29,480	18,090	26,040	13,310
Underwriting and direct subscription to shares, bonds and debentures of industrial concerns	2,300	11,650	18,830	17,100	34,850
Equipment Leasing	3,650	3,130	2,260	3,470	2,550
Subtotal	98,520	141,520	137,970	154,450	161,900
Indirect Assistance					
Refinance of industrial loans	6,710	3,350	1,020	2,290	3,310
Bills finance	9,160	6,240	4,760	5,280	2,020
Loan to and investments in shares and bonds of financial institutions	440	590	950	8,230	2,910
Others	-	-	-	340	4,840
Subtotal	16,310	10,180	6,730	16,140	13,080
Total	114,830	151,700	144,700	170,590	174,980

PORTFOLIO QUALITY ANALYSIS

Table A8.1: Asset Classification (Rs million)

Item	Gross Assets	Provisions and write-offs	Gross Assets after provisions and write-offs	% to total	% of provisions and write-offs to gross assets
As of 31 Mar 95					
Standard Assets	290,420.00	490.00	289,930.00	92.22	0.17
Sub-standard Assets	14,330.00	1,430.00	12,900.00	4.10	9.98
Doubtful Assets	20,040.00	8,470.00	11,570.00	3.68	42.27
Loss Assets	1,360.00	1,360.00	–	–	100.00
Total	**326,150.00**	**11,750.00**	**314,400.00**	**100.00**	**3.60**
As of 31 Mar 96					
Standard Assets	334,680.00	30.00	334,650.00	90.61	0.01
Sub-standard Assets	26,490.00	2,810.00	23,680.00	6.41	10.61
Doubtful Assets	19,910.00	8,920.00	10,990.00	2.98	44.80
Loss Assets	1,010.00	1,010.00	–	–	100.00
Total	**382,090.00**	**12,770.00**	**369,320.00**	**100.00**	**3.34**
As of 31 Mar 97					
Standard Assets	381,270.00	–	381,270.00	89.70	–
Sub-standard Assets	33,952.00	3,902.00	30,050.00	7.10	11.49
Doubtful Assets	21,893.00	8,293.00	13,600.00	3.20	37.88
Loss Assets	79.00	79.00	–	–	100.00
Total	**437,194.00**	**12,274.00**	**424,920.00**	**100.00**	**2.81**
As of 31 Mar 98					
Standard Assets	451,841.00	27.00	451,814.00	89.90	0.01
Sub-standard Assets	39,093.00	3,938.00	35,155.00	7.00	10.07
Doubtful Assets	25,469.00	9,617.00	15,852.00	3.10	37.76
Loss Assets	58.00	58.00	–	–	100.00
Total	**516,461.00**	**13,640.00**	**502,821.00**	**100.00**	**2.64**
As of 31 Mar 99					
Standard Assets	473,766.00	16.00	473,750.00	88.00	–
Sub-standard Assets	46,355.00	4,506.00	41,849.00	7.70	9.72
Doubtful Assets	35,948.00	12,896.00	23,052.00	4.30	35.88
Loss Assets	55.00	55.00	–	–	100.00
Total	**556,124.00**	**17,473.00**	**538,651.00**	**100.00**	**3.14**

	Gross Assets	Provisions and write-offs	Gross Assets after provisions and write-offs	% to total	% of provisions and write-offs to gross assets
As of 31 Mar 2000					
Standard Assets	494,245.00	–	494,245.00	86.60	–
Sub-standard Assets	44,841.00	4,292.00	40,549.00	7.10	9.57
Doubtful Assets	53,652.00	17,454.00	36,198.00	6.30	32.53
Loss Assets	2.00	2.00	–	–	100.00
Total	**592,740.00**	**21,748.00**	**570,992.00**	**100.00**	**3.67**
As of 31 Mar 01					
Standard Assets	481,069.00	–	481,069.00	85.20	–
Sub-standard Assets	33,789.00	3,647.00	30,142.00	5.30	10.79
Doubtful Assets	74,964.00	21,400.00	53,564.00	9.50	28.55
Loss Assets	44.00	44.00	–	–	100.00
Total	**589,866.00**	**25,091.00**	**564,775.00**	**100.00**	**4.25**

– = nil
Source: Industrial Development Bank of India.

