International Experience

Introduction

The role of innovation as an engine of growth is well recognised across the globe, both in the developed and emerging economies. According to Solow's Growth Theory[1], government can promote economic development through a variety of means including supporting education and training to develop a more educated work force, stimulating capital investment, stimulating relocation of resources from low productivity to higher productivity industries and promoting technological progress and innovation. Innovation is now an integral part of growth and several countries have taken initiatives to foster innovation through policy reform, reorganising governance structure, setting up new committees, introducing programmes supporting innovation and other related activities. The significance of innovation was well recognised earlier by the developed economies followed by the transition economies. Few countries like Finland, France, Spain, Japan etc have shown remarkable progress in the field of innovation whether it be in terms of product, process or management . To understand the policies and practices of these economies and draw lessons for India a global comparative study is imperative. In this paper we will analyse the policies and programmes of few countries eminent in the field of innovation with the objective of-

- Understanding contextual references (i.e. Country's stage of economic development, priority areas, and challenges) *needed for finding correlation and similarities with Indian perspectives.*
- Their vehicles of delivery (i.e. Policy framework, dedicated institutionalisation, investment, support structures) *needed for insights to configure the useful ones for Indian requirements.*
- Developing Perceptive/empirical/factual understanding on adaptability and suitability of models in Indian context (can be national, sector specific, region specific).

The countries included in this study are namely,

1. Europe
    a. Finland
    b. Spain
    c. Germany
    d. UK
    e. France

[1] Robert Solow was awarded the Nobel Memorial Prize in Economic Science in 1987 for his work in developing a modern macroeconomic theory of growth.

