

Role of government in encouraging innovation assignment



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ROLE OF GOVERNMENT IN ENCOURAGING INNOVATION 12/4/2011 Strategic Innovation Management Authored by Nandini Kapur (D326) Kanika Katyal (D325) ROLE OF GOVERNMENT IN ENCOURAGING INNOVATION ROLE OF GOVERNMENT IN ENCOURAGING INNOVATION S T R AT E G I C I N N O VAT I O N M A N A G E M E N T Contents EXECUTIVE SUMMARY

..... 2
INTRODUCTION.....
..... SCIENCE AND TECHNOLOGY POLICY
..... 4 STATE INDUCED INCENTIVES FOR INNOVATION 4
TECHNOLOGY INCUBATION AND DEVELOPMENT OF ENTREPRENEURS
..... 5 SUPPORT INTERNATIONAL PATENT PROTECTION IN ELECTRONICS & IT (SIP-EIT)..... 6 MULTIPLIER GRANTS SCHEME
..... 6 NATIONAL INNOVATION FOUNDATION
TECHNOLOGY PROMOTION, DEVELOPMENT AND UTILIZATION (TDPU)
..... 7 Technology Development and Demonstration Program (TDDP) 7 Technopreneur Promotion Programme (TePP) 8
‘ INNOVATION OF SCIENCE PURSUIT FOR INSPIRE RESEARCH (INSPIRE)’
..... 8 CONCLUSION

.... Page 1 ROLE OF GOVERNMENT IN ENCOURAGING INNOVATION

EXECUTIVE SUMMARY Government plays a vital role in any national innovation system, in that it formulates policies that may or may not be conducive to business environment and may or may not reward
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entrepreneurial quest for innovative products. It further creates an institutional framework which may in varying degree support basic and advanced research in universities, industrial R&D, and grass-root innovations including in small and medium-sized enterprises (SMEs).

The Government also determines whether, in which industry sectors, and to which degree it welcomes foreign participation, e. g. in form of foreign direct investments (FDI) and whether or not it would like foreign firms to engage in R&D activities on domestic soil. This paper describes the Government of India's activities that influence, directly or indirectly ??? intentionally or unintentionally, India's innovation system. It then moves on to how innovation can be encouraged in the country, and how the entire process can be expedited by Government's role in policy making. Page 2

ROLE OF GOVERNMENT IN ENCOURAGING INNOVATION INTRODUCTION The inability of India to adequately provide for its own population no longer reflects a failure of implementation, but rather of a failure of innovation. In India, innovation is emerging as one of the most important rubrics in the discourse on how to bring about greater and more consistent economic and social development. One observes steadily growing investments in R across the country, the setting up of national and state innovation bodies, as well as the introduction of government-sponsored innovation funds.

Despite widespread agreement on the importance of innovation in India, there are wide gulfs between different conceptions of innovation and the path India that should take towards securing benefits through investments in innovation. India needs more frugal innovation that produces more frugal

cost products and services that are affordable by people at low levels of incomes without compromising the safety, efficiency, and utility of the products. The country also needs processes of innovation that are frugal in the resources required to produce the innovations.

The products and processes must also have frugal impact on the earth's resources. The Government of any country plans and formulates policies that affect the business environment and its way of operation. Such policies can reward or deter entrepreneurial quest, can either encourage or be an impediment to innovation. Page 3 ROLE OF GOVERNMENT IN ENCOURAGING INNOVATION SCIENCE AND TECHNOLOGY POLICY Since independence from the British rule in 1947, India has been investing a significant part of its resources, in creating quality institutions of higher education and research.

In 1958 Indian Government passed a “ Scientific Policy Resolution 1958”, which stated: “ The key to national prosperity, apart from the spirit of the people, lies, in the modern age, in the effective combination of three factors, technology, raw materials and capital, of which the first is perhaps the most important, since the creation and adoption of new scientific techniques can, in fact, make up for a deficiency in natural resources, and reduce the demands on capital.

But technology can only grow out of the study of science and its applications. ” In keeping with this objective the Government has established a number of scientific publications in regional languages for school children and other groups in the society to increase scientific awareness in India. These publications are available to public at large mostly at subsidized, affordable

rates. Finally, in 2003 a “ Science and Technology Policy” was announced, which recognized “ the changing context of the scientific enterprise”.

The new policy has put greater emphasis on innovations to solve national problems on a sustainable basis. For this purpose it even ended the insistence on indigenous development of technology so as to master “ national needs in the new era of globalization”. One of the concrete, declared objectives is “[t]o promote international science and technology cooperation towards achieving the goals of national development and security, and make it a key element of our international relations”.

Dietrich Keschull, India Representative of the German federal states of Hamburg and SchleswigHolstein said Indian Government has provided valuable backing for key high-tech sectors such as Biotechnology, Pharmaceuticals, IT and IT-enabled sectors, e. g. by providing “ extensive policy and infrastructural support” through setting up of technology parks and continuing strengthening of communication facilities. Indian Government actively tries to foster entrepreneurship, for instance by encouraging spin-offs of R&D institutions to promote technology transfer.

