

# ISFAHAN SCIENEC & TECHNOLOGY TOWN



## **Situation and Perspectives of Business Incubators, Technology Parks and Entrepreneurship Promotion in Iran**

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by  
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# **Situation and Perspectives of Business Incubators, Technology Parks and Entrepreneurship Promotion in Iran**

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## **ABSTRACT**

One mechanism which brings together the basic resources into a working system for the generation of wealth and welfare is science and technology-based park and/or incubator, depending on the size and some other considerations. Iran is a developing country where both human and natural resources exist in abundance. However, the level of industrialization and technological development are not yet satisfactory and the unemployment rate is rather high. It is hoped that proper incubation programs and technology-based parks will lift the problems. This result is not far from expectation as revealed in experience in other countries and the experience in Isfahan Science & Technology Town (ISTT) and its incubators.

In this paper, a survey will be made of ISTT's experience in establishing and running its incubators. This experience, as will be seen, is unique in its kind from a number of aspects. Finally, as part of ISTT's future plans, proposals will be set forth for international relations and internationalization of ISTT's incubators and parks in order to achieve the national objectives in technological and economic development, job creation, and regional development.

## **INTRODUCTION**

Public education in Iran has gained wider dimensions in recent decades, so that presently nearly 1,500,000 students are attending universities. Universities have played the greatest role not only in promoting an awareness among the population of modern living standards and requirements but also in meeting the technological and intellectual demands of the society. The growth of universities, however, has not had the desired impact on promotion of innovation, technological development, and production. The idea of science parks in Iran started as a remedy to promote university-industry relation. It later gained momentum as a mechanism to help small and medium-sized enterprises. In recent years, incubators have been established at a faster rate than science parks in Iran, because of their role in helping start-up companies and promotion of culture of innovation and entrepreneurship.

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The idea of science parks and incubators was introduced to the academic circles in Iran a little more than ten years ago. The initiative was taken up by the steel industry and Isfahan University of Technology who jointly paid visits to Tsukuba Science City in Japan. Isfahan Science & Technology Town (ISTT) was established and assigned to find and define its role on its own. At the same time, the idea of parks and incubators was advocated and disseminated among authorities and officials in the different departments as well as among private sector companies. In this paper a summary report of ISTT activity is presented as the first experience of science parks and incubators in Iran.

## **ISTT DEVELOPMENT AND STRUCTURE**

### **A New Move**

Isfahan Science & Technology Town, as the name suggests, was an ambitious project designed after such models as Tsukuba and Daedok cities in Japan and South Korea, respectively. Critical to this model of technological development is the availability of large capital investments and a national understanding of the world competitive markets besides advanced technical facilities and a high level of technological development. Given the scarcity of financial resources and the predominance of a public sector economy, the implementation of such projects with immediate turnover would seem far from the reality and it was soon recognized that intermediary projects had to be implemented before the town could become a reality.

The global trend, in the meantime, was already moving away from establishing large scale industries and science cities to a more manageable model of SMEs and incubators models. Incubation programs were flourishing here and there, bearing witness to the fact that it is not a necessity to wait for a science & technology town to materialize before economic development could be expected.

A closely related event in the developing countries was the shift of emphasis from western living and manufacturing standards to the concept of “appropriate technology” as a means of economic development and more reasonable, environment-friendly manufacturing systems. All this was coupled with proper and timely support by the Ministry of Science, Research, and Technology for ISTT not in the capacity of a science city involved in research and in creation of knowledge but as a facility fostering self-sustaining firms and companies with the aim of commercializing knowledge. This is what is referred to as shift from first generation science parks to the second generation science parks. While the aim in the first is merely to generate knowledge, the second has an economic outlook of generating wealth. Consequently, the size and investments are radically different.

### **The First Incubator**

A robust incubation program was consequently developed that paved the way from the zero point to the level comparable to the level presently operational in most advanced nations. The result was the establishment of Qadir Incubator which came into operation

in the year 2001 in a building with a space of 3500 m<sup>2</sup> admitting tenants on especially designed criteria. The criteria include:

- A viable business idea
- A business plan
- A registered company
- A team with a leading entrepreneur

The services offered to tenants include:

- General support services (Fax, Telephone, typing, ...)
- Office space
- Technical and information services (labs, internet, workshops, prototyping facilities, ...)
- Consultation services (business, legal, financial, professional, mentoring, ...)
- Seed funds and interest free loans.

It was a necessity for ISTT to respond to the requirements of such tenant firms which were established in an atmosphere where almost every university graduate, no matter how talented or knowledgeable, looked up to the public sector for their source of income and livelihood. However, with time and effort, venture companies gradually sprang up within this incubation program and now at the end of the three year incubation period, we are witnessing the fruit of our first efforts as the tenant companies are graduating. They are now led into a science and technology park recently inaugurated at ISTT.

Concurrently, several other significant developments occurred. Based on observation and experience with the tenant firms at Qadir Incubator and the expectations of applicants as reflected in their data profiles, better understanding became possible of how the public sector economy had kept university graduates unaware of the workings of a free market economy. They generally had almost no grasp of starting and running a private business. They maintained the least understanding of entrepreneurship, commercialization of scientific research, and knowledge economy. Added to this was the unfamiliarity with the legal and fiscal regulations in the society.

