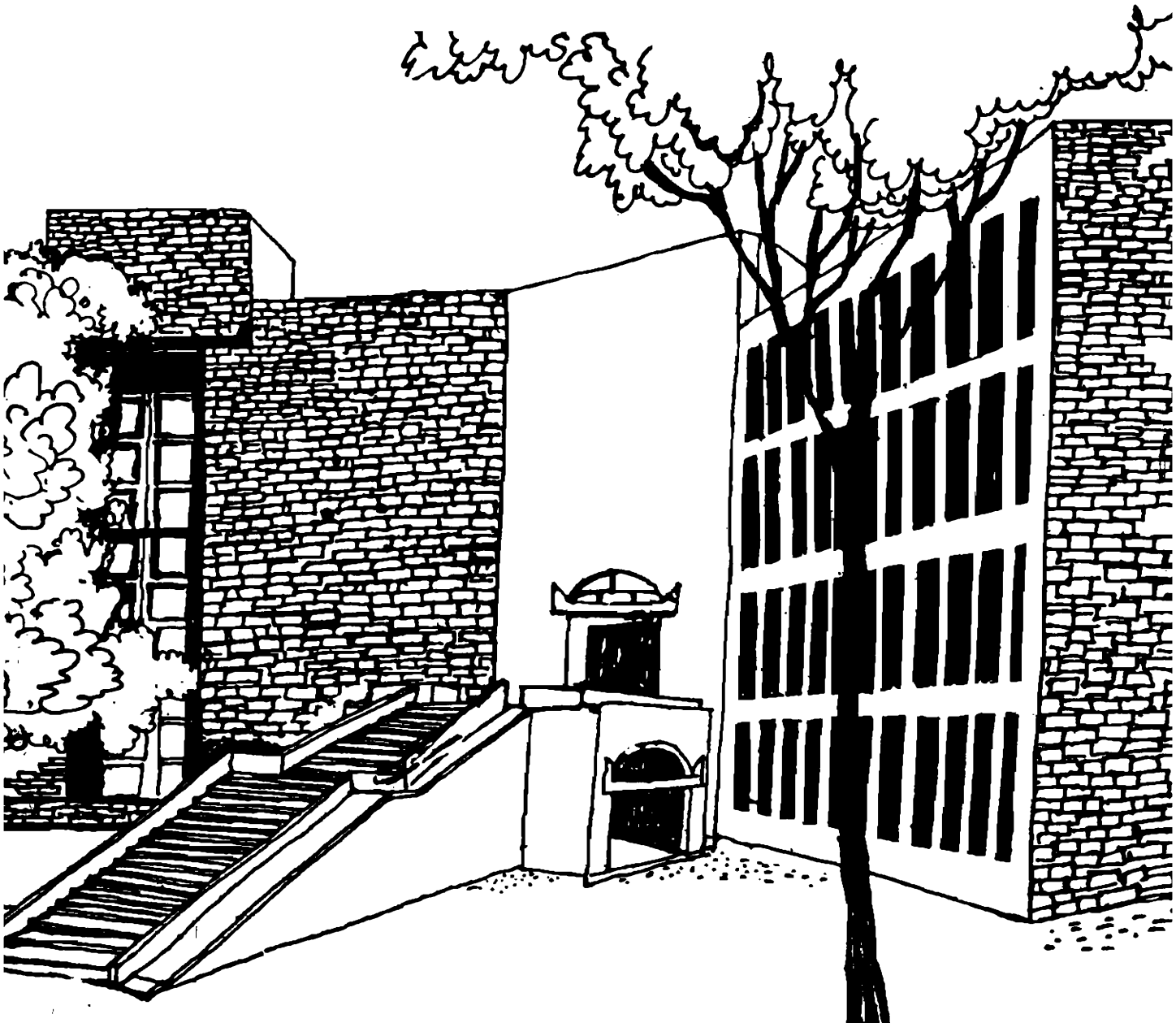




# Working Paper



IMPETUS FOR FIRM ENTREPRENEUR AND  
TECHNOLOGY INSTITUTION INTERACTION  
THROUGH INDIAN DEVELOPMENTAL FINANCIAL  
INSTITUTIONS

By

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**Impetus for firm/entrepreneur and technology institution  
interaction through Indian developmental financial institutions**