f. Italy

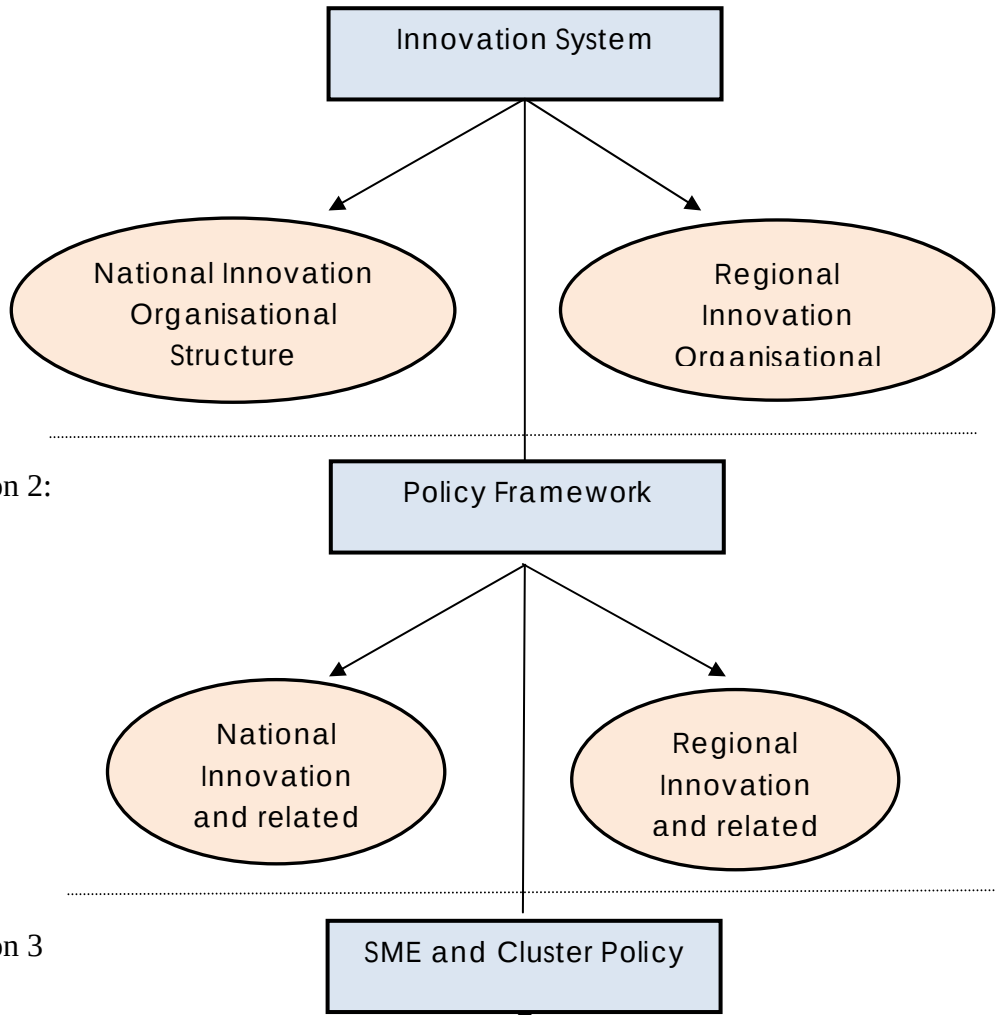
2. Asia

a. Korea
b. Japan
c. Taiwan

The policies and programmes of each of the above countries are evaluated in terms of their contribution to innovation promotion. Wherever possible the impact of the policies and programmes are also captured, and correlations, if any, with sectors and clusters are also taken into account. The sections under each country study include innovation policies and programmes, innovation governance structure, industrial policies, cluster policy/ programme supporting innovation or technology upgradation. The structure is given below.

Figure 1: Country Report: Innovation

Section 1:



Section 2:

Section 3

Note: The structure of the report varies from country to country depending on the secondary information that was available for each country. However, attempts have been made to follow similar structure.

National Innovation Governance Structure

The national innovation system of the several countries studied (European and Asian countries) reveal some commonality and disparity in terms of the governing structure, institutional set up, functioning of different departments, etc. The common features in the organisational structure of the countries studied is the presence of a particular ministry or a group of ministries responsible for ratifying activities related to innovation and R&D in the country. To foster technology upgradation/ innovation in the country some countries like Finland, Spain, Italy, France, Japan etc. have undergone structural reorganization. For example, to enhance the support system in favour of enterprises and effective handling of innovation and competitiveness issues, General Directorate for Enterprises (DGE) was formed in 2004 replacing two divisions- Division for Industry, Information Technologies and Post (DiGITIP) and Division for Regional Action and SMEs (DARPMI) in France.

Similarly, in 2005 the responsibilities of the Ministry of Science and Technology were distributed between the Ministry of Education and Science (MEC) and Ministry of Industry, Tourism and Trade (MITYC) in Spain. Table 1 provides the list of ministries that are in charge of undertaking R&D and innovation related activities. Another common trend is to set up a separate body responsible to coordinate the innovation related activities. For example, in Finland a Technology Committee was set up to recommend on R&D and technological developmental activities to be undertaken based on learnings from advanced countries. The Committee recommended on augmenting resources for R&D and other related activities. To support the recommendations a government resolution was passed on technology policy in 1982 and in 1983 the National Technology Agency (TEKES) was formed to govern and expand the technology programme of the Committee.

Public research institutes play a vital role in enhancing R&D in the field on innovative technology in many countries. In Spain, the Spanish Research Council (CSIC) is the apex public research body that not only enhances knowledge creation but also actively engaged in knowledge dissemination and training specialised personnel and management of infrastructure. Similarly, in France, the Centre for Scientific Research (CNRS) is the largest fundamental research organisation employing around 25,000 people.

In case of European countries, universities/ educational institutes are given special focus to generate new ideas. There exists a network between the government, industry and Universities/ educational institutes. This is often termed as the 'Triple Helix Model'. The triple helix denotes the university-industry-government relationship as one of relatively equal, yet interdependent, institutional spheres which overlap and take the role of the other. The Asian countries are lagging behind and are in the process of drawing level in terms of linking universities/ educational institutes with industry and government. In Korea, the Korean universities increased their R&D expenditure from 8.2 % in 1995 to 11.3 % in 2000, still below many countries. Table 1 lists down the organisations that enhance university/ education institutes in assuming R&D.