### **Pre-incubation program**

To overcome these and a host of other problems, it was felt that some of the applicants with seemingly viable business ideas could be admitted into a specially designed program with minimum requirements and at reduced risks both to the incubator and to the incubatees. The idea was to relax some of the more stringent requirements on these less capable applicants in an effort to foster the culture of business development and risk-taking among the university graduates. The program came to be called “pre-incubation program” offering certain limited services and support but providing maximum assistance with business plan development, financial and legal training, and a venue to establish contacts with the more active and advanced firms. This was very successful and most tenants on this six-month incubation were able to satisfy the requirements for admission to the three-year incubation program.

### **Refining services**

A second development along the same lines stemmed from the observation that even tenant firms admitted to the incubation program still showed reservations in taking advantage of all services provided by ISTT and Qadir Incubator. A refinement and reclassification of services then ensued to allow the firms to appreciate their real needs. Thus, category one included the services that all tenants applied for unquestioningly such as office space, office services such as typing, internet access, labs, etc. Category two involved the services that the tenants recognized as their needs but tried to manage without. These included marketing, mentoring, project control, technical support, etc. The third category, however, comprised very essential services that the tenants had no appreciation for. Legal consultation, economic forecasting and planning were among these. Category one services were then offered on unsubsidized tariffs. Category two services were given on demand but with a pricing structure that allowed for cost sharing by ISTT on a no-return basis. The services in the third category were offered all free of charge. The idea was to allow for fledgling companies to flourish as full-fledged businesses equipped with whatever a regular business must possess.

Being a public sector institution, ISTT enjoys relations with industry, government departments, and universities. These connections are fully exploited to the benefit of our clients especially in finding potential clients for the services and products of the tenant firms and gaining grants and financial support for their projects from both the public sector and angel supporters. This is marketing. And to this must be added the new efforts in finding partner companies at the domestic and international levels for the tenant firms (matchmaking).

### **Networking**

During the growth of the tenant companies, it was soon realized that a great portion of ISTT's annual budget was spent on erecting workshops, labs, and equipment. With the trend in incubation programs and firms admitted, it would be impossible and insensible to provide enough facilities within ISTT walls to meet all the demands. A networking system was designed, in response to this need, of all local and, in cases, national organizations, research centers, and government departments. Through this scheme, ISTT acted as the hub through which technical and advanced lab equipment and services could be supplied not only to tenant firms at ISTT but also to the partners outside ISTT. With this a lot of synergy was also promoted among the hitherto disparate organizations and institutions.

### **ISTT, the Citadel of Business Incubation in Iran**

ISTT's national role in designing and commissioning incubation programs is gaining momentum such that ISTT's top managers are actively involved in offering consultation and assistance to incubator developers across Iran.

One corollary of ISTT's success with detecting problem areas and designing and improving business incubation programs was the trust government officials are now putting in ISTT as a center where the old aspirations of fruitful university-industry

relations can be realized. Along these lines, ISTT has now been assigned to organize the 7<sup>th</sup> National Congress on Government-University-Industry Relations with emphasis on the role of STPs and incubators in promoting such interactions.

Science and technology-based incubators and parks are springing up one after the other in every province. There are presently 8 parks and 17 incubators with approved permits entering into operation across the country. ISTT offers consultation and, in most cases, executive support in the design, commissioning and management of these new parks/incubators. Along these lines, the First National Workshop on Science & Technology Parks and Incubators was held last May in Isfahan with presentations by international experts as well as domestic authors.

### **Current Developments (ICT and other specialized incubators)**

Having Qadir Incubator experience which was a general incubator and in response to national demands for IT/ICT development, ISTT launched a study for establishing an ICT incubator. With the five year national development plan came provisions for IT/ICT development. The ICT plan under the nickname of TAKFA, or the National ICT Agenda (NICTA for short) was also developed. These together with support from the Management and Planning Organization provided the foundations for establishing the IT/ICT incubator in the south of Isfahan. A new 2200 m<sup>2</sup> building was also acquired from the provincial government and the IT/ICT Incubator was inaugurated in 2002. The incubator now has 13 companies with a total staff of 80 in the tenant firms.

The services at the IT/ICT incubator are similar to those at Qadir Incubator. However, seed money is supplied by the ICT Ministry and MPO. Projects are also given to the tenants by both bodies.

### **Specialized incubators**

Other specialized incubators are under study. The feasibility study for one agrotechnology incubator has already been concluded. The study suggests three models of incubation taking into account the peculiar features of the locality and the special businesses in question. The most viable proposal, however, seems to be the one which integrates public and private sector facilities into a working system with minimum investment costs. The Ministry of Agriculture, local organizations, and colleges of agriculture will be involved.