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## **Impetus for firm/entrepreneur and technology institution interaction through Indian developmental financial institutions**

### **Abstract**

*The Indian government recently reduced funding to technology institutions (TIs), forcing them to seek greater commercialisation opportunities. Indian firms/entrepreneurs (F/Es), facing increasing technological competition, are exploring indigenous R&D facilities for new technology. Providing impetus to this mutually beneficial and important trend, developmental financial institutions (DFIs) in India are encouraging F/Es to complement their internal R&D with sponsored or commercialisation projects with TIs. This paper examines the role of Indian DFIs in facilitating F/E - TI interaction. These initiatives are important in the developing country context as they combine institutions, increase resource utilisation and facilitate entrepreneurship.*

### **CONTEXT**

In the developed country context, technology institutions (TIs) (not-for-profit institutions involved in technology research and development (R&D)) tend to rely on the industry for funding basic research, for generating researchable problems as well as for the commercial application of the new technology they develop (Radosevich and Kassicieh, 1993). Firms/entrepreneurs (F/Es) tend to rely on TIs for basic research inputs and for solving technological problems which are beyond the scope of their internal R&D (Rosenberg and Nelson,

1993). Where the TIs find it unviable to maintain the infrastructure and manpower for building either prototypes or final products internally, they may subcontract these to the industry. Similarly even firms which have their own internal R&D facilities, but either lack or find it unviable to maintain the highly qualified manpower or expensive equipment required for some types of R&D programs may subcontract these to TIs.

Though India has a large network of specialised TIs (Economic Times, 1994), its past record of effective utilisation and successful commercialisation of the R&D output of this vast resource has been relatively poor (Business Today, 1992; Lall, 1992). By and large, TI - F/E reliance on each other has been low. Most TIs, except some cooperative research associations and research foundations, were largely supported financially by the government and thus, were under no pressure to commercialise their output or expertise to earn revenue. The earlier protection and control policy regime ensured that most Indian firms could produce and sell goods made through cheap and often outdated technology imports, as they faced little or no competition from the latest technology. There was little incentive to use indigenously developed technology (Business Today, 1992).

The Indian government has recently taken a policy decision to reduce financial support to TIs, forcing them to seek commercial outlets for their R&D output and expertise. Meanwhile Indian F/Es, facing increasing competition due to the current process of liberalisation opening doors to foreign competitors, are being forced to opt for modern technology. Many Indian F/Es lack the required internal R&D resources to compete technologically. Though import procedures are now easier and faster, devaluation of the Indian currency has

made imports more expensive.

At present and in future, India will be under increasing pressure to develop its own technology, and rely less on imported technology. The developed nations are likely to be more wary of giving advanced technology to developing nations which could offer competition in future. As latest technology imports from the developed world become more difficult, Indian F/Es are exploring indigenous R&D facilities for new and cheaper technology. TIs are also exploring potential commercialisation and product/process development opportunities through market research studies, brainstorming sessions and joint seminars with F/Es to assess and understand industry requirements (Business Today, 1992). This provides the context for a number of links between TIs and F/Es for mutual benefit.

#### **DEVELOPMENTAL FINANCIAL INSTITUTION INITIATIVES**

Developmental financial institutions (DFIs) in India are providing impetus to this important trend by developing programs and providing facilities to encourage Indian F/Es and TIs to interact with each other. These programs, a component of their technology development efforts, seek to make firms complement their internal R&D activities through sponsored or joint R&D projects which utilise the extensive facilities available with the national laboratories and other independent TIs in the country, or to commercialise their available technology. They help combine existing institutions, increase utilisation of available resources, and facilitate the emergence of new commercialisable products or processes, through entrepreneurial and intrapreneurial ventures. This paper examines technology development initiatives taken by three important Indian

**DFIs - the Small Industries Development Bank of India (SIDBI), the Industrial Credit and Investment Corporation of India (ICICI), and the Industrial Finance Corporation of India (IFCI), the types of support they provide to F/Es and TIs, and the roles they play in facilitating F/E - TI interaction.**