Increase of new ventures (e. g. start-ups) is an important Governmental aim. STATE INDUCED INCENTIVES FOR INNOVATION The Government has launched several innovation funding programs. According to information provided by the Technopreneur Promotion Programme (TePP) at Department of Scientific & Industrial Research, S&T budget has been increased significantly in previous years. “ No project application”, recounts an official, “ has been rejected on account of financial constraints”. 20 outreach centers

have been established in various parts of the country to facilitate support programs.

Whereas focus of the funding programs was up to 2007 as such on innovations and not on particular sectors, in the 11th Five-Year Plan (2008-2012) the focus is to be put on “ niche technology areas” like nanotechnology, biotechnology and ICT. Page 4 ROLE OF GOVERNMENT IN ENCOURAGING INNOVATION The processing time for TePP applications is typically just 3 to 4 months with 20% acceptance rate. “ Rejections”, asserts an official working with TePP, “ are invariably given with feedback”.

Another senior official in DST points out that all scientific ministries at administrative level are headed by scientists and technologists. The posting of scientists in key positions in Ministry of Science and Technology (MST), the nodal agency in the Government for funding innovation projects and incubating activities, says this official, are done deliberately to ensure that there is less bureaucracy in the functioning. To bring “ grass-root level into contact with the formal sector, universities and other research centers”, a “ National Innovation Foundation” had been established.

In Dec. 2007, India’s Department of Telecom announced a USD 2.5 billion package to fund innovations in communications technologies. Entrepreneurs, SMEs, universities and NGOs that have developed communication technologies may seek funding for the “ commercial roll-out of their innovations”, especially those “ linked to improving quality of services or making telecom operations more economical” Also the New Millennium India Technology Leadership Initiative (NMITLI) program is worth mentioning.

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This program has been launched with an intention to go “ beyond today’s technology and seeks to build, capture and retain for India a leadership position by synergizing the best competencies of publicly funded R&D institutions, academia and private industry” An official at German Embassy in New Delhi says local Government supports those foreign SMEs that don’t have enough resources to start their own R&D units, by providing facilities / incubators, especially via research institutions like Indian Institute of Science (IISc) and Society for Innovation and Development (SID), both in Bangalore, to settle down in India and also to cooperate with local research institutes and firms. Additionally, India also offers tax incentives for R&D operations in the country. For example, expenditure incurred on R&D may be deducted from corporate taxes with a weighted average of 150%. For a detailed account of financial incentives, see DSIR (2006).

TECHNOLOGY INCUBATION AND DEVELOPMENT OF ENTREPRENEURS

Department of Information Technology’s (DIT) Technological Incubation and Development of Entrepreneurs (TIDE) scheme was launched in the year 2008. The Scheme has multipronged approach in the area of Electronics, ICT and Management. Some of the broad objectives of the scheme include the following. ? Setting up and strengthening Technology Incubation Centres in institutions of higher learning, nurture Technology Entrepreneurship Development for commercial exploitation of technologies developed by them Promoting product oriented research and development ? Page 5 ROLE OF GOVERNMENT IN ENCOURAGING INNOVATION ?

Encourage development of indigenous products and packages and bridging the gap between R and commercialisation. At present the scheme is being <https://assignbuster.com/role-of-government-in-encouraging-innovation-assignment/>

implemented at 15 TIDE centers. Eventually the scheme proposes to support 27 TIDE centers and 2 virtual incubation centres over a period of 4 years.

SUPPORT INTERNATIONAL PATENT PROTECTION IN ELECTRONICS & IT

(SIPEIT) SCHEME In order to encourage filing of international patents, a

Scheme Support International Patent Protection in Electronics & IT (SIP-EIT)

has been put in place. The Scheme Supports International Patent Protection

in Electronics & IT by SMEs(Small and Medium Enterprises) and Technology

Start-Up Companies.

Under this scheme, SMEs and Technology Start-up units will be reimbursed up to 50% of actual costs, up to a maximum of Rs. 15 lakhs per application,

incurred in filing international patent applications in Electronics and ICT

domain for their indigenous inventions. Through this scheme DIT aims to

encourage indigenous innovation and enable the companies to capture

global opportunities in the area of Electronics and Information Technology.

MULTIPLIER GRANTS SCHEME Multiplier Grants Scheme (MGS) encourages

collaborative R between industry and academics/ R institutions for

development of products and packages and bridge the gap between R and

commercialization. NATIONAL INNOVATION FOUNDATION

The main goals include providing institutional support in scouting, spawning,

sustaining and scaling up grassroots green innovations and helping their

transition to self supporting activities. NIF seeks to achieve this goal by

drawing upon the HoneyBee network and its collaborating partners. The

Honeybee Network and Society for Research and Initiatives for Sustainable

Technologies and Institutions (SRISTI) have been scouting innovations by

farmers, artisans, women, etc. at the grassroots level. The Honey Bee

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database of 10, 000 innovations, collected and documented by SRISTI, would be a part of the National Register of Innovations, is to be managed and supported by NIF.

