

<b>1. Project Data :</b>
<b>OEDID:</b> C2064
<b>Project ID:</b> P009895
<b>Project Name:</b> Industrial Technology Development Project
<b>Country:</b> India
<b>Sector:</b> Other Finance
<b>L/C Number:</b> C2064/L3119
<b>Partners involved :</b> Japan
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<b>Date Posted :</b> 11/04/1998

**2. Project Objectives, Financing, Costs and Components :**  
 The project **objectives** were to facilitate technology acquisition and development by industrial firms in India; balance existing domestic technological capability with increased and easier import of foreign technology; and reduce the financial constraint to new technology ventures and the foreign exchange constraint to technology import . **Financing** was provided by an IBRD loan for US\$ 145 million equivalent, an IDA credit for US\$55 million equivalent, US\$2.5 million from the Government of Japan, and US\$207.5 million of local contributions . Actual **costs** amounted to US\$401.5 million for the following **components** :

- US\$227.5 financed venture capital for small, innovative firms;
- \$94 million strengthened the capacity of research and standards institutions to provide technology services to industry and promoted collaboration between industry and research institutions; and
- \$80 million supported a fast track Technology Development Fund (TDF) for the import of technology and technical know-how.

**3. Achievement of Relevant Objectives :**

- Six venture capital companies invested in over 300 companies (double the expected number), with returns averaging 18-20% (against 15-18% expected).
- The project supported 30 technology institutions (double the expected number), including 7 new ones.
- A sponsored research and development promotion fund supported 96 companies (against 60 estimated), of which nearly two-thirds had never undertaken any R&D previously . Most were small or medium scale.
- About 400 firms used the TDF to import technologies . (This component was no longer needed and was reduced from its original \$ 150 million allocation after the Government liberalized import policies . US\$26.5 was reallocated to the venture capital component, and \$ 20 million was canceled.)

**4. Significant Achievements :**

- The project helped launch the venture capital industry in India, encouraged an innovative risk -taking approach, and attracted foreign venture capitalists to India .
- Most research institutes achieved a stronger industry orientation and increased their level of self -financing.
- Many of the technologies developed have led to the introduction of new products or processes in India, often replacing expensive or closely held new foreign technologies with viable, adapted and much cheaper local counterparts.
- The TDF component contributed to liberalization of import policies by the Government .

**5. Significant Shortcomings :**  
 None.

<b>6. Ratings:</b>	<b>ICR</b>	<b>OED Review</b>	<b>Reason for Disagreement /Comments</b>
<b>Outcome:</b>	Highly Satisfactory	Highly Satisfactory	
<b>Institutional Dev .:</b>	Substantial	High	

<b>Sustainability :</b>	Likely	Likely	
<b>Bank Performance :</b>	Highly Satisfactory	Highly Satisfactory	
<b>Borrower Perf .:</b>	Highly Satisfactory	Highly Satisfactory	
<b>Quality of ICR :</b>		Satisfactory	

**7. Lessons of Broad Applicability :**

- Timing is important; the project was implemented during a period of liberalization, when growing competition was forcing firms to improve their technologies and innovate . The project was a catalyst in accelerating the reform momentum.
- The strong, committed intermediaries were crucial to the success of this complex project .
- Flexibility in project design was important in allowing the project to respond to the changing economic environment.
- Strong financial incentives, along with consensus building and training, enabled technology institutions to change their attitudes and create new skills .
- The success of venture capital depends on the presence of a body of potential new entrepreneurs with advanced technological capabilities and experienced financiers, as well as a fairly efficient capital market .
- Private firms can be induced to enter technological collaboration with technical institutions through modest financial incentives if the scheme is administered by an intermediary with good business contacts and that understands technology; a private sector intermediary may be more effective than a government bureaucracy; universities offer enormous potential for technological collaboration .
- Continuity in Bank task management, including careful planning for a change in task manager, contributes substantially to successful implementation .

**8. Audit Recommended?**  Yes  No

**9. Comments on Quality of ICR :**

The ICR is of satisfactory quality . Section H, on future operations, along with Section G, on sustainability, provide a good discussion of the future operation of the components of this project .