## **INFRASTRUCTURE FOR ENTREPRENEURSHIP**

**Van de Ven (1993) argues that a macro view, covering the industrial infrastructure which facilitates and constrains entrepreneurship, is essential to achieve a comprehensive understanding of the entrepreneurial process. This infrastructure includes (a) institutional arrangements to legitimate, regulate and standardise new technology, (b) public resource endowments of basic scientific knowledge, financing mechanisms, and competent labour, and (c) proprietary R&D, manufacturing, marketing and distribution functions by F/Es to commercialise the innovation for profit (Van de Ven, 1993).**

**This paper examines how two critical components of this industrial infrastructure - financial and technological support are being provided by separate external, specialised institutions. Apart from providing these specialised inputs, these institutions collaborate with the F/E in implementing the venture by actively providing managerial and knowledge support throughout the product/process development and possibly the market launch period. While the components of financing and technology can be developed within the firm, its endowment through external specialised sources, considerably reduces the risk borne by the F/E, even as it incurs a higher transaction cost in dealing with external organisations. It may also reduce the cycle time for new product/process development. The entrepreneurial initiative**



itself may emerge from these institutions.

## **TECHNOLOGY INSTITUTIONS IN INDIA**

India has a large number of TIs catering to a variety of specialised areas of technology development. Apart from the national laboratories under various central and state ministries, there are universities and other technology educational institutions, laboratories set up by industry associations and research foundations which conduct industrial research (Chaudhuri and Dixit, 1994).

Technology transferred to the industry from defence and space research is usually either a byproduct of their mainline research, or for the purpose of using industry production facilities to manufacture equipment for the space (Economic Times, 1992a, 1992b) or defence programs. Universities and other technology educational institutions like the Indian Institutes of Technology (IITs) and the Indian Institute of Science (IISc) conduct both basic and applied R&D, with only one of their multiple and often diverse objectives being to develop technology for the industry. Research foundations may have objectives ranging from working for specific sectors to working on wider interdisciplinary developmental issues. While the national laboratories of the Council for Scientific and Industrial Research (CSIR) exist primarily for industrial research, other national laboratories also contribute to such research.

Though the Indian government is unwilling to completely fund its TIs, it is clear that they cannot be fully privatised. Some TIs are highly specialised in areas which may not have immediate and viable application on a commercial scale. The commercial R&D output of many TIs may not be in a quantity

sufficient to financially support themselves. Concern exists in the United States on the influence of greater industrial funding on the agenda of university research (Rosenberg and Nelson, 1994). Universities face conflict of interest and values in consulting (Bird, Hayward and Allen, 1993) and in its conflict with what is seen as its proper role in basic research (Rosenberg and Nelson, 1994). Such concerns seem appropriate in the Indian context also. Greater privatisation may shift the focus of these TIs from their core and long term R&D to short term commercial R&D. Effectively they may no longer work in areas complementary to inhouse R&D by the industry. Their risk taking capacity in exploring new research areas may also be lowered which would be detrimental in the long term. While a few scientists may be interested in commercial R&D, forcing basic researchers into it may be detrimental to morale within the TI.

#### **TI TECHNOLOGY TRANSFER TO INDIAN INDUSTRY**

Over the years Indian TIs have developed a large number of products and processes. But their past record of successfully transferring these technologies to the industry for commercial exploitation has been poor (Lall, 1992). Some likely reasons are:

- a) Low competition may have resulted in insufficient pressure to modernise on the Indian industry and therefore lower investment in R&D and new product development, both inhouse and contracted.
- b) F/Es may perceive a higher risk in experimenting with untried and indigenously developed new technology compared to importing readily available tried and tested technology from abroad.

- c) Technology available with the TIs may not be known to F/Es.
- d) The TI may believe that its work ends with developing the technology; commercialising it is left solely to the F/E.
- e) TIs may not have worked adequately on converting the product/ process from the prototype stage to the mass production stage.
- f) Lack of sufficient understanding of market realities by the TI may lead to lack of market driven R&D. This may be due to poor contact and communication between the TI and the industry/market.
- g) TI project profiles made available to F/Es may display inadequate exploration of commercial aspects. Products may not have a ready or potential market, or the indirect costs of converting the prototype to production form may make the project unviable.
- h) Too large a gap may exist between the need for the product/ process as assessed by the TI and the actual need, due to a subsequent change in the demand and requirement profile.
- i) Raw material or component availability may have changed.
- j) Too large a gap may exist in the level of technological skill and knowledge between the TI and the industry, making the latter incapable of manufacturing the former's R&D output. This may also lead to hesitation by the F/E in approaching and interacting with the more technologically advanced TI.
- k) Lack of sufficient incentive to the TI scientist to get involved in commercial applications as it may not be considered important enough in peer and career evaluation.
- l) Excessive red tape in dealing with F/Es.