The primary objectives of NIF are to: ? ? ? Help India become an innovative and creative society and a global leader in sustainable technologies by scouting, spawning and sustaining grassroots innovations. Ensure evolution and diffusion of green grassroots innovation in a selective, time-bound and mission oriented basis so as to meet the socio-economic and environmental needs of society. Provide institutional support in scouting, spawning, sustaining and scaling up grassroots green innovations as well as outstanding traditional knowledge and helping their transition to self supporting activities. Page 6 ROLE OF GOVERNMENT IN ENCOURAGING INNOVATION ?

Build linkages between excellence in formal scientific systems and informal knowledge systems and create a knowledge network to link various stakeholders through application of information technology and other means; etc. To meet its objectives in scouting, awarding and incubation of grassroot innovations, NIF has set up five dedicated departments to execute innovation to enterprise development models: ? ? ? ? ? Scouting and Documentation Business Development and Micro Venture Value Addition and Research and Development Intellectual Property Management Dissemination and Information Technology Management TECHNOLOGY PROMOTION, DEVELOPMENT AND UTILIZATION (TDPU)

Aimed at promoting technology development and industrial research in the country as well as encouraging its utilization by various sections of economy, be it industry, academic, scientific institution and the society at large. The programmes and activities under this scheme are centered around promoting industrial R; development and commercialization of technologies; acquisition, management and export of technologies; promotion of consultancy capabilities; etc. Under TDPU Programme, there is one very important programme component called “ Technology Development and Innovation Programme (TDIP)”, which aims to develop technologies and promote innovation in the country. TDIP is sub-divided into 2 programmes, namely:- Technology Development and Demonstration Programme (TDDP) It was earlier known as ‘ Programme Aimed at Technological Self-reliance (PATSER)’.

It is a plan scheme of Department of Scientific and Industrial Research (DSIR) to promote industry’s efforts in development and demonstration of indigenous technologies, development of capital goods and absorption of imported technologies. That is, its broad objectives for achieving self-sufficiency in industrial growth are: ? Supporting industry for technology absorption, development and demonstration. Building indigenous capabilities for development and commercialisation of contemporary products and process of high impact. ? Involvement of national research organisations in joint projects with industry. ? Technology evaluation in selected sectors. To achieve such objectives, DSIR provides on a selective basis partial financial support to research, development, design and engineering (RDDE) projects proposed by industry in the following areas: ? Development and

Demonstration of new or improved product and process technologies including those for specialized capital goods, for both domestic and export markets. ? Absorption and up gradation of imported technology. Page 7

ROLE OF GOVERNMENT IN ENCOURAGING INNOVATION The partial financial support by DSIR is primarily meant for covering expenditure involved in prototype development and pilot plant work, test and evaluation of products flowing from such R&D, user trials, etc. Bulks of costs of the project are from the industry's resources. Technopreneur Promotion Programme (TePP)

It was launched to tap the vast innovative potential of the citizen of India.

TePP is a mechanism to promote individual innovators to become technology-based entrepreneurs (Technopreneurs). Thus, its main objectives are to: ? ? ? Promote and support untapped creativity of individual innovators. Assist the individual innovators to become technology based entrepreneurs. Assist the technopreneur in networking and forge linkages with other constituents of the innovation chain for commercialization of their developments. The activities under TePP include providing financial support to selected and screened individual innovators having original ideas for converting them into working models, prototypes and so on.

TePP assistance is provided to the innovator to meet expenditure on the following: ? ? ? ? ? ? ? R/Engineering consultancy Procure small equipment, tools etc. required Raw Material/ Accessories (for prototype/process trials), Fabrication cost (for prototypes) Patent guidance and support Manpower Testing & Trials any other relevant costs TePP support to the innovators is limited to 90% of the total cost of the project and remaining 10% is to be borne by the innovator/inventor. ' INNOVATION OF SCIENCE PURSUIT FOR <https://assignbuster.com/role-of-government-in-encouraging-innovation-assignment/>

INSPIRE RESEARCH (INSPIRE)' It is another such innovative programs proposed by the Department of Science and Technology for attraction of talent to science.

The basic objective of INSPIRE would be to communicate to the youth population of the country the excitements of creative pursuit of science and attract talent to the study of science at an early stage and build the required critical human resource pool for strengthening and expanding the Science & Technology system and R base. INSPIRE Scheme has included three components. They are: (i) Scheme for Early Attraction of Talents for Science (SEATS); (ii) Scholarship for Higher Education (SHE); and (iii) Assured Opportunity for Research Careers (AORC). Page 8 ROLE OF GOVERNMENT IN ENCOURAGING INNOVATION CONCLUSION There is a large pool of technically-trained personnel in India, but its density of Research Scientists and Engineers (RSEs) is one of the lowest. However, there is no appreciation of this issue as a problem in policy circles.

The country has very few research grants specifically for the enterprise sector. Even those that it has are largely utilised by public sector enterprises. The technological infrastructure of the country is fairly sophisticated (at least by Developing Country standards). The network of laboratories under the umbrella of the CSIR forms an important component of this technological infrastructure. The interaction of these labs with the enterprise sector, despite efforts to enhance it, is still very low. Part of the difficulty arises from the low demand for innovations from the enterprise sector. Tax incentives are not very popular because of their