Table A8.2: Provision for Loan Assets

Loan assets and other assistance portfolios (including debentures in the nature of advances) are classified based on record recovery as standard, substandard, doubtful, and loss. Provision is made as per Guidelines issued from time to time to term lending institutions by the Reserve Bank of India, as under.

Standard Assets	0.25% of loan/assistance
Substandard Assets	10% of loan/assistance
Doubtful Assets	100% of unsecured portion plus 20% / 30% / 50% of secured portion depending on the period for which the loan/assistance have remained doubtful
Loss Assets	The entire loan is written off

BALANCE SHEETS
(Rs million)

Item	31-Mar-95	31-Mar-96	31-Mar-97	31-Mar-98	31-Mar-99	31-Mar-2000	31-Mar-01
Liabilities							
A. Share Capital							
1. Authorized							
a. Equity Shares	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00
b. Redeemable Preference Shares	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Total	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00
2. Issued and Paid-Up							
a. Equity Shares	5,000.00	6,730.93	6,730.93	6,730.93	6,730.93	6,730.93	6,528.30
b. Less: Allotment Money in Arrears		245.10	137.43	135.99	135.64	135.63	–
c. Redeemable Preference Shares	2,530.00	1,700.00	–	–	–	–	–
Subtotal (A)	**7,530.00**	**8,185.84**	**6,593.50**	**6,594.95**	**6,595.30**	**6,595.30**	**6,528.30**
B. Reserves, Funds and Surplus							
1. Reserve Fund	21,087.78	23,310.73	26,373.12	30,914.71	34,778.60	37,624.75	41,013.84
2. Other Funds							
a. Technical Assistance Fund	399.84	425.06	–	–	–	–	–
b. Staff Welfare Fund	100.00	129.17	161.72	197.43	236.03	274.02	337.87
c. Venture Capital Fund	261.13	235.09	267.97	152.17	989.91	1,289.91	1,789.91
d. Exchange Risk Administration Fund	–	–	–	–	–	–	–
e. IDBI EXIM (J) Special Fund	4.04	6.10	7.95	9.73	11.35	13.08	14.48
3. Reserves							
a. Investment Equlization Reserve	–	334.83	765.01	887.43	1,008.10	1,828.72	–
b. Foreign Currency Fluctuation Reserve	11.47	8.82	7.93	–	–	–	–
c. Premium on Bond Issue	77.14	57.35	55.18	55.18	55.18	24.64	–
d. Share Premium	–	17,396.42	18,626.18	18,642.95	18,646.65	18,646.65	16,244.64
e. Special Reserve under Sector 36(1)(viii) of the Income Tax Act, 1961	10,478.71	13,599.71	16,800.63	20,546.07	22,446.07	16,800.63	16,800.63
f. Contingency Reserve	–	–	500.00	3,000.00	2,000.00	7,065.44	8,265.44
4. Surplus	–	1,354.87	1,974.40	2,388.24	2,893.25	2,009.47	623.38
Subtotal (B)	**32,420.12**	**56,858.16**	**65,540.10**	**76,793.91**	**83,065.14**	**85,577.30**	**85,090.19**
C. Gifts, Grants, Donations and Benefactions							
1. From Government	–	–	–	–	–	–	–
2. From Other Sources	–	–	–	–	–	–	–

– = nil; IDBI = Industrial Development Bank of India; EXIM (J) = Export Import Bank of Japan;
Source: Industrial Development Bank of India annual reports.