These reasons are compounded by significant differences in the orientation of F/Es and TIs as shown in Table 1.

**Table 1**

**Contrasting Orientations of TIs and F/Es**

Technology Institution	Firm / Entrepreneur
"Public sector orientation" "Not-for-Profit orientation" "R&D orientation" "Knowledge orientation" "Specialist orientation"	"Private Sector orientation" "For-Profit orientation" "Production orientation" "Utility orientation" "Generalist orientation"

**RESEARCH ON F/E - TI INTERACTION**

Research on joint R&D indicate that it is initiated by factors like significant technological discontinuity, rise of technological standards and scale increases (Bailetti and Callahan, 1993). F/Es enter into relationships with TIs to (a) get access to scientific frontiers, (b) increase the predictive power of science, (c) delegate selected development activities and (d) compensate for lack of resources (Bonaccorsi and Piccaluga, 1994). The context of technology development partnerships are determined by the experience and expectations of partners, the history of the relationship, each partner's risk aversion to technology development, the economic weight of the project and its management structure (Bidault and Cummings, 1994). External sourcing of technology give firms access to new patents (Bailetti and Callahan, 1993), specific expertise, risk sharing (Koenig and Thietart, 1990) and ease of exit (Bower, 1993). It facilitates organisational learning (Huber, 1991) and creates absorptive capacity for the firm (Cohen and Levinthal, 1990).

**F/E - TI interorganisational relationships have been found to develop along six distinct ways through: (a) personal informal relationships, (b) personal formal relationships, (c) third party intervention, (d) formal targeted agreements, (e) formal non-targeted agreements and (f) creation of focussed structures (Bonaccorsi and Piccaluga, 1994). Success factors in F/E - TI partnerships were found to be a shared language and culture (Mansfield, 1991), awareness of mutual interdependence (Laage-Hellman, 1987), long relationships and physical proximity (Mansfield, 1991). Linkages with TIs were found to be a success factor for internal R&D in Indian firms (Beri, 1993).**

**In a panel discussion, F/E - TI joint project participants emphasised the: (a) need for clarity of objectives and parameters of evaluation, (b) need for faith, goodwill and confidence in counterparts across organisations, (c) compatibility in level of technology and participants across organisations, (d) need for efficient administration and adequate legislation and policies with simple rules and procedures and (f) need for a separate technology management unit to initiate, coordinate and administer the project (Lopez-Martinez et.al., 1994). The catalytic role of DFIs in promoting F/E - TI interaction has however been left untouched by this body of research.**

### **ROLE OF DEVELOPMENT FINANCING**

**To finance R&D projects for industrial application, development financing through DFIs can fill an important gap (Jequier and Hu, 1989; Bhatt, 1993) for both F/Es and TIs. Development financing is one of the components of the infrastructure supporting technological entrepreneurship (Van de Ven, 1993). A DFI can also act as an intermediate organisation (Shin, 1993) in**

implementing promotional industrial development policies of the government. The present research on DFI technology financing however, has not adequately explored their role in initiating and promoting F/E - TI interaction, an area that needs informed policy support.

External financial aid can encourage R&D work in some high growth - high risk areas, where both F/Es and TIs find it difficult to either single handedly, or jointly, take the entire investment risk. If TIs rely largely on research contracts from the industry, they may increasingly work in areas of concern to some large firms in India, neglecting other areas specially with small scale sector domination. The entry of technology financing through DFIs considerably reduces the risk and investment for low internal resource F/Es till they are willing to take up the high risk/ high return R&D project, either singly or jointly, with TIs. Also such financing can be channeled consciously by the DFI into priority sector research. DFI financing can therefore complement venture capital (VC) financing by supporting priority projects which may not be easily acceptable under normal VC financing norms.

