

Role of Department of Science & Technology for promoting research through interaction: A case study

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Abstract

Science progresses by dissemination of scientific information and sharing of knowledge among scientists. There is best platform to present the scientific findings are conferences. Present study includes the role of Seminars/ Symposia/ Workshops and Conferences for promotion of science and technology in our country.

Keywords: Seminars | Symposia | Workshops | Conferences | Scientific Policy | Innovation

Introduction

Science and Technology play an important role in laying foundation for social and economic development of country. Science serves and influences the society and society in turn supports the development of science. As a key to the development, science and technology are important not only for industrial development, which may bring not only economic growth, but is also bring change in behavioral, psychological, sociological, cultural and other development of scientific temper and outlook of scientific achievements, which in turn enhances international prestige. India has followed the policy of self-reliance through scientific research, to initiate, advance and accelerate national development in all segments. Given this policy initiative, India has been able to usher in to significant growth in its capacity and capability building in basic, applied, and developmental research. Its science & technology infrastructure has also become very large, comprising more than 400 universities, 400 research laboratories, 13 institutes of national importance, and 1300 in-house industrial R&D units, besides several

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other government departments, private establishments, international and non-profitable institutions.

Science and Technology (S&T) are complementary in the knowledge domain, where in, Science symbolizes discovery and knowledge generation, and Technology symbolizes usable innovations using knowledge.

Thus Science → knows what

Technology → knows how

Technology is a mechanism for delivering the benefits of science to the people and society. Recognizing the importance of Science, Technology and Innovation (STI) in the economic and Industrial growth, the government of India aspires for faster sustainable and inclusive growth and reemphasized the need to view Science, Technology and innovation together in its “*Science, Technology and Innovation policy 2013*” following the “*Science and Technology Policy- 2003*” – “*Scientific Policy Resolution of 1958*” and the “*Technology Policy Statement 1983*”. While stating that “the nation continues to be firm in its resolve to support Science & Technology in all its facets”, the policy recognizes the central role of our S&T system “in raising the quality of life of the people, particularly the marginal section of the society. Science, Technology and Innovation (STI) is increasingly important for economic growth, business competitiveness have emerged as the major drivers of national development globally competitive in utilizing natural resources in a sustainable manner, in protecting the environment and ensuring national security is

of utmost importance. Over the years, there have been serious concerns about the ability of the basic sciences to attract bright young students. The standards of university education and the miniscule contributions they make to research and development are areas of concerns. Workshops/ Seminars/ Symposia and Conferences at National and International Level in various fields provide platform to promote and develop scientific temper and foster scientific and technological researches in universities and other academic institutions and attract brightest and young persons. We will discuss in this paper the role of Seminars/ Symposia/ Workshops and Conferences for promotion of scientific activity in our country. There are many Central agencies that provide grant –in - aid to facilitate platforms of Seminars/Symposia and Conferences to share and foster research. A few prominent out of them are as below.

University Grant Commission

University Grant Commission provides financial assistance scheme to institutions for organizing Workshops/Seminars/Symposia and Conferences at National and International Level in various fields. The basic objective of the scheme is to bring together academicians and experts from different parts of the country and abroad to exchange knowledge and ideas. Further the scheme intends to provide a platform to teachers and researchers for sharing their knowledge, experiences and research in order to promote high standards in Colleges for making strong base and generating quality man power for research and

teaching. The occasion provide an in-depth analysis of subjects and update the knowledge of the participants from academic as well as research institutions. Under this scheme the financial assistance provided by the commission has Ceiling of via Regional Level Seminar/Workshop Rs. 70,000/-, State Level Conference/Workshop Rs. 80,000/- National Level Conference/Workshop Rs. 1.00 lakh, International Level Conference/Workshop Rs. 1.50 lakh.

