

Innovation and Inequality: Indian Experience



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KNOWLEDGE AND INNOVATION FOR INCLUSIVE
GROWTH

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Questions posed by organizers

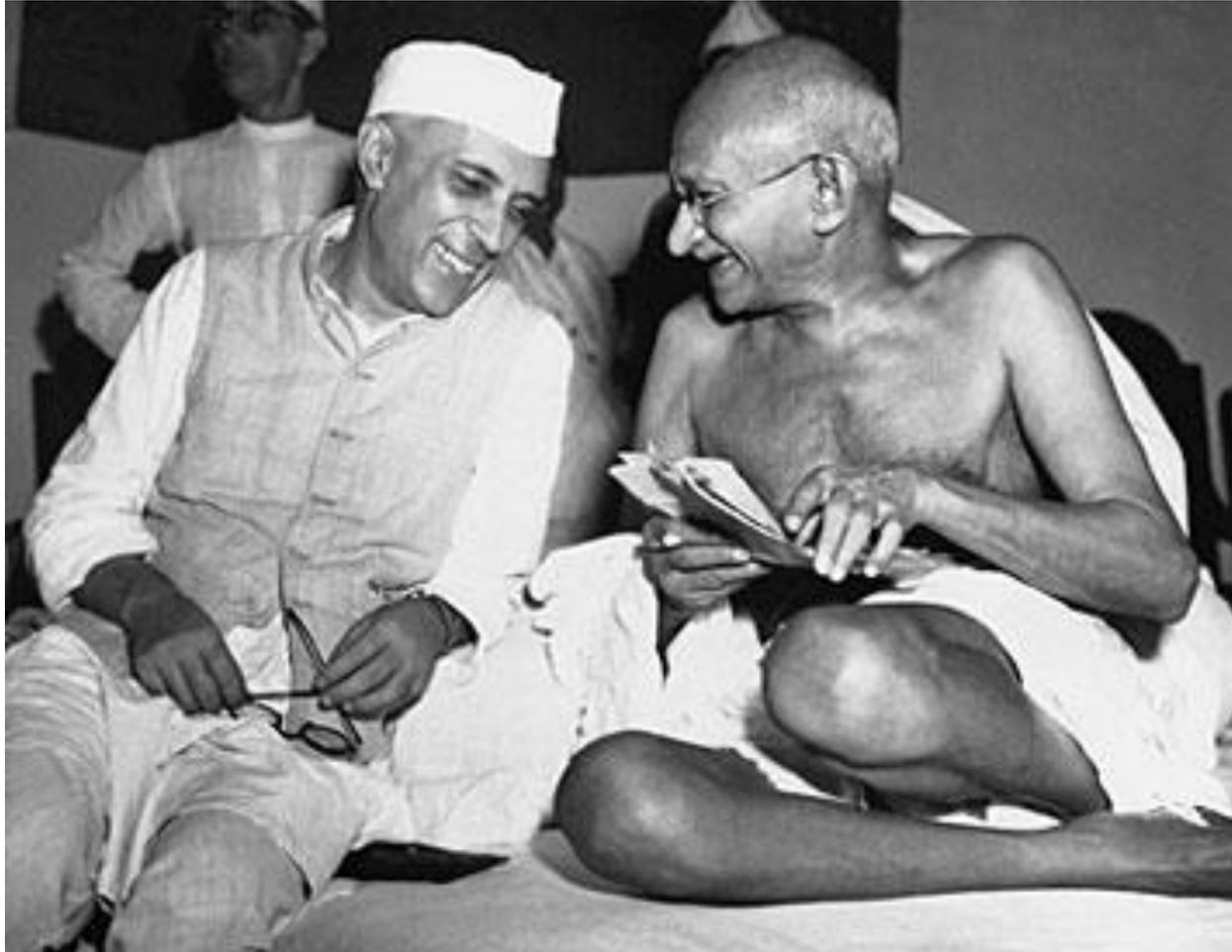


- What are the impacts of traditional innovation policy instruments on industrial and social inclusiveness?
- Should innovation policy sacrifice growth impacts?
- Do successful innovation policies do that or balance?
- Are there amendments to the traditional instruments required?
- Given limitations of time – let get down to reflect upon these questions

Indian Experience in inclusive innovation and development – roots in Gandhi model

- Post-Independent India witnessed two broad development discourses
- Objective was the same but methodology and approach varied as two different paths
- Nehruvian model – often characterised as top-down model (space, atomic, defense and dozen science agencies such as CSIR)
- Gandhian model – often characterised as bottom-up model- epistemological roots of incl.innov clearly traced to this model
- Contemporary inclusive innovation and development involves both environment sustainability and pro-poor agenda

Nehru & Gandhi Share a joke in 1946, Bombay



Some revival of Gandhian Institutions and Industries

- All India Village Industries Association (1934)
- Khadi and Village Industries Commission (1953)
- Jamanlal Bajaj Central Research Institute (1955) was rechristened as:
 - Mahatma Gandhi Institute for Rural Industrialisation (2001)
 - CAPART (Council for Advancement of Peoples Action and Rural Technology) 1986
 - 1970s and 1980s – Rise of Alternative and Appropriate Technology movement in India

What are the impacts of traditional innovation policy instruments on industrial and social inclusiveness?