Item	31-Mar-95	31-Mar-96	31-Mar-97	31-Mar-98	31-Mar-99	31-Mar-2000	31-Mar-01
D. Bonds and Debentures	183,956.30	206,262.02	238,025.00	289,141.93	389,905.93	439,761.38	433,512.29
E. Deposits	36,564.30	38,618.85	36,940.11	52,963.62	20,923.01	17,527.39	26,388.96
F. Borrowings							
1. From Reserve Bank of India							
a. Secured against stocks, funds, and other trustee securities	-	-	-	-	-	-	-
b. Secured against bills of exchange or promissory notes	2,800.00	2,000.00	1,200.00	400.00	-	-	-
c. Out of the National Industrial Credit (long term operations) Fund	30332.003	28,094.10	25,627.39	22,668.41	20,000.00	17,400.00	14,400.00
2. From Government of India							
a. Interst-free loan	-	-	-	-	-	-	-
b. Other loans							
i. Against IDA/World Bank loan	10,986.99	11,616.39	12,153.37	11,946.58	12,166.56	11,462.32	10,677.37
ii. Others	3,320.65	3,092.96	2,911.94	2,508.92	2,391.25	2,201.95	2,017.65
3. From Other Sources	3,540.00	2,902.50	5,150.52	3,830.23	6,750.53	750.00	-
4. In Foreign Currency	36,681.37	44,547.80	56,597.61	71,740.45	77,539.72	82,678.97	77,196.69
Subtotal (F)	**87,661.02**	**92,253.76**	**103,640.83**	**113,094.59**	**118,848.07**	**114,493.24**	**104,291.70**
G. Current Liabilities and Provisions	33,483.32	41,536.99	52,549.40	60,983.97	72,097.46	58,899.72	62,022.66
Total	**381,615.06**	**443,715.61**	**503,288.94**	**599,572.96**	**691,434.91**	**722,854.33**	**717,834.12**
Assets							
A. Cash and Bank Balances							
1. Cash in hand and balances with Reserve Bank of India	2,905.79	3,071.51	3,009.83	2,036.66	1,403.49	34.25	103.37
2. Balances with other banks in India							
a. On current account	2,920.14	7,069.62	5,548.55	7,643.48	5,339.69	3,593.21	3,857.60
b. On deposit account	-	2,606.36	2,080.63	1,289.41	9,820.72	1,722.92	214.04
3. Balances with other bansk outside India							
a. On current account	131.62	483.62	83.76	150.14	257.02	186.48	116.89
b. On deposit account	697.04	9,201.64	7,595.55	11,155.18	25,113.25	10,539.72	19,359.82

Item	31-Mar-95	31-Mar-96	31-Mar-97	31-Mar-98	31-Mar-99	31-Mar-2000	31-Mar-01
B. Investments							
1. In Securities of Central and State Governments	1,700.00	1,700.00	1,700.00	2,445.61	3,303.63	8,774.68	1,353.23
2. In stocks, shares, bonds and debentures of financial institutions	14,933.65	13,448.19	12,304.81	13,474.48	20,285.80	30,809.37	27,287.76
3. In stocks, shares, bonds and debentures of industrial concerns	25,801.31	31,939.35	35,451.14	42,313.57	54,940.28	56,581.25	66,731.87
C. Loan and Advances							
1. To scheduled banks, cooperative banks and other financial institutions	60,424.98	62,560.13	60,190.62	50,821.99	46,035.19	38,730.27	32,340.99
2. To industrial concerns	201,042.67	237,487.18	294,249.96	374,879.49	427,350.56	468,896.68	461,016.08
D. Bills of Exchange and Promissory Notes Discounted/ Rediscounted	31,890.72	30,142.21	30,910.54	27,853.16	23,358.67	21,114.36	14,433.97
E. Premises	692.60	2,137.15	2,917.03	2,952.48	2,963.47	3,101.71	3,020.38
F. Other Fixed Assets	3,062.93	5,983.65	8,604.82	10,483.64	11,430.23	12,825.98	13,490.36
G. Other Assets	35,411.61	38,195.30	38,641.71	52,073.67	59,832.90	65,943.46	74,507.76
Total	**416,404.06**	**481,180.90**	**538,808.94**	**635,457.96**	**727,684.91**	**722,854.35**	**754,815.12**

INCOME STATEMENTS

(Rs million)