#### **TECHNOLOGY SUPPORT BY DEVELOPMENTAL FINANCIAL INSTITUTIONS**

Under technology development DFIs in India have gone far beyond just financing projects by introducing programs which provide F/Es and TIs multiple and complementary types of support. Some of these are:

- a) Educational support eg. training of entrepreneurs and technical personnel in India and abroad.
- b) Technical support eg. consultancy and development of project profiles.
- c) Informational support eg. creating awareness of business opportunities.

- d) **Infrastructural support eg. providing expensive common testing facilities to groups of firms on a rental basis.**
- e) **Planning support eg. assisting in the development of feasible and efficient project plans.**
- f) **Managerial support eg. assisting in the administration of projects and turnarounds.**
- g) **Financial advice eg. in tax and portfolio investment planning.**
- h) **Purchasing support eg. help in technology sourcing and purchase.**
- i) **Marketing support eg. help in identifying markets in India and abroad.**
- j) **Interactional support eg. initiating and convening F/E - TI interaction exercises.**

**To manage such technology financing activities, DFIs require skills different from those of managing other lending institutions (Jequier and Hu, 1989). For projects where the technology is new, unproven and at times undiscovered, its personnel require high levels of technical competence and ability to assess potential success. They need to be in touch with the field in both technology and commercial aspects. While many such skills cannot be maintained inhouse and have to be hired, the DFI over time becomes a repository of such skills as well as a connector of such skilled people from multiple organizations.**

**The technology development initiatives of three major DFIs are presented below:**

**a) SIDBI**

**The Small Industries Development Bank of India (SIDBI) is the principal DFI for the small scale sector. Under its technology upgradation programs, it seeks to create awareness of new technology, upgrade skills, develop common facilities**

for industry clusters and provides unit specific modernisation packages. It conducts awareness workshops to discuss TI developed products and processes, and is publishing a "New Ventures Digest" to disseminate knowledge on the work done in TIs. In seeking to develop linkages between small scale industries (SSIs) and TIs, it has initiated interaction exercises with specialised TIs.

Industry associations and media are being used by SIDBI for disseminating technology information. It also feeds TIs on the technology needs of SSIs through a few established TIs like the IITs or professional bodies of industries which act as conduits between the dispenser and the user of technology. It also makes loan assistance to SSIs for product refinements and process improvements on a selective basis (SIDBI, 1993).

SIDBI also supports SSI entrepreneurs through its Venture Capital Fund Scheme. It encourages environment friendly technology through both financial and non-financial support. Under its Quality Management programs it provides refinance for SSI's to create in-house or common quality testing facilities and supports quality awareness programs and costs of meeting quality accreditation expenses. It also provides entrepreneurship and management development facilities through entrepreneurship development institute programs (SIDBI, 1993).

#### **b) IFCI**

The IFCI provides technical consultancy through their technical consultancy organisations (TCO's) on feasibility studies, market surveys, identification of technology source, and development of project profile/reports at the pre-investment stage, as well as diagnostic studies and turnaround assistance at



the post-investment stage. The IFCI too supports entrepreneurship development programs and operates Science and Technology Parks (STEPS) where expensive basic facilities like testing equipment are made available on a rental basis for small firms set up within the park (IFCI, 1993).

**c) ICICI**

Under technology development, ICICI has a variety of programs offering assistance through funding from USAID and the World Bank. Under USAID, the Program for Advancement of Commercial Technology (PACT) supports technology development through Indo-US joint ventures. The Program for Acceleration of Commercial Energy Research (PACER) supports technological innovations in the Indian energy sector through multiorganisational consortia of manufacturers, users and research institutions. The Agricultural Commercialisation and Enterprise (ACE) program provides finance for private post-farm agricultural processing and marketing businesses. The Trade in Environmental Services and Technologies (TEST) program caters to environmental technology investments through Indo-US joint ventures (Advani, undated).

Under World Bank funding, the Sponsored Research and Development (SPREAD) programme provides soft loans for F/E - TI joint R&D projects. The Technology Institution (TI) programme provides financial assistance to TIs in upgrading their facilities and enhancing their expertise to serve the R&D needs of the industry more effectively. Apart from these, VC finance for commercialisation of innovative technologies is provided by the Technology Development and Information Company of India (TDICI), a company promoted by ICICI (Advani, undated).

