CHAPTER 2

TECHNOLOGY BUSINESS INCUBATORS – GLOBAL SCENARIO

The business incubators were first established in United States of America during late 1970s. Growth accelerated in 1970s and 1980s largely as a result of the need to revitalize regions suffering from job losses in basic industries. In 1980, approximately 12 business incubators were operating in the United States – all of them in the industrial Northeast, which had been hard-hit by plant closures in the previous decade. Throughout 1980s, business incubation industry growth was swift, as a few farsighted individuals saw the limitations of common economic development strategies that focused solely on industry attraction and large corporate expansions. The governments started to recognize the value of creating and expanding new businesses to sustain local economies, more communities developed business incubators to support these new ventures.

The 1990s witnessed further development of incubators throughout the USA. Starting in 1996 and gathering momentum in 1998, a new kind of incubator, variously called an “Internet incubator”, “accelerator” or “venture catalyst”, made its appearance.

As of October 2006, there were more than 1400 incubators in North America, up from only 12 in 1980. By 2005, UKBI identified around 270 incubation environments across the country. A study funded by the European Commission in 2002 identified around 900 incubation environments in
Western Europe. In 2005 alone, North American incubation programs assisted more than 27000 companies that provided employment for more than 100000 workers and generated annual revenues of $17 billion.

Incubator programs have been established in many countries to stimulate creation of technology-oriented small businesses. As of 2009, there were about 7000 incubators around the world (Source: NBIA 2009). As of 2008, there were about 774 incubators in Europe. (Devedžić and Eric 2009). Among the developing countries, China has shown exponential growth in the incubators and over a period of ten years has set up almost 400 incubators. Korea too, is reported to have about 300 Incubators while Japan, Malaysia and Singapore are catching up. High-technology incubators have been particularly successful in U.S., Israel, and China. (Source: NSTEDB).

The Figure 2.1 provides the detail about the number of incubators established across the regions classified by infoDev

![Figure 2.1 Regionwise Statistics on Number of Incubators](image)

2.1 BUSINESS INCUBATION IN INDIA

The National Science and Technology Entrepreneurship Development Board (NSTEDB) is established by Government of India in 1982 as an institutional mechanism, established under Department of Science and Technology with a broad objective of promoting self-employment amongst the Science and Technology (S&T) manpower in the country and to setup knowledge based and innovation driven enterprises.
The major objectives of STEP are

- To forge linkages among academic and R&D institutions on one hand and the industry on the other and also promote innovative enterprise through Science and Technology persons. To promote knowledge based and innovation driven enterprises.
- To facilitate generation of entrepreneurship and self-employment opportunities for Science and Technology persons.
- To facilitate the information dissemination.
- To network with various Central and State Government agencies for Science and Technology based entrepreneurship development.
- To act as a policy advisory body to the Government agencies for Science and Technology based entrepreneurship development.
- To generate employment through technical skill development using Science and Technology infrastructure.

These objectives have been operationalized by NSTEDB through two major interventions viz., Science and Technology Entrepreneurs Park (STEP) and Technology Business Incubator (TBI) programme

### 2.1.1 Science & Technology Entrepreneurs Park (STEP)

The Science & Technology Entrepreneurs Park (STEP) programme was initiated during the year 1983 to provide a re-orientation in the approach to innovation and entrepreneurship involving education, training, research, finance, management, and the government.

A STEP creates the necessary climate for innovation, information exchange, sharing of experience and facilities and opening of new avenues for
students, teachers, researchers and industrial managers to grow in a trans-
disciplinary culture, each understanding and depending on the other's inputs
for starting a successful economic venture. STEPs are hardware intensive
with emphasis on common facilities, services, and relevant equipment.

In order to achieve synergetic benefits and also to harness the
knowledge and expertise available in academic and R&D institutions of
excellence, every STEP needs to be promoted around a host institution which
could launch, sustain and help the STEP grow. Therefore, the host institution
has to play an important and crucial role in promotion and growth of a STEP.
Most of the STEPs in India are established in the educational institutional
environment.

The working model of STEP is that each STEP would have to carve
out a niche for itself with regard to the types of products to be developed
based on the availability of facilities and expertise in the host institution and
also the industrial climate of the region.

The National Science and Technology Entrepreneurship
Development Board (NSTEDB) has so far catalyzed 15 STEPs in different
parts of the country, which have promoted nearly 788 units generating annual
turnover of around Rs. 130 crores and employment for 5000 youth. More than
100 new products and technologies have been developed by the STEPs / STEP
promoted entrepreneurs. In addition, over 11000 youth have been
trained through various skill development programmes conducted by STEP.

