Science and technology for the people? On the framing of innovation in policy discourses in India and in EU

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Why EU and India?

Two major economic and technological powers with a history of scientific collaboration

«With the adoption of the European Research Area Vision 2020 – and the key role ascribed to innovation in the Europe 2020 Strategy – and with the launch of India's decade of innovation, EU-India relations in S&T have become strategic, both for the EU and India» [Basile & Réigner, 2012, p.1].

To study how technologies are interwoven in society and to explore nationally distinct ways in which technoscience is entangled with political, social and cultural norms and values.

Question of public participation

Citizen participation has gained major academic attention in the fields of public understanding of science and science communication. The House of Lords report on 'science and society' [House of Lords, 2000], triggered multiple European Commission activities culminating in concepts like Responsible Research and Innovation.

Davies et al. [2009] have argued for the importance of dialogue events for democratisation of science. Issues of citizen engagement on matters like climate change, energy, GMOs have found increased expression in the literature (see for example, the 2016 edited volume of Chilvers and Kearnes)

At the same time, scholars from non-European contexts have discussed the need to incorporate 'lay' or 'local' knowledges as scientific and innovative knowledge; and have discussed instances of community involvement in regions such as New Zealand, Australia and India [Goven, 2006; Schibeci and Harwood, 2007; Gupta, 2013].

‘FRAMING’ INNOVATION

We have based our reading of policies on the approach of “conceptual frameworks” developed and used by innovation scholar Godin [2009], which, in contrast with rational-choice or instrumental rationality analyses, understands policy as «a process of argumentation». Following earlier elaborations [Fischer and Forester, 1993; Schön and Rein, 1994], he defines a “conceptual framework”, or “frame”, as «an argument or discourse that acts as an organizing principle to give meaning to a socioeconomic situation and answers to a series of analytical and policy questions» [Godin, 2009, p. 2].

Primary sources

Information on the features of conceptual frameworks as notably expressed in public communication documents (annual reports, videos, websites, leaflets) , where the effort of summarising and effectively communicating the policies often highlights their most relevant traits.

Scholarly debates around the policy frameworks, (especially works of researchers who contribute to policies) which provide the context in which these policies are framed.

Europe as an Innovation Union

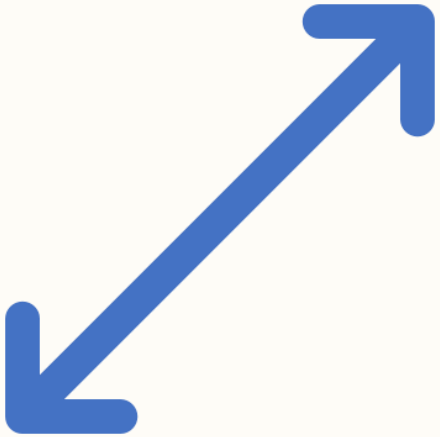
Horizon 2020: the Programme is aimed at ensuring that «innovative ideas can be transformed into products and services [EC 2010b]

The Innovation Union is framed as one of the engines of the Europe 2020 strategy for smart, sustainable and inclusive growth [EC, 2010b]

The concept of «innovation» in European discourses is portrayed emphasizing its consequences on «the individual and society» [CEC, 1995, p.1]

A strict economic characterization of the concept of innovation evident since the very early elaborations: «the renewal and enlargement of the range of products and services and the associated markets; the establishment of new methods of production, supply and distribution; the introduction of changes in management, work organisation, and the working conditions and skills of the workforce» [CEC, 1995, p.1].

Innovation the one-stop solution



‘As public deficits are reined in to repair public finances and as our labour force begins to shrink, what will be the basis for Europe's future competitiveness? How will we create new growth and jobs? How will we get Europe's economy back on track?

How will we tackle growing societal challenges like climate change, energy supply, the scarcity of resources and the impact of demographic changes? How will we improve health and security and sustainably provide water and high-quality, affordable food?

The only answer is innovation, which is at the core of the Europe 2020 Strategy (...). It aims to (...) ensure that innovative ideas can be turned into products and services that create growth and jobs.’

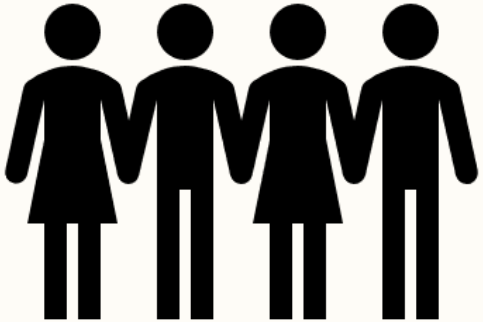
[Europe 2020 flagship initiative innovation union, 2010, p.8]

Responsible Research and Innovation

A 2011 report on Responsible Research and Innovation developed the concept mainly around «the consistent, ongoing involvement of society, from the beginning to the end of the innovation process, including the public & non-governmental groups, who are themselves mindful of the public good» [Sutcliffe, 2011, p.3]

The label of «Responsible Research and Innovation» (RRI) refers to [Von Schomberg, 2013, p.19]: «a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (in order to allow a proper embedding of scientific and technological advances in our society).»

Public in EU documents



In innovation discourses, the knowledge production chain is described to span «from blue sky research to market uptake» [European Commission, 2010b]: citizens are not usually considered central actors of the innovation process. The most frequently mentioned actors are researchers, companies and especially entrepreneurs.