Department of Biotechnology

Department of Biotechnology provide financial support for organizing Seminar/Symposium/ Conference in specialized area related to biotechnology such as, tissue Culture, Seribiotechnoloy, Biofertilizers/Biopesticides, Food Biotechnology, Medicinal & Aromatic Plants, Animal Biotechnology, Aquaculture & Marine Biotechnology, Animal Tissue Culture, Hybridoma and Cell culture-based Vaccines, Medical Biotechnology, Immunology and Immunodiagnosics, Microbial & Industrial Biotechnology, Biochemical Engineering, Downstream Processing and Process Optimisation, Pharmaceutical Biotechnology, Molecular Virology, Human Genetics and Genome Analysis, Peptide and Nucleic Acid Chemistry and Applications, Protein Research, IPR, Bioproducts and Biosafety, Bioprospecting, Biodiversity Conservation and Environmental Biotechnology, Bioinformatics etc.

Council of Scientific & Industrial Research

CSIR provide grant for the organization of a symposium/seminar/conference/workshop etc. of national character. All India societies/associations of scientists and engineers and academic institutions are eligible to apply for the Grant. The applications must be received at least three months before the event. The application is to be filled in by the Executive Authority of the Parent Organization and countersigned by the local organizing Committee and the Head of the Institution where the Symposium/Seminar is to be held.

Indian Council of Medical Research

The Council provides partial financial assistance for organizing Seminars/ Symposia/ Workshops. The sanction of grants by Council depends on the importance of the topic /subject of the Seminar/Symposium and its relevance to ICMR. All applications for grant of financial assistance should be furnished, completed in all respect with all details in the prescribed Performa (in ten copies) at least two months before the date of commencement of the Seminar/ Symposium/ Conference/Workshop.

Indian Council of Agricultural Research

The Indian Council of Agricultural Research (ICAR) a society registered under the Department of Agricultural Research and Education. ICAR provide Grant of financial assistance by ICAR for holding of Scientific Symposia/Seminars and promoting scientific excellence. For holding National/International Symposium/Seminar/Conference on the theme

chosen by them, to Scientific/Professional Societies, Public/quasi-public bodies and General Universities having post-graduate teaching and research in agriculture and allied sciences. ICAR widely circulate, including on its website, the list of such areas to all institutes (including ICAR institutes), universities including general as well as agricultural universities, and scientific societies for seeking good proposals to organize the seminar/symposium. The selection of a suitable hosting institution will be on competitive basis. Quantum of grant, for holding seminar/symposium/conference, the quantum of financial assistance to individual society/association/ institution will be determined after taking into account its relevance and performance as also merit of the proposal. The financial assistance will, however, not be more than 3.50 lakhs for holding national seminar/symposium/conference on the topic chosen by the grantee body, and up to 5.00 lakhs on the theme identified by the Council. The amount for international event will be determined on case to case basis, but will not exceed 10.00 lakhs.

Department of Science and Technology

The S& T Professional Bodies and Academies of Science and Engineering play an important role in creating cohesiveness amongst the scientific community by arranging regular Annual Technical Meetings and Seminars, Conferences, Workshops, brain storming meet etc. and publishing scientific journals, annuals, bulletins *etc.* The department extends partial support on a selective basis, for organizing

seminar/ symposia/ training programmes/ workshops/ conferences at national as well as international level. The support is provided to Research Institutes/ Universities/ Medical and Engineering Colleges and other Academic Institutes/ Professional Bodies who organize such events for the scientific community to keep them abreast of the latest developments in their specific areas. The support is generally given for encouraging participation of young scientists and research workers in such events and publication of proceedings/ abstracts for wider dissemination. A detailed analysis has been made by using data of support for last three consecutive financial years.

Regional distribution of resources

The grant-in-aid was disbursed to the science and technological organizations located in 30 states include union territory. The institution located in Tamil Nadu, Delhi, Karnataka, Uttar Pradesh, Maharashtra, west Bengal and Andhra Pradesh are the leading state in organizing, Technical Meetings and Seminars, Conferences, Workshops, etc.. The trend of financial support, have been given in Fig. 1 and Fig.2, Tamil Nadu is most active state regarding awareness of science and technology application in terms of organizing events, while maximum financial support were given to Karnataka, States such as Bihar, Himanchal Pradesh, Goa, States in NE region, J & K are required special attention to foster science & technology activities