Item	31-Mar-95	31-Mar-96	31-Mar-97	31-Mar-98	31-Mar-99	31-Mar-2000	31-Mar-01
Expenses							
Interest paid on deposits, borrowins, etc	29,159.13	33,846.26	41,532.89	47,334.90	57,246.45	63,700.02	65,949.05
Establishment expenses	330.30	636.68	650.43	615.19	764.12	740.38	843.19
Directors' executive committee members fees and expenses	1.08	1.47	0.75	1.45	1.95	1.84	1.34
Audotors' fees	0.29	0.56	0.80	0.70	1.21	1.38	1.38
Rent, taxes, insurance, lighting, etc.	107.63	126.94	144.66	317.48	215.72	187.23	193.02
Law charges	2.17	2.17	4.07	11.17	13.53	27.64	33.32
Postage, telegrams and stamps	2.04	4.33	1.97	2.19	2.18	2.32	2.00
Stationery, printing, advertisement, etc.	46.55	44.61	53.76	78.36	99.40	98.57	103.32
Depreciation/amortization	90.56	90.14	139.54	146.66	174.58	159.48	166.54
Depreciation on leased assets	437.65	757.20	1,365.52	1,575.95	1,829.29	1,972.86	2,131.20
Pension	–	296.75	–	–	–	–	–
Less: Withdrawn from Reserve Fund	–	(296.75)	–	–	–	–	–
Other expenditure	440.62	1,020.48	920.15	1,229.32	1,288.71	1,434.38	1,583.57
Balance of profit carried down	10,310.16	13,099.35	14,823.09	18,002.87	13,006.91	10,270.05	7,339.74
Total	**40,928.19**	**49,630.17**	**59,637.64**	**69,316.24**	**74,644.03**	**78,596.16**	**78,347.67**
Provision for Standard Assets	–	–	–	–	–	1,184.40	–
Less: Withdrawn from Reserve Fund	–	–	–	–	–	(1,184.40)	–
Less: Provision for Income Tax	2,349.50	3,544.80	4,010.00	2,990.00	750.00	800.00	430.00
Balance of Profit transferred to Appropriation Account	7,960.66	10,072.75	11,441.69	15,012.87	12,588.74	9,470.05	6,909.74
Total	**10,310.16**	**13,617.55**	**15,451.69**	**18,002.87**	**13,338.74**	**10,270.05**	**7,339.74**
Income							
Interest and discount	33,077.18	41,363.97	50,583.81	60,082.92	63,588.51	62,245.13	61,913.75
Income from Investments	4,196.97	4,716.41	5,200.03	5,227.25	6,936.75	8,183.92	7,573.21
Commission, brokerage, etc.	1,207.68	1,981.77	1,958.04	2,029.46	1,763.05	1,940.86	1,874.69
Net gain on sale of investments	1,331.70	448.43	532.26	728.98	621.72	3,821.45	5,351.23
Other Income	1,114.66	1,119.60	1,363.51	1,247.62	1,734.00	2,404.80	1,634.79
Total	**40,928.19**	**49,630.17**	**59,637.64**	**69,316.24**	**74,644.03**	**78,596.16**	**78,347.67**

Item	31-Mar-95	31-Mar-96	31-Mar-97	31-Mar-98	31-Mar-99	31-Mar-2000	31-Mar-01
Balance of Profit Brought Down	10,310.16	13,099.35	14,823.09	18,002.87	13,006.91	10,270.05	7,339.74
Excess Income/Interest Tax Provision of Earlier Years Written Back	–	518.20	248.60	–	331.82	–	–
Lease Equalization Adjustment for Earlier Years	–	–	380.00	–	–	–	–
Total	**10,310.16**	**13,617.55**	**15,451.69**	**18,002.87**	**13,338.74**	**10,270.05**	**7,339.74**
Balance of Profit Transferred from Income Statement Account	**7,960.66**	**10,072.75**	**11,441.69**	**15,012.87**	**12,588.74**	**9,470.05**	**6,909.74**
Balance of Profit Brought Forward from Last Year	–	–	1,354.87	1,974.40	2,388.24	2,893.25	2,009.47
Total	**7,960.66**	**10,072.75**	**12,796.56**	**16,987.27**	**14,976.97**	**12,363.30**	**8,919.21**

– = nil
Source: Industrial Development Bank of India annual reports.