Table 1: The principal institutions/ ministries in charge of Innovation and related disciplines

Countries	**Apex Institution/ Public Institution/ Committee**	**Ministry/ Government Department**	**Educational Institutes**
Finland	• National Technology Agency (TEKES) formed in 1983. • Science and Technology Policy Council (STPC) set up in 1987.	• Ministry of Trade and Industry. • Ministry of Education in charge of development of education, science and international cooperation.	• Academy of Finland
Germany	• Fraunhofer Institute • Max Planck Institutes • Helmholtz research centre • Leibniz Institute	• Federal Ministry of Education and Research (BMBF). • Federal Ministry of Economics and Technology (BMWi)	• Higher Education Institutions (HEIs)
Italy	• National Research Council (CNR) • National Agency for New Technology, Energy and Environment (ENEA) • Italian Institute of Technology (IIT) • Confindustria • Unioncamere • Italian Space Agency (ASI) • Italian Aerospace Research Centre (CIRA) • National Institute for Nuclear Physics (INFN)	• Ministry of Education, University and Research (MIUR) • Ministry of Productive Activities (MAP) • Ministry of innovation and technology (MIT)	• Association of the Rectors of Italian Universities (CRUI)
France	• Centre for Scientific Research (CNRS) • Committee for Scientific and Technical Research (CIRST)	• Ministry of National Education, Higher education and Research • Ministry of Economy, Finance	Higher Education Institutions

	• National Agency for Research (ANR) • Agency for Industrial Innovation (AII) • High Council for Research and Technology (CSRT) • OSES-ANVAR	and Industry	
UK	• Council for Science and Technology (CST)	• Department for Innovation, Universities and Skills (DIUS) • Department for Business, Enterprise and Regulatory Reform (BERR).	• Higher Education Institutions (HEIs)
Spain	• Spanish Research Council (CSIC) • Inter-ministerial Committee on Science and Technology (CICYT)- main body responsible for policy planning, coordination, monitoring etc.	• Ministry of Education and Science (MEC). • Ministry of Industry, Tourism and Trade (MITYC).	University-Industry Foundation (FUE).
Taiwan	• Industrial Technology Research Institute (ITRI) • Science Park – Hsinchu Science-based Industrial Park (HSIP)	• Ministry of Economic Affairs (MOEA) • National Science Council (NSC).	-
Korea	• Korea Institute of Machinery and Materials • Korea Research Institute of Chimerical Technology • Electronics and Telecommunication Research Institute	• Ministry of Science and Technology • Ministry of Commerce, Industry and Energy	• Science Research Centre (SRC) • Excellent Research Centre (ERC) • Regional Research Centre.
Japan	• Council for Science and Technology Policy (CSTP) • New Energy and Industrial Science and Technology Development Organisation (NEDO) • Institute of Physical and Chemical Research (RIKEN) • Advanced Industrial Science and Technology Organisation (AIST)	• Ministry of Education, Culture, Sports, Science and Technology (MEXT) • Ministry of Economy, Trade and Industry (METI) • Ministry of Internal Affairs and Communication • Ministry of Finance.	

There are several other research institutes, apex institutions, ministries, educational institutes and other related bodies that are involved in a country's innovation governance structure apart from the institutes and ministries mentioned in table 1. The details of these institutes and ministries are provided in volume 2 of the report.

Regional Innovation Governance Structure

As can be inferred from the countries studied, in most of the European countries the innovation structure is highly decentralised. The regional bodies enjoy the freedom of drafting regional innovation programme and also its implementation. Some countries enjoy limited freedom whereas in some countries, the Central government set the policies and implementation is carried out at the regional level where representative bodies of the Central government are present along with regional and sub regional bodies. Table 2 highlights some of the features of the regional governance structure of the countries studied.

Table 2: Regional Governance Structure

Country	Main features
Finland	• The regional governance system is divided into state, province and municipality • The main power is vested at the national level. National innovation policies are set by the Ministry of Education, Ministry of Trade and Industry and Ministry of Interior that influence regional innovation system. • Regional Councils representing municipalities play a vital role in regional development.
Spain	• Spain is divided into 17 regions, of which 15 are termed as Autonomous Communities and 2 Autonomous Cities. • All the 17 regional governments are free to design regional strategy for innovation and also decide on the timing and method of launching their own R&D and innovation policies. • The ministry of Education and Science has promoted new collaboration agreements between the regional authorities and the National Research Institute or Agencies within the framework of the R&D and innovation plan. The Autonomous Communities participate in the advisory bodies of the Inter-ministerial Commission on Science and Technology via the General Council of Science and Technology.
Germany	• 16 Federal States (Lander) are present in Germany. • The Lander governments have the same legal competence in designing innovation policy and supportive measures as the federal government. • Innovation policy is a major activity of the Lander Governments that are restricted to the respective Federal State resulting in different regional framework conditions for public support to innovation in Germany
UK	• There are nine English Regions and three Devolved Administrations (Scotland, Wales and Northern Ireland) • The Department for Communication and Local Government (DCLG) has overall responsibility for regional policy that includes nine English regions and three Devolved