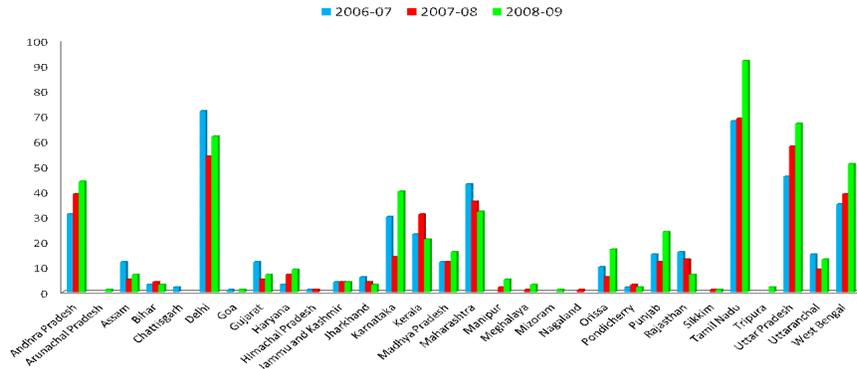


Fig.1: State wise number of applications supported

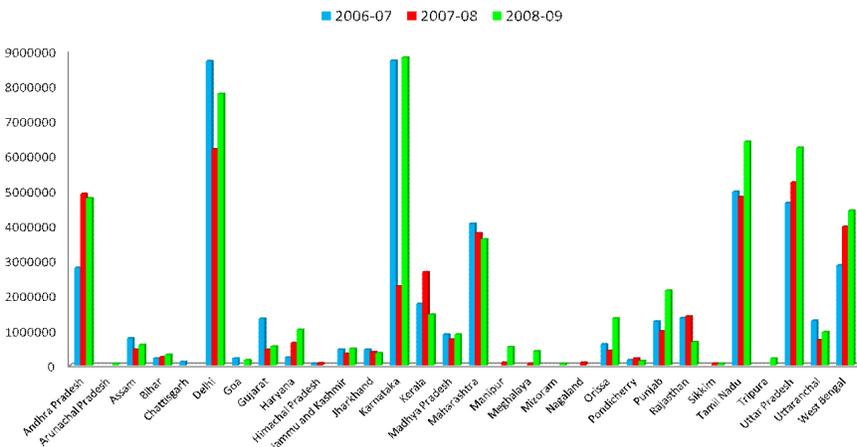


Fig.2: State wise actual funds distribution

Institution Profile

Universities and Government Institutions were forefront in organizing symposium/ seminar/ conference/ workshop *etc.* Though the country has witnessed phenomenal growth in the number of university and college imparting science education, a majority of them still do not have enough resources and infrastructural

facilities. Consequently, there has been significant fall in the outturn of student from post-graduate and doctor courses. Once a basic expertise is established, the industry directly interacts with academics. Often researchers from industry are deputed in the professor's laboratory at the initial stages. State University contribution is more over on central and deemed university. The trend can be seen in

Fig.3, The participation of the universities and the research institutions on a common platform was useful to bring to centre-stage the fact, that one is not independent of the other. From Fig. 5 we may see the most active institute in country like AIIMS, New Delhi, Delhi University and Banaras Hindu University.

Growing subject area

The organization of seminar, symposia, conference, workshop through seminar, symposia scheme was successful in more ways than one. Earlier it has been a practice of holding National Conferences on central issues that deal with India’s Future in Science and Technology more frequently compared to other broad subject, life science has registered better position in comparison to engineering, physical, chemical, and other allied area. There is substantial increase in life sciences. Life

Science or biological science is any science which deals with living organism, their life processes and their interrelationships, such as biology medicine or ecology. It is a synthesis of several traditional disciplines including biology, zoology, botany and newer more specialized areas of study such as biophysics, biochemistry, microbiology, biotechnology etc. Essentially, life science is the scientific study of the living world as a whole. Greater attention is increasingly being placed on global environmental change, biodiversity conservation, environmental toxicology, integrated solid waste management. Another important area like Physics is a “flesh and blood” science, observed a well-known academicians The Intellectual climate from which the discipline originated can be emphasized to make more awareness in society. The trend may be seen in Fig. 4

