Innovation and Inequality: Indian Experience

PROF V V KRISHNA
CENTRE FOR STUDIES IN SCIENCE POLICY
JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI
KRISHNA@MAIL.JNU.AC.IN

OECD ADVISORY GROUP MEETING
KNOWLEDGE AND INNOVATION FOR INCLUSIVE GROWTH
20 MARCH 2014
OECD, PARIS
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*
- 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*
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
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

<table>
<thead>
<tr>
<th>Programme</th>
<th>Rs Crore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)¹</td>
<td>1,65,500</td>
</tr>
<tr>
<td>Bharat Nirman</td>
<td></td>
</tr>
<tr>
<td>Indira Awaas Yojana¹</td>
<td>59,585</td>
</tr>
<tr>
<td>Pradhan Mantri Gram Sadak Yojana¹</td>
<td>1,24,013</td>
</tr>
<tr>
<td>Rural Drinking Water Supply and Sanitation¹</td>
<td>2,30,408</td>
</tr>
<tr>
<td>Rajiv Gandhi Grameen Vidyutikaran Yojana</td>
<td></td>
</tr>
<tr>
<td>Jawaharlal Nehru Urban Renewal Mission²</td>
<td>1,01,917</td>
</tr>
<tr>
<td>National Rural Health Mission</td>
<td></td>
</tr>
<tr>
<td>National Rural Livelihood Mission¹</td>
<td>29,006</td>
</tr>
</tbody>
</table>
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
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
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
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.
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