



Institute of Economic Growth



RIS

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Globalisation and Changing Social Contract Between Science and Society: Some Implications

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Spheres of Globalisation

- No more a rhetoric but social reality knocking at our doors
- Economic Domain: Global Regimes, WTO, TNCs/MNCs/movement of capital etc
- Social: Global village, mobility of people and communication revolution
- Political: Diminishing role of state & Govt's
- Cultural: Homogenisation/ 'Macdonaldisation'

Various Positions

- To name few: Joseph Stiglitz ‘Globalisation and its Discontents’ (2002); Noam Chomsky etc
- Economic globalisation has overtaken political globalisation (Stiglitz) but both are overtaking the knowledge domain/science& higher education
- Jagdish Bhagwati, ‘In Defence of Globalisation’ (2005)
- Bob Dylan: ‘you’d better start swimming, or you’ll sink like stone’

Impact on Science-Society

- Beyond social, political, cultural and economic spheres - globalisation penetrated deep into the social institution of science and science-society relations
- What means social institution of science?
- How globalisation impacts science-society relations or 'social contract of science'?

Social Institution of Science

Existing/Old Social Contract

- Robert Merton's Ethos of Science (CUDOS) and social control through normative processes within science communities
- Social Institution of Science: peer evaluation, open knowledge, public good of science, disciplinary based development
- Merton & Thomas Kuhn lead us to notions of specialties/paradigm based science communities
- Main goal of science is advancement of knowledge/producing certified knowledge
- Universities/academies playing 'cardinal' role

Social Contract/Universities

- Humboldt ‘model’ 19th and 20th C: Public funding for universities; unity of teaching and research; considerable autonomy
- Vannevar Bush 1945 – Science: The Endless Frontier – linear innovation model; upholding the preeminence of basic research – post-war period –1980s
- “Government promises to fund the basic science that peer reviewers find most worthy of support, and scientists promise that the research will be performed well and honestly and will provide a steady stream of discoveries that can be translated into new products, medicines or weapons’”

Transformation

- Social institution of science – hall mark for 200 years or so has changed under the impact of globalisation since 1990s
- John Ziman characterised it as ‘science undergoing cultural revolution’
- Michael Gibbons et.al characterise the change from mode-1 to mode-2 in the production of knowledge
- Unesco in various forums termed as ‘new social contract of science-society’ emerging.
- In what ways globalisation impacts science-society relations?

Emerging Social Contract

● Existing Social Contract

- Advancing Knowl.
- Science part of culture
- Open Science/Know.
- Peer Evaluation within science system
- Teaching&Res. Univ's
- Know.by sci. commun.
- Disciplinary science

● Emerging social contract

- Creation of Wealth
- Part of commerce
- Secrecy/IPR
- Regulated/evaluated diff. stake holders (outside)
- Entrepreneurial Univ's
- Co-prod. of know.
- Hybrid gps/networks

Implications

- Globalisation is reality – need to articulate responses and policies ‘Making Globalisation Work’ & ‘democratisation of globalisation’ (Stiglitz); ‘making globalisation work for every one’ (A.Sen)
- Emerging knowledge society linked with globalisation – open various challenges
- We will confine to Science and HEIs

Implications-1 Science as Public Good vs Market Good

- Need for creating a level playing field within Public Research Systems (PRS) and between PRS and Private Res.System – Globalisation is reducing the public space
- Public support - essential until the society is able to absorb the shocks generated by market. R&D support to SMEs and industrial clusters linked to underprivileged sections of society is very low. The entire discourse in institutions like CSIR is enveloped by market and for creating global R&D platform at the cost of SMEs and socio-economic goals.
- 0.8% of R&D of GDP is too low compared to China.
- R&D in Higher Education is as low as 4-6% of total R&D exp.

Implications 2 – Different Dimension

- Linked to R&D funding - Other dimension of Public Good vs Market Good concerns intellectual human resources in PRS
- The situation in PRS is worsening with globalisation. Organisations such as CSIR/Good universities/IITs are not able to attract best talents
- Low salaries/incentive system compared to pvt sector – Internal Brain Drain is taking place from PRS to private.
- If level playing field is not created – Difficult to sustain current dynamism

Implications 3 – Universities/HEIs

- Need two transitions: a) Teaching to Research (tier 2&3 universities); b) Teaching/Research to Innovation (tier-1 HEIs). Only 10% of Univ's figure in SCI based publications.
- Need for re-vitalising colleges and technical institutions (5500 ITIs) – Unable to cope up with globalisation.
- Increasing Gap bet. SMEs/clusters and knowledge institutions – posing big challenge in globalised era (ex: cheap labor/resource endowments etc)
- Need for policies based on RIS linking various actors in the SMEs/Mfg sector

Implications 4 – Universities/HEIs

- Other Dimension relates to coping with new innovation challenges in the globalised era
- Challenge of ‘Triple Helix’ Govt-Ind-Univ relations
- Spin-offs/Patents/Tech.Transfer – Need for Indian Version of Bayh-Dole Act
- Indian Universities falling behind China
- Indian Univ= 30 patents; China=350 patents (last 12yrs)
- China=4563 univ. owned enterprises ; n.a for India
- Excellence/quality and entrepreneurial perspective

India-China 2004

	GERD /GDP	GERD/ HEIs	Public- ations 1998- 2004	Public ations 1998 (1993% world)	Patents In USA USPTO
China	1.44%	11%	234,045	18833 (1.4%)	951
India	0.80%	2.4%	126,820	16037 (2.0%)	460

Implications 5 - IPR/Patents

- Recognition of new social contract means - IPR is important for private industry to invest in R&D but need to be balanced with open science – Big challenge in the globalised era
- Secrecy/IPR is likely to retard progress of science in PRS. Ex CSIRO and CNRS (R.Nelson referred to ‘Scientific Commons’)
- Fight for adequate provisions for DCs/India in WTO (French wine/Basmati; and patenting Yoga movements)
- Research and innovation fund for poor (Stiglitz)- more focus on NIF/Grass root innovations
- Stop bio-Piracy and protect traditional knowledge

Implications 6: Demand on Innovation

- Oriented basic research in PRS is essential for establishing an innovation base in the globalised era
- Establishing technological capacities in agriculture, health and biological sciences translates into establishing basic research capacities
- Need for endogenous perspective. In the post-WTO regime TT is difficult and very costly
- Relative success in sectors such as pharma, ICT, biotechnology in India and China – send a clear signal for DCs
- Clear implication for increasing national R&D effort and public-private partnerships

Implications 7- S&T Pluralism

- Support for Scientific Pluralism and promote indigenous knowledge systems
- Need blending traditional-modern S&T
- Orientations away from science; internal brain drain
- Democratisation of science decision making (GM technologies and ethical issues) and co-production of knowledge
- Risk and hazards (Ulrich Beck)

Implications-Overall

- Redefine globalisation of Science and HEIs in the context of national interest
- Making globalisation work – India is set to gain in Asia/Africa
- Need for systematic research on globalisation-knowledge-poverty