	Administrations. • The Regional Development Agencies (RDAs) are exploring the possibilities of establishing regional 'innovation hubs', by enhancing coordination between national and regional initiatives to support centres of excellence in industrial collaboration, to build critical mass and achieve international excellence.
France	• The 22 regions in metropolitan France have the mission to contribute to regional economic and social development. • Regions autonomously decide the budget spend on R&D and innovation. The Regional Councils (elected regional bodies) can assist to enterprises, constitute technological centres and establish innovation and technology transfer centre. Several programmes have also been initiated in the field of R&D and innovation at the regional level. • There are the regional offices of the ministries in charge of Research and Industries, the Regional Research and Technology Delegations (DRRT) and Regional Division of Industry, Research and Environment (DRIRE) that coordinates at the regional level of national measures from the respective Ministries.
Italy	• Italy consists of 20 regions (15 ordinary regions, 5 regions with a special statute) and 2 self-governing provinces. • The State Regions Conference is the permanent body that supports coordination between the state and regions. • The regions in Italy enjoy a high degree of independence in planning their own laws in the field of innovation and industrial support programme. • Most regions design their own laws concerning R&D and innovation and formulate strategies for regional innovation plan; provided it is approved by the MEF, MIUR and MAP to assure that it is in line with the national R&D guidelines and policy.
Korea	• Korea follows a much centralised government structure where the main power vests in the hand of the ministries. Decentralisation is still a new concept that is creeping into the country.
Japan	• Japan is a unitary state, wherein central government can delegate political power to lower levels. • Regional policy has been emerging since the 1980s but there are no real governance institutions at the regional level other than the regional bureaus maintained by some central government ministries.
Taiwan	• Taiwan has a centralised governance structure for matters related to innovation.

The European countries exhibit a decentralised governance structure, except Finland. In case of Asia, all the three countries studied revealed a centralised governance structure.

Policy Perspective

The overall objectives of innovation policy of the countries studied (both European and Asian) are:

- Upgrade the innovation capacity of industry, universities and government research institute.
- Raise the efficiency of R&D investment by encouraging private participation.

- Develop technology and upgrade the diffusion mechanism.
- Shifting from a government led to a private led innovative system
- Aligning the R&D system from a domestic to a global network.
- Meeting the demand of high skilled people.

However the countries have their own set of priorities within the innovation framework. In UK, the major challenge lies in access to networks and new knowledge source and linking the research base and business. To address the issue, the Office of Science and Innovation (OSI) works closely with the Higher Education Institutes (HEIs) to fill this gap via the Technology Programme. In France, the government designed a Pact for Research in 2005 with the objective of reorganising the public research system along with reinforcement of link between public and private and raise private fund. Some countries have drafted policies to give special focus to a region or a sector. For example, in Japan the Third Science and Technology Plan (2006-2010) four primary and four secondary fields have been prioritised. The four primary fields are life science, information and communication, environment and nanotechnology and materials; the secondary fields are energy, manufacturing technologies, social infrastructure and frontier science. Similarly, recognizing the competitive advantages of regional economic strengths, the Federal and the Lander (East Germany) governments designed the pro-sector programs. Two such important programs are the BioRegio and the BioProfile initiatives. On the other hand keeping in mind the needs of the still under developed East Germany, some plans and programs have been specifically woven around the growth of East Lander. InnoRegio is one such program.

Innovation policies are not stand alone measure that can generate R&D and innovation in the country. It is rather a network of innovation policies, science and technology policies, industrial policies (including SME) and regional policies that foster innovation in the country. Industrial policy and technological development are linked via the concepts of innovation and competitiveness and the relationship between them (Clark and Guy, 1998). For example, to enhance innovation in a particular sector one needs to take into consideration the innovation policy along with the industrial sector policy of the country.