## **ICICI's SPREAD PROGRAMME**

Among DFI technology development programs in India, the SPREAD programme needs special mention as it designed for and aimed at encouraging F/E - TI cooperation. One of its stated objectives is "to foster closer links between industry and technology institutions" (ICICI, undated, p. 3). The innovative SPREAD programme is unique in India and among developing nations in requiring formal TI - F/E cooperation as a necessary condition for project financing.

**Structure:** The World Bank has provided US \$15 million to the Government of India towards the implementation of the SPREAD programme. A revolving fund has been created which is managed entirely by the ICICI.

Types of projects which are eligible for SPREAD support are: (a) development of new product or process, (b) significant improvements in an existing product or process and (c) scaling up of a technology developed by a TI. Activities eligible for funding are: (a) prefeasibility studies, (b) laboratory trials and (c) prototype building and pilot plant operations. The ICICI requires that the projects should (a) have feasible and quantifiable objectives, (b) not take longer than 18 months to two years to complete and (c) envisage division of major activities between the industrial firm and the TI. The F/E contributes 50% of the investment, while the ICICI contributes the remaining 50% as a conditional loan to the firm which may be waived if the project fails (ICICI, undated).

**Roles:** Even though the SPREAD program envisages the F/E to take the role of initiator and the ICICI to take the role of convener, in practice we may find any of the other two parties taking these roles. Informal interpersonal collaboration across organisations in a information and favour barter system is often the

starting point for formal collaboration (Kriener and Schultz, 1993). The TI may act as initiator, inviting F/Es to assist it in exploiting commercial opportunities in an area of its current research interest. Being an information center, the ICICI may act as initiator, inviting F/Es to explore priority areas where it has located opportunities. Either the F/E or the TI may take the role of convener, if it is more suited to the task and there is consensus among the three parties on this issue.

Research recommends the use of linking units or facilitators to initiate and sustain university - firm joint R&D (Lopez-Martinez et.al., 1994) a role which is fulfilled here by the ICICI. Multiorganisational R&D projects need leaders with respect across participating organisations. Since the use of administrative fiat is difficult, if not impossible, the leadership needs to (a) develop a collaborative culture with sharing of relevant information, (b) resolve interorganisational problems and personal anxieties of participating members, (c) manage the delicate task of coordinating effectively a set of highly qualified professionals with vastly different organisational, experiential and cultural backgrounds, within organisational norms and strategic imperatives. Some of these leadership roles may be fulfilled by the ICICI in implementing the programme.

The ICICI may evaluate projects on their potential contribution to technological development apart from their feasibility and viability. On developmental and encouragement grounds (to promote activity in areas of technology neglect and desirable cooperation between TIs and F/Es), projects which are expected to yield adequate rather than high returns may also be financed. Since the programme is new to the country and is evolving, the ICICI is typically not faced with a wide choice of proposals. It is actively promoting

the scheme to F/Es and TIs (Business India, 1993). Though programme objectives explicitly seek to encourage cooperation between the F/E and TI, the financial incentive may in some cases initially induce mere "apparent" cooperation which may later transform into "substantive" cooperation.

The SPREAD programme is similar to VC financing in that some of the technological risk is undertaken by ICICI which can consider writing off the loan if the R&D project is a failure inspite of all reasonable efforts. This is in contrast to normal term credit financing where the F/E bears all the risk. Another similarity to VC financing is the high interest and involvement of the ICICI in the project. Starting from the evaluation stage, where it may be involved in developing the project proposal, and going right up to the completion stage, the ICICI provides managerial expertise for the project. It may act as a technology information center, providing both F/Es and TIs information on technology available elsewhere. It may also administratively facilitate the project by convening multiorganisational meetings, encouraging cooperative behavior and resolving disputes.

## **ANALYSIS**

The initiatives of the three DFIs are analysed in the tables that follow. Table 2 provides an analysis of the types of support provided by each DFI through its technology development programs. Table 3 provides an analysis of the multiple roles played by the DFIs in those programs which support F/E - TI interaction.