2.1.2 Technology Business Incubators (TBIs) in India

With the understanding of worldwide experience of promoting
technology led knowledge driven enterprises through Technology Business
Incubators (TBIs), the Government of India realized the importance of
Technology Business Incubator (TBI) to harness the growth of knowledge based enterprises in India. The Technology Business Incubator (TBI) programme was launched in India by NSTEDB during early 2000.

In India, the objectives of the TBI are:

- Creation of technology based new enterprises
- Creating value added jobs and services
- Facilitating transfer of technology
- Fostering the entrepreneurial spirit
- Speedy commercialization of R&D output
- Specialized services to existing SMEs

The TBIs in India are usually located near a source of technology and knowledge i.e. around Research and Development Centres / Academic Institutions. Institutions have strong links with such institutions to ensure optimal use of the already existing expertise and facilities thus keeping the cost of the TBI on lower side. Locating TBIs in such location also reduces time lag between technology development and its commercialization. Further, as the success of a TBI largely depends on its location and management besides quality of tenant enterprises, following aspects relating to the host institution.

The Host Institution (HI) has to play an important role not only in the establishment of the TBI project but also in its smooth and efficient functioning. Only those institutions/ organizations that can provide land and built-up space for TBI and those who are also willing to share available facilities and expertise would be considered for setting up of the TBI.
Host Institutions are always kept in view while selecting the location of the TBI:

- R&D track record and subsequent commercialization of R&D output
- Dedicated team of R&D persons
- Industrial milieu in the region
- Proximity to other R&D/academic institutions
- Infrastructure, facilities and expertise available
- Strong commitment and willingness of the HI

The NSTEDB had promoted 50 Technology Business Incubators (TBIs) in different technology thrust areas which has been prom. The thrust areas for a TBI would be identified based on the following:

- Expertise and facilities available in the HI,
- Track record of the HI in the chosen areas,
- Industrial climate in the region,
- Market potential/demand in the region.

2.2 INFODEV INCUBATOR INITIATIVE

infoDev is a global partnership program within the World Bank Group which works at the intersection of innovation, technology, and entrepreneurship to create opportunities for inclusive growth, job creation, and poverty reduction. infoDev assists governments and technology-focused Small and Medium sized Enterprises (SMEs) to increase jobs, improve
capacity and skills, increase access to finance and markets, ensure the appropriate enabling policy and regulatory environment for business to flourish, and test innovative solutions in developing country markets.

infoDev helps developing countries and the international partners maximize the contribution and impact of the private sector through direct support for ICT-enabled innovation, new business and partnership models and toolkits, and networking among entrepreneurs, private sector investors and the donor community. The iDISC network of over 300 incubators around the world gives unique insight into the challenges facing ICT innovators and entrepreneurs in developing countries.

infoDev helps developing countries and their international partners make smart choices and develop effective partnerships for enabling access to information infrastructure, applications and services in ways that are sustainable and maximize private investment and leverage public resources where necessary. This includes sponsoring research, toolkits and capacity building on regulation issues, expanding access to broadband, promoting municipal networks, etc.

iDISC - the infoDev Incubator Support Center - is an outcome of infoDev’s Incubator Initiative, an Initiative started in 2002 to support organizations promoting ICT-enabled innovation and entrepreneurship in developing countries. infoDev's global business incubator network consists of nearly 300 incubators in over 80 developing countries assisting 20,000 enterprises which have created more than 2,20,000 jobs. More information about the network - including a directory with over 140 profiles, an Incubator Toolkit, Success stories and ICT Tools.

Through a rigorous program of field-based experimentation, research, and analysis, infoDev helps developing countries and their
international partners make smart choices about when and how to deploy ICT as tools for development goals in health, education, livelihoods, public sector reform and other areas.

The infoDev incubator network members represent incubators from six regions. The six regions include: Asia Pacific, Latin America/Caribbean, Eastern Europe/Central Asia, Africa, Carribbean and Middle East/North Africa. The six regions are represented by 109 countries.

Since 2002, infoDev has provided grants and technical assistance to more than 70 incubators worldwide. The regional and international conferences, organized by infoDev’s incubator initiative was an opportunity for the incubators to connect with other similar organizations around the world to exchange ideas, lessons, and create partnerships across national boundaries.