Innovation and Clusters

Clusters are present across the globe both in developed and developing countries. But presence of innovative clusters or in other word clusters promoting innovation is limited. To foster innovation in clusters several countries adopt various instruments like R&D funding, bring in regulatory changes, support to training initiatives, establishments of intermediaries, etc. There is no established cluster policy that can promote innovation in clusters. Cluster policy is often linked to regional policy to focus on a particular region, for example, in

Germany the programme BioRegio was initiated to target growth via agglomeration in the biotech industry. In UK, the North East Process Industry Cluster (NEPIC) represents four hundred supply chain companies across the North East of England who operates in the process industry sector. The table below provides a snapshot of the innovative activities or policies or programmes in clusters undertaken by the countries studied.

Table 3: Regional/ Cluster programme of countries under study

Country	**Programme / Policy**	**Start Year**	**Programme / Policy Period**	**Brief Description**
Finland	Centres of Expertise	1994	Ongoing (annual funding)	The Centres of Expertise support the development of expertise, firm creation and innovation in different regional urban hubs, usually in conjunction with technology parks.
	National Cluster Programme	1997	Varied, approx. 3 years	This strategy supported Finland's most prominent sectoral industry clusters as selected by different sectoral ministries through increased R&D financing for collaborative projects.
France	Pôles de Compétitivité	2005	3 years (2005-2007)	This is France's main competitiveness policy and it supports collaborative industry-research projects. It attempts to serve multiple purposes by supporting both "international" and "regional" oriented clusters.
	Local Production Systems (SPL)	Late 1990s	on-going	The SPL programme supports networking among small firms in French industrial districts.
Germany	BioRegio	1995 selecti on	8 years 1996-2003	BioRegio serves to concentrate research funds in a limited number of regions to support biotechnology, a sector of strategic national interest.
	InnoRegio	1999	7 years through 2006	InnoRegio seeks to improve the innovation capacity of the lagging new Lander in Eastern Germany with support from EU structural funds.
	GA (Joint Task) for network building	2005	ongoing	The purpose of this funding "negotiation" tool between national and “lagging” Lander is to provide funding for projects that improve collaboration among regional actors with a strong research focus.
Italy	Law317(91)	1991	ongoing	This law, and its subsequent revisions to improve flexibility in its application, established a framework for regional governments to support consortia of small firms.
	Technical districts	2003	4 years, to 2006, next phase expected	Technical districts have been created in the context of science and technology policy to improve collaboration for the funding, research and application of results in fields with strong commercial interest and social value. EU structural funds were used for Southern Italy districts.
Japan	MEXT Education Clusters	2001	5 years, to 2005	These Japanese knowledge clusters are centred around key universities and seek to promote greater university-industry collaboration.
	METI Industrial Clusters	2001	5 years to 2005; Phase 2 2006-2010	The Industrial Cluster Programme supports SMEs and research links in a range of regional area types with a strong focus on the triple helix relationship, business incubation and support services.
Korea	Innovative Cluster Cities	2004	5 years, 2004-2008 (Phase 2 planned)	The Innovative Cluster Cities are a select group of large industrial complexes in selected regional centres that will be encouraged to convert from manufacturing centres to innovation systems.

Country	Programme / Policy	Start Year	Programme / Policy Period	Brief Description
Spain; Basque Country	Competitiveness clusters	1991	ongoing	This early and ongoing cluster policy to develop the Basque Country's competitiveness focuses on the development of cluster initiatives in the largest industries in the region.
Taiwan	na	na	na	na
UK	DTI/RDA/DA cluster support programme	2000	On going	The UK DTI supports a range of cluster initiatives designed and implemented by the Regional RDA and the DA. Programmes vary but have included commissioning regional mapping studies, identifying and building links with important regional clusters as the vehicle for wider economic development initiatives.

Source: OECD 2007.

Table 4 shows the allocation of funds in different countries across various types of programs. The funding patterns across these countries can be broadly classified into three groups: (i) less than EUR 100 000 per cluster per year for three years or less where the aim is to engage actors (ii) between EUR 100 000 to approximately EUR 1 million per cluster annually over several years where the goal is to support collaborative projects and (iii) over EUR 1 million per cluster annually for periods up to ten years for heavy R&D projects. Needless to say, lot of money is flowing into supporting entrepreneurship and innovation.

