

Indian legislature: Synergizing science for development

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S&T has gradually moved to the centre stage of the policy-making process in the Government. In a democratic society like India, the legislative process of decision-making holds particular significance in steering the role of science and technology for development. This aspect has not been much debated in the country. The present article brings into focus importance of such mechanism in synergizing science for development so as to secure an equitable social order as enshrined in the Constitution of India. The article looks into similar developments in countries like UK, France, and the US. It highlights the importance of enlightening the parliamentarians on policy matters relating to S&T, which in turn may enthuse the implementing machinery.

Science and technology (S&T) has got inextricably linked with the functioning of any government and has gradually moved to the centre stage of the policy-making process. In the wake of globalization, many countries have responded to this change by evolving policies and practices as well as reforming the mechanisms of policy-making and decision-making, with a view to accelerate the process of integrating science for development. Specifically, the governance of S&T at the apex level of a government, viz. the national parliament or legislature, has increasingly become important, particularly in view of the growing investments in science and the need for evolving comprehensive assessment of short-term and long-term visions of S&T and its directions of change.

Growing investments

The passion for science and democracy has been the twin quintessential building-blocks of the post-independent Indian society. Jawaharlal Nehru, the first Prime Minister of India, articulated multi-dimensional vision and perspectives to integrate scientific institutions and democratic processes to usher India towards the path of modern development. Investments made in S&T have grown manifold. The financial resources¹ devoted to S&T in the country are likely to increase from Rs 6125 crores (actual) in the Eighth Five-Year Plan (1992–97) to Rs 25,243 crores (envisaged) in the Tenth Five-Year Plan during 2002–07, and are projected to reach about Rs 100,000 crores during the Eleventh Five-Year Plan 2007–12. The basic policy-making framework for development enshrined in the democratic institutions of legislature and the executive, has broadly continued to facilitate the

governance of S&T, although new structures and mechanisms for decision-making have been created from time to time.

Science in parliament

In India, the legislative policy-making for S&T has involved deliberations on explicit policy statements and the functioning of the Parliamentary Committee System. The Scientific Policy Resolution² adopted by the parliament in 1958, the Technology Policy Statement³ of 1983, and more recently, Science and Technology Policy⁴ of 2003, all indicate responses at the respective period of time, to dovetail S&T with the changing developmental perspectives. The 2003 S&T policy might have been a response to the emerging globalization as well as reforms and shifts taking place in the economic policies. The key committees of the Indian parliament, viz. the Departmentally-related Standing Committee on Science and Technology, the Public Accounts Committee, and the Estimates Committee⁵, in principle, are mandated not only to provide a vision and direction for broad policy formulations and in the evolution of the long-term national perspective for S&T departments and agencies, but also to exercise surveillance by the parliament. In practice, these committees have mostly deliberated on aspects including demand of grants, mid-term appraisals of the programmes and functioning, and annual reports of S&T departments and agencies⁵. A lot more needs to be done.

The consultative committees provide a forum for informal discussions between the Government and the Members of the Parliament on policies and programmes of the Government and their manner of implementation. There is no specific consultative committee, specifically, on

S&T. However, the consultative committees for the socio-economic ministries could take up matters relating to S&T under their purview. In addition, there is a 'question hour' in the parliament that brings to the attention of the Government, important issues raised by the members⁶. There is no formal mechanism of interaction between the parliamentarians and the scientists.

Experiences from other countries

There are mechanisms of decision-making in the legislative systems of several other countries such as USA, UK and France. The Office of Science and Technology Policy in the US, is the executive office of the President, which serves as a source of scientific and technological analysis and judgment for the President on major policies⁷. In the US, the hearings of the legislative committees, another important activity, are usually open to the public, to obtain information and opinions on proposed legislation, *inter alia* evaluate the activities of a government department or implementation of Federal Law⁸. In the UK, the Parliamentary Committee is supported by specialists with a background in science and science policy. Its Parliamentary Office of Science and Technology (POST) provides information to both the House of Commons and the House of Lords on scientific matters⁹. An interactive mechanism is also provided by the MP-Scientist Pairing Scheme of the Royal Society, that aims to build bridges between some of the best researchers and members of the UK parliament, to enable them to familiarize with each other's domains of activity¹⁰. In France, the Parliamentary Office for Evaluation of Scientific and Technological Options (OPECST) informs the parliament about scientific and technological options in order to