RATIO ANALYSIS

Item	31-Mar-95	31-Mar-96	31-Mar-97	31-Mar-98	31-Mar-99	-Mar-2000	31-Mar-01
Profit after tax to average networth (%)	22.5	19.7	17.0	19.9	15.1	10.7	7.3
Profit after tax to average assets (%)	2.2	2.4	2.4	2.7	2.0	1.3	1.0
Earning per share (Rs)	15.6	15.8	16.8	22.3	18.7	14.1	9.4
Book value (Rs)	74.8	94.1	105.8	118.9	129.2	134.1	139.8
Average cost of funds (%)	8.1	8.4	8.9	8.7	9.0	9.2	9.3
Average return on funds (%)	11.3	12.0	12.6	12.6	11.6	11.1	10.9
Margin (%)	3.2	3.7	3.7	3.9	2.6	1.9	1.6
Debt-equity ratio	9.0	5.9	5.8	6.1	6.5	6.8	6.7
Capital adequacy ratio (%)	12.4	15.9	14.7	13.7	12.7	14.5	15.8

Source: Industrial Development Bank of India annual reports.

STATUS OF COMPLIANCE WITH MAJOR LOAN COVENANTS

Covenant		Reference in Loan Documents	Remarks
1.	Industrial Development Bank of India (IDBI) will carry out the Project with due diligence and efficiency and in conformity with sound banking, administrative, financial, engineering, environmental, and business practices.	LA, Sec. 5.01(a)	Complied with.
2.	IDBI will at all times protect itself against any risk resulting from changes in the rate of exchange by making appropriate provisions in the subloan agreements for passing on such risk to the qualified enterprises.	LA, Sec. 5.02	Complied with.
3.	IDBI will not make a subloan to any qualified enterprise unless such qualified enterprise has at its disposal, or has made appropriate arrangements to obtain as and when required, all local currency funds, including adequate working capital, and other resources required by such qualified enterprise for carrying out its qualified project in respect of which the subloan is to be made.	LA, Sec. 5.03	Complied with.
4.	IDBI will maintain records and accounts adequate to record the progress of the Project and of each qualified project (including the cost thereof) and to reflect, in accordance with consistently maintained sound accounting principles, the operations and financial condition of IDBI.	LA, Sec. 5.04	Complied with.
5.	IDBI will furnish to the Asian Development Bank (ADB) all such reports and information as ADB will reasonably request concerning (i) the loan and the expenditure of the proceeds thereof; (ii) the Project; (iii) the qualified enterprises, the qualified projects and the subloans; and (iv) any other matters relating to the purposes of the loan.	LA, Sec. 5.05 (a)	Complied with.
6.	Without limiting the generality of the foregoing, IDBI will furnish to ADB quarterly reports on the execution of the Project and on the operation and management of IDBI. Such reports will be submitted in such form and in such detail and within such a period as ADB will reasonably request, and will indicate, among other things, progress made and problems encountered during the quarter under review, steps taken or proposed to be taken to remedy these problems, and proposed program of activities and expected progress during the following quarter.	LA, Sec. 5.05 (b)	Complied late.

Covenant		Reference in Loan Documents	Remarks
7.	Promptly after the closing date for withdrawals from the Loan Account, but in any event not later than three (3) months after the said closing date or such later date as ADB may agree to for this purpose, IDBI will prepare and furnish to ADB a report, in such form and in such detail as ADB will reasonably request, on the utilization of the loan, the execution of the qualified projects, their costs, the performance by IDBI of its obligations under the Loan Agreement, and the accomplishment of the purposes of the loan.	LA, Sec. 5.05 (c)	Complied with late.
8.	IDBI will have its accounts and financial statements (balance sheet, statement of income and expenses, and related statements) audited annually, in accordance with sound auditing standards, by independent auditors acceptable to ADB, and will, promptly after their preparation but in any event not later than nine months after the close of the fiscal year to which they relate, furnish to ADB (i) certified copies of such audited accounts and financial statements, and (ii) the report of the auditors relating thereto, all in English.	LA, Sec. 5.06 (a)	Complied with.
9.	IDBI will enable ADB, upon ADB's request, to discuss IDBI's financial statements and its financial affairs from time to time with IDBI's auditors, and will authorize and require any representative of such auditors to participate in any such discussions requested by ADB, provided that any such discussion will be conducted only in the presence of an authorized officer of IDBI unless IDBI otherwise agrees.	LA, Sec. 5.06 (b)	Complied with.
10.	IDBI and ADB shall, from time to time, at the request of either party, exchange views through their representatives with regard to the operations and financial condition of IDBI, and IDBI will furnish to ADB all such information as ADB reasonably requests concerning the operations and financial condition of ADB.	LA, Sec. 5.06 (c)	Complied with.
11.	IDBI will enable ADB's representatives to inspect any qualified project, the goods financed out of the proceeds of the loan, and any relevant records and documents.	LA, Sec. 5.07	Complied with.