### **Inauguration of ISTT Main Site**

Just recently ISTT has moved to its new site adjacent to Isfahan University of Technology campus. This is a 500 ha land which will accommodate all the town's facilities in future. But presently, a building of 10,000 m<sup>2</sup> space has been erected on a 25-ha land which accommodates the ISTT's main administration building, the recently inaugurated Sheikh-Bahee Park, workshops, and research labs.

### **The Sheikh-Bahaee Technology Park**

The latest development is the inauguration of Sheikh-Bahaee Technology Park. The park is going to be the first of a number of parks at ISTT. It is located at ISTT's main site

adjacent to Isfahan University of Technology campus on 25 hectares of a total of 500 hectares allocated to building the town. The park includes advanced research labs, workshops, prototyping facilities and pilot plants, multi-tenant buildings, and service areas. Not only firms graduated from incubation programs but also firms affiliated to industrial R&Ds, executive departments, and big operational companies seeking relations with both entrepreneurs and university facilities are admitted to the park. The fields provisioned for the tenant firms to be admitted include engineering and engineering services, agriculture, economics, and management. The level of subsidies in the price structure for services offered at the park are reduced to minimum.

## **FUTURE PLANS**

### **Physical Development**

There are currently plans for increasing the number of multi-tenant buildings. Four such buildings will be designed and the construction of one building will start by the end of 2003. The number of specialized parks is also to increase in proportion to the number of specialized incubators.

### **Structural and Qualitative Development**

ISTT finds it increasingly essential to explore global experiences in this regard. Of course, given the present resources, it is not possible to move haphazardly. A predefined policy must be adopted and carefully worked out strategies must be defined to address the issue. Shortcuts are necessary and collaboration with international bodies must be strengthened.

One of the basic plans at ISTT to guarantee the success of both incubatees and incubators is expansion of international ties which includes the following components:

#### **1. Internationalization of ISTT's incubators and Sheikh-Bahae Technology Park.**

In this capacity, the incubators can act under three schemes:

- a) Admitting international entrepreneurs/investors to set up their own firms;
- b) Finding Iranian tenant firms as partners for international entrepreneurs/investors;
- c) Project sharing between ISTT tenant firms and international partners. The project can be either one that the tenant company is involved in but requires international assistance or one currently implemented by an international firm that looks for an Iranian partner in that project.

The advantages for international entrepreneurs include:

1. Low-priced services, office space, and taxes as compared to other countries;
2. Low-wages for professional services by Iranian university graduates;
3. Good, promising markets inside Iran;
4. ISTT acting as hub for locating potential markets in the region.
5. Low investment costs.

The advantages ISTT entertains are:

1. Creating a more realistic competitive and fertile ground for its tenants;
2. Natural and sustained trend of technology transfer.

### **2. Symbolic funds from international bodies:**

The symbolic funds by international bodies will definitely usher in higher standards of incubation management practices through constant monitoring and assessment kits. This will also link ISTT to international markets for its tenants' products/services.

### **3. Holding seminars, conferences, training courses, and workshops on themes of interest with active contributions by international scholars and agencies.**

Several such events have been/are being organized at the national level. It is hoped that international events will also be organized in near future.

### **4. Membership in international bodies:**

ISTT is currently a member of IASP, ASPA, WAITRO and the National Association of Science & Technology Parks and Incubators. While cooperating actively with these bodies and keeping an active profile in any international event, ISTT calls for support from these organizations to assist ISTT in accomplishing its objectives.

## **NATIONAL EXPANSION OF PARK/INCUBATOR CONCEPTS**

The Ministry of Science, Research, and Technology had entertained the idea of improving the functions of its affiliated organizations. One such organization was the Scientific and Industrial Research Organization with branch offices in most provinces. Using the model of ISTT, the functions of this organization were redefined from one of implementing individual research projects to acting as a park facility within ISTT. The same will happen in other provinces in an attempt to strengthen the present governmental parks and to avoid investment costs.

Other departments are also attempting to establish their own parks. The ICT Ministry in collaboration with ISTT is currently working on establishing a number of IT/ICT incubators across the country. The first one so far established the ISTT's IT/ICT incubator in Isfahan. The Ministry of Industries and Mines is also willing to enter the business but no serious measure has yet been taken. The Ministry of Commerce and the Ministry of Labor must also be encouraged to join the move especially because they have certain entrepreneurial programs at the moment. However, the policy adopted by the Ministry of Research, Science, and Technology is that parks, incubators, and innovation centers in so far as they are financed from the public budget must remain within the framework of the ministry in charge of science and technology and as the final stage of university education and research culminating in promotion of national production. Thus, the National Association of Science & Technology Parks and Incubators (NASTPI) will have the responsibility of coordinating activities and resources in this field.

## **CONCLUDING REMARKS**

Science and technology parks and incubators in Iran have attracted much attention as potential sources of economic development through technological development. ISTT represents a successful example in Iran which has adapted itself in a dynamic way to the needs and requirements of the time. The objective behind ISTT is to strengthen economic and technological infrastructure of the society through leading university graduates into technology-based businesses. To boost its activities and to guarantee the success of its tenant firms, ISTT is in urgent need of both internationalization and international support.