- 2003 S&T Policy; 2013 STIP; 2010-20120 Innovation Decade
- India experienced unprecedented growth in the post-reform period after 1991 – second fastest growing economy for almost last 15 years
- After green 1970s, white 1990s and blue revolutions Post 2000 – considerable TC estb., in software, pharma and biotechnology areas & space and nuclear technologies
- Concept and perspective of inclusive growth, development and innovation comes into policy discourse from xi and xii Plans 2007 - 2017; STIP 2013.
- Before the terms were rural development and Gandhian based small and rural appropriate technologies – **Turn to inclusive innovation is a recent development**
- India's STI policies and instruments in the last couple of decades have had **limited** impact on inclusive goals and development

STI Policies and impact



- Space, Pharma, ICT and biotechnology policies led to considerable growth of the economy as a whole
- Indian now competes with Ariane – Euro space agency in launching satellites – so far launched satellites of 12 countries
- ICT software and services – revenues 100 US \$ billion per year
- Indian pharma caters to 80% population in South Asia in essential drugs and main supplier to WHO for some vaccines
- Expanding middle class – seen in the explosion of auto sector
- STI policies under globalization led to considerable growth but increased **income and at the same time inequality in income among different sections of society**
- **The question of impact on inclusive goals are based on case studies and analyses by experts and perceptions. Indicators are yet to be developed**

Some references to globalization and inequality



- After liberal economic and financial policies – World Bank gave a red signal in 2002 report: *Globalization, Growth and Poverty – Building Inclusive World*
- J.Stiglitz (2003) *Globalization and its Discontents*
- R. Kaplinsky (2005) *Globalization, Poverty and Inequality*
- P.Bardan (2010) *Awakening Giants – Feet of Clay – Gini Coefficients more or less same between China and India*
- J.Derez and A.Sen (2013) *An Uncertain Glory – nature and structure of inequality between different classes*

Indian scene & the importance of Inclusive policies

- High technology and big science is important but is **not so much directly** linked to BOP problems
- Half of 1.2 billion people in India in 2013 **are under 25-35 yrs** and demography likely to continue till 2030+
- More than **85%** of labor force in informal sector
- Current plans are focused on **education, skills and opportunities for employment** and starting enterprises – implementation is slow and governance with efficiency is still weak

Should STI policies sacrifice growth?



- We all know economic growth is essential and this is the only route by which we can reduce poverty and make society egalitarian and inclusive
- Need a level playing field in STI policies between economic growth and distributive justice
- What is India's experience in recent years?
- India's is a unique experience of promoting democracy, freedom and at the same time promoting liberal market oriented policies with social justice

Contemporary Perspective of inclusive innovation and Development



- Inclusive development and Inclusive Growth given high priority in policy discourse in the last decade
- XIth Plan (2007-2012) and XIIth (2012-2017) – both Plans gave a big boost to Inclusive Development Policies

Some Public Policies on Inclusive Development



- - **Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)** – **US\$ 7.8 billion** for 2009-10
- - ***Bharat Nirman*** involving six schemes for improving quality of life, transportation and bridging the gap between rural and urban – **US\$ 3.8 billion** in 2009-10
- - ***Indira Awaas Yojana***: a national housing scheme for poor – **US\$ 173 million** in 2009-10
- - ***Pradhan Mantri Gram Yojana***: for integrated development for reduction of poverty and infrastructure in 1000 villages as pilot project – **20.5 million US\$** in 2009-10
- - **Urban Renewal Mission**: building urban infrastructure – **2.6 billion US\$** in 2009-10
- - **National Rural Health Mission**: **2.8 billion US\$** in 2009-10. 65% of Indian new borns are handled by ‘mid wives’ or rural nurses

12th Plan budget allocation to social sector programmes

	Rs Crore
Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) ¹	1,65,500
Bharat Nirman	
Indira Awaas Yojana ¹	59,585
Pradhan Mantri Gram Sadak Yojana ¹	1,24,013
Rural Drinking Water Supply and Sanitation ¹	2,30,408
Rajiv Gandhi Grameen Vidyutikaran Yojana	
Jawaharlal Nehru Urban Renewal Mission ²	1,01,917
National Rural Health Mission	
National Rural Livelihood Mission ¹	29,006

What did these policies achieve?