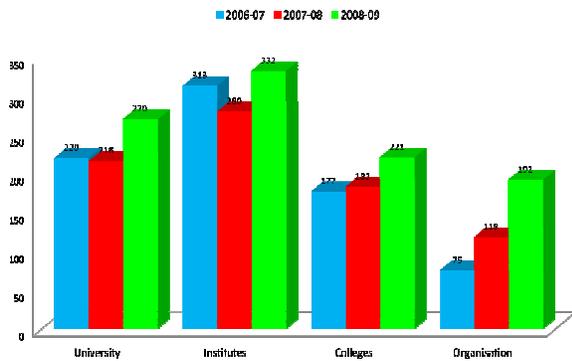


Fig.3: Institutional category wise applications received

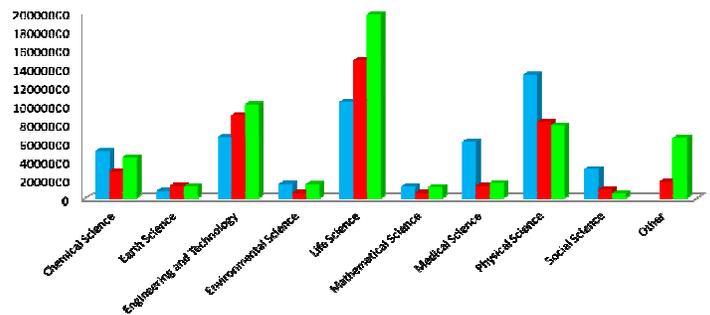


Fig.4: Subject wise funds distribution

Active Institutions Assessment:

The demand for excellence has increased even as the larger science and technology education

interest of youngster declines, and now many colleges and universities have begun to offer courses in sustainability. To attract the leading experts and best talents in the area concerned



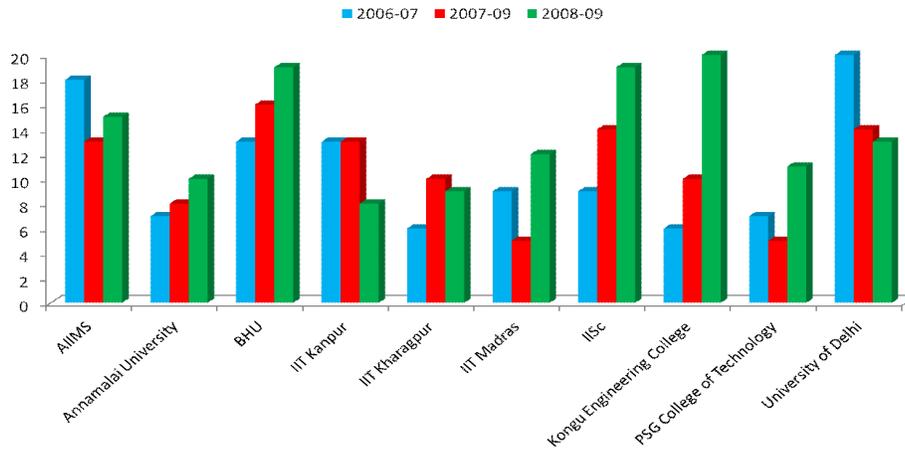


Fig.5: Top 10 most active Institute

of science and technology. A goal of the active Institute is to foster growth and expansion of science and its laboratory-research wide. The Institute intends to have a major impact on the overall research, and to play a crucial role in the formulation of new research directions and future initiatives. Its activities aim to benefit individual groups, both theoretical and experimental level. The Institutes' have to catalyzes interdisciplinary interactions and collaboration by organizing Seminars, workshops, conference, symposia *etc.* on wider basis on , well focused, and highly interactive character of the research and allows tackling a rich variety of the most urgent and topical scientific problems. In order to assess the ten most active institutes based on spirit organizing Seminars, workshops, conference, symposia are shown in Fig. 5. All India Institute of Medical Science (AIIMS) New Delhi. Delhi University Delhi (DU) Banaras

Hindu University (BHU) are clear winner. These activities attract the most talented scientists, advance the current projects, and contribute enormously to the creative and stimulating atmosphere of the Institute. Fig. 5 Show 10 most active Institutes as per their role in organizing these activities.

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