Table 4: Programme budget of the selected countries

Country	**Programme / Policy**	**Primary instruments**	**Overall programme budget**	**avg. annual spending per cluster**	**Co-financing** (in addition to programme)
Finland	Centres of Expertise	Entrepreneurship and innovation (collaborative R&D, business services to existing and start-up SMEs)	1999-2005 totalled 46 million EUR (Approx. 8 million EUR 2003, 9.4 million 2004)	from 150 000 to 900 000 EUR per CoE (overall average approx 400 000)	50% regional government
	National Cluster Programme	Innovation (collaborate R&D)	More than 100 million EUR over two to three years	approx. 4-6 million EUR	n.a.
France	Pôles de Compétitivité	Innovation (collaborative R&D); engagement of actors (development of cluster initiative)	1.5 billion EUR over three years	estimated average 26.7 million for international clusters, 1.9 million for regional	yes
	Local Production Systems (SPL)	Engagement of actors (supporting cluster initiative formation and joint activities)	not available (< 3 million thus far)	< 40,000 EUR	yes
Germany	BioRegio	Innovation (collaborative R&D)	95 million EUR with preferential access to other funding totalling 700 million EUR	Approx 2 million EUR direct programme funding per region for top 4; others significantly less	
	InnoRegio	Innovation (collaborative R&D)	110 million EUR	n.a.	40% of total spending combined was private
	GA (Joint Task) for network building	Engagement of actors (supporting cluster initiative formation)	n.a.	max 300 000 over 3 years; up to 500 000 for project with more than 5 partners. Public funding up to 70% of eligible costs, rest borne by partners	70% public, 30% other
Italy	Law317(91)	Government service delivery and resource allocation	n.a	n.a.	n.a.
	Technical districts	Innovation (collaborative R&D)	n.a.	Expected of 50-60 million EUR per district over the period	Private sector co-financing

Japan	MEXT Education Clusters		n.a.	approx. 3.8 million EUR	n.a.
	METI Industrial Clusters	entrepreneurship and innovation	n.a.	n.a.	n.a.
Korea	Innovative Cluster Cities	entrepreneurship and innovation	n.a.	n.a.	n.a.
Spain; Basque Country	Competitiveness clusters	Engagement of actors (supporting cluster initiative)	2 to 4 million EUR annually	approx. 180 000 to 400 000	40-50% private
UK	DTI/RDA/DA cluster support programme	Varies from region to region – engagement of actors activities are particularly common; emphasise on role of HEI; business services to existing and start up SMEs in clusters	Varies according to region; funding from 'single pot' (combined funding from several government departments including DTI) for regional strategy; funds then allocated to programmes including cluster initiatives	Varies according to region	Strong emphasis on leveraging private sector funding in RES; some co-funding from local authorities of in-kind support expected

Source: OECD 2007

National governance contexts clearly play a vital role in the development and implementation of policies to effectively promote regional specialisation and clusters. The programmes are embedded in a variety of constitutional frameworks that include government both at the national and regional level and the private sector. The economic rationale for intervention defines the role played by different levels of government in supporting the initiative. However, the private sector is increasingly realizing the benefit of supporting and/or participating in the initiatives. Table 5 provides an overview of the roles played in cluster development.