Covenant		Reference in Loan Documents	Remarks
12.	IDBI will, promptly as required, take all action within its powers to maintain its corporate existence, to carry on its operations, and to acquire, maintain, and renew all rights, properties, powers, privileges, and franchises necessary in carrying out the Project or in conducting its business.	LA, Sec. 5.08 (a)	Complied with.
13.	IDBI will at all times conduct its business in accordance with sound banking, administrative, financial, environmental, and business practices in conformity with the Operational Policy Statement, and under the supervision of competent and experienced management and personnel.	LA, Sec. 5.08 (b)	Complied with.
14.	Except as ADB may otherwise agree, IDBI will not sell, lease, transfer, or otherwise dispose of any of its assets, or acquire additional assets, except in the ordinary course of its business.	LA, Sec. 5.08 (c)	Complied with.
15.	IDBI will immediately inform ADB whenever it establishes or acquires any subsidiary.	LA, Sec. 5.08 (d)	Complied with.
16.	IDBI will provide to Department of Industrial Development, benefit monitoring and evaluation reports relating to each qualified project during the first five years of its full operation, to enable an evaluation to be made of the benefits of each qualified project, including an assessment of the energy efficiency achieved and compliance with applicable environmental standards.	LA, Sch. 4, para. 11	Complied late in respect of some of the projects, as part of the progress reports.
17.	To monitor the actual realization of the targeted energy efficiency for each qualified project, IDBI will cause each qualified enterprise to arrange any energy audit by qualified consultants and energy service companies upon completion of the qualified project concerned, and each year hereafter for a period of five years. IDBI will submit information on actual energy savings for completed qualified projects in the quarterly reports to be submitted to ADB under Section 5.05 of this Loan Agreement.	LA, Sch. 4, para. 12	Partially complied in respect of 17 of the 31 schemes assisted. Of the remaining subprojects, most were implemented and IDBI has confirmed that they achieved the minimum stipulated level of energy savings. However there is not enough data on actual level of energy savings achieved. But all the companies report data on energy use in their annual reports as required under the Companies Act. The reasons for inadequate compliance with this

Covenant		Reference in Loan Documents	Remarks
			Covenant is explained in detail in para. 46 of the main text.
18.	IDBI will maintain a minimum capital adequacy ratio on its risk-weighted assets of at least 8% or as stipulated, from time to time, in the Reserve Bank of India Guidelines, whichever is higher.	LA, Sch. 4, para. 13	Complied with.
19.	IDBI will, in accordance with the Reserve Bank of India guidelines, as amended from time to time, (i) undertake credit risk assessment in a prudent and conservative manner so as to maintain the proportion of its earnings assets classified as "standard" at the specified level, if any; and (ii) make necessary provisions for its bad and doubtful loans and advances.	LA, Sch. 4, para. 14	Complied with.
20.	IDBI will maintain a return on its average equity (net profit after tax in relation to the average of paid-in capital plus retained earnings) of not less than 8%.	LA, Sch. 4, para. 15	Complied with, except for FY2001.
21.	Except as ADB may otherwise agree, the interest rates to be charged by IDBI on subloans under Section 4.01 of this Loan Agreement will be market-determined rates based on the credit worthiness of the qualified enterprises and prudent banking practices. IDBI will periodically review the adequacy of its interest rates and promptly inform ADB of the outcome of such review.	LA, Sch. 4, para. 16	Complied with.
22.	IDBI will, pending repayment to ADB, cause all funds received from the repayment of principal of the subloans, to be used as a revolving fund to provide further financing for energy efficient projects to qualified enterprises.	LA, Sch. 4, para. 17	Not yet due. Revolving fund is to be created out of repayments from sub-projects. IDBI has advised that there is very little surplus so far for creation of the revolving fund, given the respective repayment schedules of IDBI and ADB. Further, IDBI has rescheduled certain loans due to the problems faced by these sub-borrowers due to Gujarat Earthquake and Orissa floods.