The entrepreneurial category is represented not only as the target beneficiary of support and funding, but also as the object of cultural promotion, centred on fostering «entrepreneurial education» and the development of «more positive European attitudes and culture towards entrepreneurship and risk taking» and on the realization of a real «cultural shift which celebrates innovation» [European Commission, 2010b; EC, EACEA and Eurydice, 2016; European Parliament and Council of the European Union, 2013; Aho et al., 2006].

Rhetoric of Indian Decade of Innovation

“Scientific research utilizes money to generate knowledge and, by providing solutions, innovation converts knowledge into wealth and/or value. Innovation thus implies science and technology-based solutions that are successfully deployed in the economy or the society. It has assumed centre stage in the developmental goals of nations. Paradigms of innovation have become country and context specific. India has, hitherto not accorded due importance to innovation as an instrument of policy.” [Ministry of Science and Technology, 2013, p.2]

For the people

‘New structural mechanisms and models are needed to address the pressing challenges of energy and environment, food and nutrition, water and sanitation, habitat, affordable health care and skill building and unemployment. **“Science, technology and innovation for the people”** is the new paradigm of the Indian STI enterprise. The national STI system must, therefore, recognize the Indian society as its major stakeholder. Global innovation systems tend to bypass large sections of the community. Innovation for inclusive growth implies ensuring access, availability and affordability of solutions to as large a section as possible.’ [Ministry of Science and Technology 2013, p.3, emphasis retained from the original document]

Why the people?

While the rhetoric of self-reliance was prevalent right after independence from the early five-year planning periods which were to guide the national vision for growth and modernization (Planning commission, 2001), the focus on indigenous development of technology was still quite low. (Jayaraman, 2009). Technology import was prevalent, especially because the technical base and competences were inadequate to meet the needs of the society.

India still has major deficits in terms of actual investments in R&D, as the present percentage of Gross Expenditure on Research and Development (or GERD) stands at less than 1% (around 0,95%) of the GDP. In comparison, most developed countries spend around 2% of their GDP. Asian giants like China, South Korea and Japan spend much more than the 2% threshold.

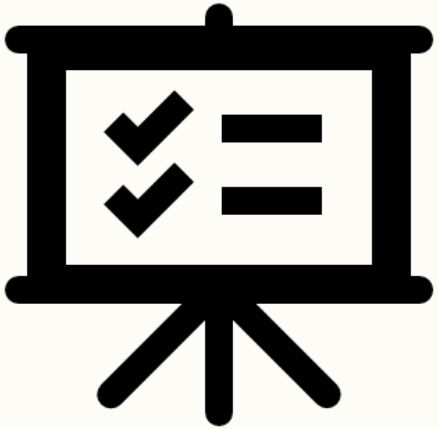
National Innovation Foundation

The aim is to herald a mindset change and create a push at the grassroots level so that more and more people in education, business, government, NGOs, urban and rural development engaged in innovative activities are co-opted and are part of shaping the national level innovation strategy. (National Innovation Council website)

The NIF is interested in identifying and nurturing the creativity of people that lead them onto finding technological solutions for everyday needs, by providing them media recognition, filing patents to protect intellectual property rights and creating an ecosystem where creative ideas are funded. (Annual report 2015).

As part of the Decade of Innovation initiative, the NIF has also been organizing exhibitions on grassroots innovation at the President's house since 2010. More recently, these exhibitions have been a part of a larger Festival of Innovation, which is an initiative of the Office of the President of India to recognize and reward grassroots innovators.

Concluding remarks: 1



Both India and Europe have centred their growth strategies on the concept of innovation, crucially tied to developments in the S&T field. However, the same term “innovation” is open to very diverse conceptualization and realization – and to some extent it has become a ubiquitous “buzzword” in public policy – the paths that the two political entities have followed show convergence points: both declare the will to harness innovation to increase citizens’ inclusion and fight the respective most concerning poverties – material poverty in India and unemployment in EU.

Concluding remarks: 2

EU has pointed to innovation as the key target to regain growth and competitiveness, with the goals of overcoming the economic crisis (the recent one and the long-term weakness in competitiveness), creating new jobs for the Europeans and by means of the general wealth increase raising the citizens' quality of life.

The Indian approach is focused on development objectives: eradication of poverty and harnessing of human resources. Coherently, grassroots innovation holds a central place in the strategy, for its potential of inclusion of its diverse people and of representing an opportunity of development for the poorer sections. The inclusion of the people not just as users or collaborators of the innovative process, but as innovators/scientists themselves, is a key point of grassroots innovation.

Concluding remarks: 3

In the EU discourses, “entrepreneurs” are the key actors of the European innovation system: they need to be supported and a «more positive European attitudes and culture towards entrepreneurship» should be fostered among the people and in the education sector [Aho et al., 2006, p. 1].

The Indian discourses on innovation, in contrast, are very much focused on the “people”. This peculiarity may stem from the radical demographic difference, in terms of number and age — India relying on more than double the population of Europe, with a high share of young people, with 34,8% of the population between the ages of 15 to 29 as of 2011 [Government of India Social Statistics Division, 2017]. The examined Indian documents envision people as active innovators because of its very young population, with strong growth prospects for the coming decades: optimism is what characterises the Indian documents.