- Tackled poverty and increased the income of the poor to some extent but this does not seem to be the solution for medium or long term.
- Major issue of social sector and inclusive programmes of government is the **lack of their connection or linkage to innovation, skills**, enterprise creation and employment opportunities for medium and long term
- In a large measure **these programmes are stand alone ones** – their link STI policies and science is very weak

Current policies



- Let us briefly see STI policies and initiatives for inclusive growth and development and then come to **the question of amendments**

Institutional Arrangements for Inclusive Innovation



- **Institutions under the Government**
- National Innovation Foundation (NIN) Ahmedabad at IIM
- CSIR's Traditional Knowledge Digital Library
- CSIR first in the world to launch Open Source Drug Discovery model – which is inclusive on world wide scale
- Grassroots Innovation Augumentation Network (GIAN)
- Education, telecom and ICT Ministries come together for estb. National Knowledge Network
- National Innovation Council 2011 – Sam Pitroda as Chair

National Innovation Foundation – Honey Bee



- Building upon the Honey Bee network, the NIF, started functioning in 2000 as India's national initiative to strengthen the grassroots technological innovations (100 million \$) in collaboration with IIM Ahmedabad
- NIF has been able to build up a database of more than 160,000 ideas, innovations and traditional knowledge practices (not all unique) from over 545 districts of the country.
- NIF filed over 550 patents on behalf of the innovators and outstanding traditional knowledge holders of which 35 have been granted in India and 4 in USA. Micro Venture Innovation at NIF has provided risk capital for 178 projects,

CAPART – Ministry of Rural Development



- Assisting over 12,000 voluntary organizations across the country in implementing a wide range of development initiatives.
- To act as a catalyst for development of technology appropriate for the rural areas, by identifying and funding R&D efforts and pilot projects by different agencies and institutions;
- To act as a conduit for transfer of appropriate technology to govt. depts, public sector, cooperative societies, voluntary agencies to encourage adoption of appropriate technology in rural development;

India Inclusive Innovation Fund, National Innovation Council

- Innovation Decade 2010-2020 & estb. NIC
- The 50 000 million rupees fund will operate as 'for profit' market based entity – there will be returns but at lower level guaranteed by the government
- Fund will support enterprises only those which promote employment of poor, build capacities for livelihood – link up knowledge institutions
- Create a new pattern of commercially viable inclusive innovation fund for enterprises – incubation and mentoring

objectives



- Drive inclusive growth
- Mobilise capacity
- Create eco-system
- Balance social and financial returns
- Employment/livelihood creation
- Skills and build capacity schemes
- Pool innovators
- Partner with incubators, entrepreneurship cells and VC funds

Structural /mgt aspects



- 1 billion \$ target PPP model
- Govt investment 20% + 30% public banks and fin. Inst + 50% Private domestic and foreign
- Life 9 + 2
- Trustee IDBI –
- Would be professionally managed by fund managers
- Investment committee and Governing council

Private sector initiatives and success cases



1. Jaipur Foot & Jaipur Hand
2. Arvind Eye Care System
3. Barefoot College
4. Narayana Hrudalaya Hospitals
5. Several others like SEWA, Micro finance etc

Jaipur foot to Jaipur hand



- The Jaipur based BMVSS – Bhagwan Mahaveer Viklang Sahayata Samithi – world’s largest orgn. for hadicapped **transformed lives of 1.3 million with Jaipur foot.**
- In collaboration with Stanford University ‘Jaipur foot’s institution is developing **Jaipur hand.** Will be available in few months by 2013

Are there amendments to STI policies required?



Public Policies and Governance

- India currently has the world's largest inclusive development and social sector programme and public policies
- They **are not yet linked** to STI policies and knowledge institutions. Example: we spend 15 US \$ billion on MGNRS (15% could be spent on grass root or frugal innovations)
- Structural problem of linking across various actors and agencies – **need for systemic innovation at BOP.**
- As 90% of labor is in informal sector – **subsidy/aid/money transfer based government programmes unlikely to remove poverty in the long term**
- Skills, education, training and grass root innovations urgently require institutional support (Inclusive Education, Skills and Innovation Institutes). This is in addition to ITIs and polytechnics

Amendments - contd



- **Role of intermediaries** linking formal and informal institutions is imp. India has good number of success 'models' and 'cases' – **How to multiply them? We need to study success and at the same time failures**
- **India Inclusive Innovation Fund (IIIF)** is a very good initiative but sufficient budget allocations are not yet made only 4% of the budget is given in the current financial year (2013-2014)
- IIIF should be linked to social sector programmes of 12th Plan –which is not currently on the agenda. This will connect to informal sector of labor. **Currently IIIF is more inclined to middle of the Pyramid rather than bottom of the Pyramid.**
- STIP 2013 and other policies are more inclined to top and middle but not so much to the bottom of the pyramid

Amendments



Problem of Replication/multiplication

- Indian experience so far shows a good number of successful cases – multiplying but slow except in milk.
- Why we are unable to multiply the success stories (Jaipur foot, Barefoot college, SEWA, Eye care etc)

Thanks