**Table 2**

**Types of support given in DFI technology development programs**

SUPPORT TYPE	SIDBI	ICICI		IFCI
INFRASTRUCTURE SUPPORT	Common facilities Testing	TIP ACE TEST		STEPS
TECHNICAL KNOWLEDGE SUPPORT	Quality programs	SPREAD TDICI ACE	TEST PACT	TCOs Project profiles
INFORMATIONAL SUPPORT	Awareness Workshops F/E -> TI inform TI -> F/E inform	SPREAD TDICI PACER ACE	TEST PACT	Market Surveys Opportunity identification
PURCHASING SUPPORT	On some programs	On some programs		Technology source identification
MARKETING SUPPORT	Quality Progs. Modernisation	ACE TEST		Market Surveys
PLANNING SUPPORT	On some programs	On all programs		On some programs
FINANCIAL SUPPORT	Loans to SSIs Vent. Capital Environmental funding Quality cost refinancing	TIP SPREAD TDICI PACER Loans to exporters	PACT TEST ACE	Project Loans
MANAGERIAL SUPPORT	TI as Conduits Modernisation Packages	SPREAD VC-TDICI PACER PACT		Diagnostic studies Turnaround assistance
EDUCATIONAL SUPPORT	Skill upgradation EDPs at EDI	TIP TEST		Support to EDPs
INTERACTIONAL SUPPORT F/E - TI Indo - USA	F/E - TI interaction exercise	F/E-TI SPREAD TIP PACER	In-US TEST PACT ACE	

Source : Inferred from publications of SIDBI, ICICI and IFCI

**Table 3**

**DFI roles in programs supporting F/E - TI interaction**

<b>ROLES</b>	<b>ICICI'S SPREAD</b>	<b>ICICI'S TIP</b>	<b>ICICI'S PACER</b>	<b>SIDBI'S PROGRAMS</b>
<b>INFORMER</b>	<b>May</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>
<b>CONNECTOR</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>
<b>INITIATOR</b>	<b>May</b>	<b>No</b>	<b>May</b>	<b>No</b>
<b>CONVENER</b>	<b>May</b>	<b>No</b>	<b>Yes</b>	<b>No</b>
<b>FINANCIER</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>MANAGER</b>	<b>May</b>	<b>No</b>	<b>Yes</b>	<b>No</b>
<b>ARBITRATOR</b>	<b>May</b>	<b>No</b>	<b>Yes</b>	<b>No</b>
<b>RISK TAKER</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>

Source : Inferred from publications of ICICI and SIDBI

**VALUE ADDITION BY DFIs**

Lam (1991) proposes that a VC adds value to a firm by extending its production possibility frontier defined as the mapping of the "value of the entrepreneurship and technology of the firm that transforms current resources into future resources" (p.139). It also adds value to the firm by giving it access to the loanable funds market and then the capital market. This is because investment by a VC acts as a signal to the market about the firm's quality and gives credibility to the firm. Start up investment by VC avoids opportunity loss for the firm due to the wealth constraint of the entrepreneur. VC participation reduces the credit risk for the firm, leading to reduced interest costs and a larger line of credit. VC also adds value to a new business through monitoring and control activities (Lam, 1991). It seems likely that to some extent and in

a similar manner value addition takes place when a DFI invests in and supports F/Es and TIs in their technology ventures.

## **CONCLUSIONS**

The gap between the potential existing in the TIs and their exploitation by F/Es, may be caused by multiple factors, of a multidimensional nature. Any effort to reduce this gap needs the resolution of a large number of issues simultaneously. Efforts need to be directed at both the TIs and the F/Es in concert so that initiatives made by either are not frustrated by the other. DFIs in India have attempted this delicate task with some success (Business India, 1993).

There is some evidence of decline in interest in new technology venture investments by VC firms in Britain (Sweeting, 1991), a trend which may catch on in other countries also, as technological risks increase. DFIs may have to fill this gap. Some VC firms finance projects only from the prototype stage onwards. In such cases DFIs may have to take the role of investing at earlier stages in promising new technology.

These cooperative inter-organisational initiatives by DFIs in encouraging entrepreneurship can be seen as strategic responses to resource constraints, but when viewed in a larger context, at the national level, they represent mediums for greater and better utilisation of existing resources. No organisation is capable of using all its resources all the time and cooperative relationships help the collectivity to utilise their resources as well as enhance them by mutual learning. As efforts such as these are likely to increase resource utilisation efficiency at the national level, they have strategic implications at

both the organisational and national policy level. Emphasis should therefore be laid on developing policy that protects and facilitates such initiatives by DFIs and other developmental organizations.

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