make its decisions clear. The Office collects information, launches study programmes and carries out assessments¹¹. These mechanisms create awareness about the role and importance of S&T amongst the parliamentarians in these countries. The distinguishing feature lies in providing impartial advice, support and in-depth policy analysis related to S&T to legislative committees and parliamentarians. The experiences of these countries also indicate that there are well-defined systems for enhancing the awareness of parliamentarians on policy matters relating to S&T, encouraging public participation in the policy-making process, and making available independent expert analysis and advice on science policy issues to the parliamentarians.

Enlightening parliamentarians

The strength of decision-making at the highest level lies in the recognition of the growing importance of S&T for society and its economic development by the political leadership. There is no well-established structure exclusively for Indian parliamentarians to provide them with in-depth analysis and information about the burning issues in S&T, their potentials and implications. They need to be regularly informed and enlightened about such issues. In our opinion, such a measure would provide them with much-needed insights and encourage them to have more active and well-informed participation in policy-making and implementation to use S&T as a vehicle to bring about the desired positive change in our society.

In a democratic society, meeting the needs and aspirations of the people at large would only justify the growing investments in S&T. The directive principles of the state policy in the constitution lay down that the State shall strive to promote the welfare of people by securing and protecting as effectively as it may, a social order in

which justice – social, economic and political – shall form in all institutions of national life. In the economic sphere, the constitution states that the State is to direct its policy in such a manner as to secure distribution of ownership and control of material resources of a community to subserve the common good and to ensure that operation of the economic system does not result in concentration of wealth and means of production to common detriment. Taking cognizance of these directives, S&T should contribute to the developmental goals in a manner so as to secure an equitable social order. The parliamentarians need to ponder over this. How can the desired change be brought about by the involvement of the national parliament or state legislature? The former President of India, A. P. J. Abdul Kalam took the initiative to address several of the national and state legislators about the crucial role they could play in making S&T a vehicle for change, development and meeting the aspirations of their people¹²⁻¹⁴. Strengthening of the interactions between scientists, parliamentarians and state legislators is called for.

Summary

The emerging priorities for the S&T policy are to synergize science with development contributing to a social order as enshrined in the Constitution, and create mechanisms to better inform parliamentarians and state legislators about the significance of S&T. Scientists on their part need to redefine their tasks and reformulate problems addressing the needs of an equitable social order – economic and political. The parliament and the executive, viz. the implementing departments dealing with S&T and the advisory bodies at the highest level, viz. the Principal Scientific Advisor to the Government, Science Advisory Council to the Prime Minister¹⁵ – the key governing in-

stitutions at the apex level, all need to work in tandem to bring about the desired social order and well-being of the Indian people. The Indian legislature would thus have played a crucial role in synergizing science for development.

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4. <http://www.dst.gov.in/stsysindia/stp2003.htm> (accessed during May 2007).
5. *A Reference Annual*, Publications Division, Ministry of Information and Broadcasting, India, 2007, pp. 27–35.
6. <http://parliamentofindia.nic.in/> (accessed during May 2007).
7. http://www.ostp.gov/html/_whatwedo.html (accessed during May 2007).
8. <http://science.house.gov/> (accessed during May 2007).
9. http://www.parliament.uk/parliamentary_offices/post.cfm (accessed during May 2007).
10. <http://www.royalsoc.ac.uk/page.asp?id=1142> (accessed during May 2007).
11. <http://www.assemblee-nationale.fr/documents/index-oecst-gb.asp> (accessed during May 2007).
12. <http://presidentofindia.nic.in/scripts/palatest1.jsp?id=8> (accessed during May 2007).
13. <http://presidentofindia.nic.in/scripts/palatest1.jsp?id=9> (accessed during May 2007).
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15. <http://psa.gov.in/> (accessed during May 2007).

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