Table 5: Role of different institutions in the programme/ policy

Country	Programme/ Policy	Constitu-tional framework	National government role	Lead Ministry / Agency	Regional government role	Private sector role
Finland	Centres of Expertise	Decentralised unitary	Initiate, co-fund	Ministry of Interior, Department for the Development of Regions (with inter-ministerial committee)	co-fund	Apply for funding, participate
	National Cluster Programme	Decentralised unitary	Initiate, fund and implement	Individual sectoral ministries	none	participate
France	Pôles de Compétitivité	Regionalised unitary	Initiate, partial funding, implement	Inter-ministerial delegation for regional planning and competitiveness (DIACT), joint with Ministry of the Economy, Finance and Industry	Support applications, partial funding	Apply for funding, lead cluster initiative (with public participants)
	Local Production Systems (SPL)	Regionalised unitary	Initiate, partial funding, implement	Inter-ministerial delegation for regional planning and competitiveness (DIACT)	Increasingly involved in partial funding	Apply for funding; lead cluster activities
Germany	BioRegio	Federal	Initiate, fund	Federal Ministry for Education and Research (BMWA)	Co-fund and implement	Apply for funding, participate
	InnoRegio	Federal	Initiate, fund	Federal Ministry for Education and Research (BMWA)	Co-fund and implement	Apply for funding, participate
	GA (Joint Task) for network building	Federal	initiate, joint selection and funding	Ministry of Economy, Lander	support applications; joint selection and funding	n.a.
Italy	Law317(91)	Regionalised unitary	Initiate through framework conditions for regional decision	None, Ministry of Productive Activities promoted the law	adapt, fund and implement	Depends on regional programme
	Technical districts	Regionalised unitary	Initiate and fund	Ministry for Education and Research	Lead implementer	Co-fund projects
Japan	MEXT Education Clusters	Centralised unitary	initiate, fund and implement	Ministry of Education, Culture, Sports, Science and Technology (MEXT)	no set role	participate (public sector led)

	METI Industrial Clusters	Centralised unitary	initiate, fund and implement	Ministry of Economy, Trade and Industry (METI)	no set role	participate
Korea	Innovative Cluster Cities	Centralised unitary	initiate, fund and implement	Korea Industrial Complex Corporation (under the Ministry of Commerce, Industry and Energy)	no set role	participate
Spain; Basque Country	Competitiveness clusters	Regionalised unitary	Not a national policy	Basque Regional Government, Department of Industry, Commerce and Tourism	Initiate, fund, implement	Apply for funding; lead cluster initiative
UK	DTI/RDA/DA cluster support programme	Centralised Unitary	Facilitate, fund	DTI; RDA; DA	Work with RDA to develop cluster initiative within regional economic strategy	Participate on RDA board.

As can be inferred from the above analysis there has been an increasing trend of private participation in regional development of the country. What remains now, is linking universities/ education institutes with the private sector and regional government for regional/ cluster development.

Major Learnings

The above analysis, though not representative of the continent as a whole, does indicate some broad trends and patterns prevalent in each of the countries. The major learnings for setting up an ideal innovation system in the country are-

- For proper functioning of the innovation system of a country, innovation policies should be under the purview of a particular ministry or a committee comprising group of ministries or a department at the national level. Any decisions related to innovation policies should be monitored by a particular institution (i.e. a particular ministry or a committee comprising group of ministries or a department).

- In case of countries where the independent regional innovation system is not in place, representative bodies of the national innovation organisation should be present at the regional level for monitoring the implementation of the regional institutes and provide support as and when required.

- In case of countries where the regional innovation system is well functional and competent in drafting regional innovation policies and implementing, decentralised approach should be undertaken. As we saw in the case of European countries where the countries have proper regional innovation system in place.

- The aim to move from a centralised innovation structure to a decentralised innovation structure by putting in place an effective regional innovation system as this will minimise delays in decision making and also local conditions are best comprehended locally.

- Innovation policies are not stand alone measure that can generate R&D and innovation in the country. To promote innovation in a country other policies influencing innovation indirectly, like science and technology policies, industrial policies (including SME) and regional policies should also be taken into account.

- Networking between the government, industry and Universities/ educational institutes play a vital role in generating new ideas and thereby implementing it. This is often termed as the Triple Helix Model.

- Policies should be designed to attract private participation in R&D and innovation activities in the country. Shift from a government led to a private led innovation system.

- Educational system to be strengthened as there exist a dearth of skilled workforce to carry out innovative activities. Technical courses should be introduced in universities.

- The funding pattern for any programme should be correlated with the objective of the programme. For example, if a programme aims at heavy R&D project, the fund allocation should be more in comparison to a programme supporting collaborative projects. Similarly, the period of support should also be directly proportional to the purpose of the programme.

- Presence of a strong monitoring and evaluation framework in place to measure the impact of a policy/ programme and the input-output ratio of R&D investment of the country.

Now analysing the innovation framework of different countries and thereby listing the major learnings, in the next section we will now look into the innovation system and policies and programmes of India to understand the current innovation scenario.