

CHAPTER - 16

SCIENTIFIC SERVICES AND RESEARCH

16.1 The Scientific Services and Research head covers Science and Technology Department and Environment Department.

16.2 Against a provision of Rs. 29.70 crores for the Eleventh Five Year Plan, Rs 8.56 crores was spent upto 2008-09 and Rs. 414.80 lakhs are likely to be spent during the year 2009-10. A sum of Rs. 612.80 lacs is proposed for the Annual Plan 2010-11, which includes Rs. 500.00 lacs for Science & Technology and Rs.112.80 lacs for Environment Department.

Science & Technology Department

16.3 Since inception of the department and its associated council (RAJCOST) in the year 1983, it has been the endeavor of Government to initiate, support, promote and coordinate the activities in the field of science & technology by taking up of application oriented research and development projects relating to transfer of technology, popularization of science by effective application of modern technology of Remote Sensing, Biotechnology and Entrepreneurship Development.

16.4 With the objective of training the district and Panchayat Samiti level functionaries of various departments and interactive communication a satellite network (SATCOM) has been set up in the state. The Satellite Communication Network comprises of an Integrated HUB at Indira Gandhi Panchayati Raj Sansthan (IGPRS), Jaipur, 33 Satellite Interactive Terminals (SITs) at Zila Parishads and 237 Receive Only Terminals (ROTs) at all 237 Panchayat Samiti Head Quarters. The SATCOM Studio at Indira Gandhi Panchayati Raj Sansthan (IGPRS), Jaipur is scheduled to be launched in 2010-11. The network will be used by various line departments of State for training and extension activities and relay of their development activities.

16.5 In order to harness the creativity of people at grass roots level and facilitate people to people networking among the innovators a GIAN Centre is functional since 2004 in the State in coordination with Honey Bee network and SRISTI of IIM, Ahmadabad and NIF.

16.6 Against a provision of Rs. 25.00 crores for the XIth Five Year Plan, Rs.7.93 crores was spent upto 2008-09 and Rs. 3.00 crores will be spent during the year 2009-10. A sum of Rs. 5.00 crores is proposed for the year 2010-11 for various on-gong activities.

16.7 The existing science park at Jaipur is being upgraded as regional science centre with the technical support of NCSM, Kolkata, an autonomous body under the Ministry of Culture, Government of India. Under this project, an expenditure of Rs. 4.25 crores has been incurred

through NCSM, Kolkata upto 2009-10. The regional science centre is scheduled to be fully operationalized by October 2011.

Research & Development Division

16.8 The main objective of this division is to promote application oriented research in the field of Science & Technology in the State. The major challenges to R&D are (a) most Universities are functioning with sub-critical staff in Rajasthan; (b) need for right sizing Universities with regard to faculty and educational strength and (c) inadequate availability of financing for research activities. Universities of Rajasthan need additional support to take up research projects. In 2009-10, 13 research projects were sanctioned to Universities in core disciplines of botany, zoology, physics and biotechnology for an amount of Rs. 23 lacs. In the backdrop of additional allocations for promotion of research and development support to Universities, a provision of Rs.94.00 lacs is proposed for the year 2010-11 for various activities. The major activities of this division are as follows:

- a) Assistance to Research & Development projects – 30 new research projects will be sanctioned for promotion of research work in R&D institutions of the State including Universities and affiliated colleges;
- b) Workshops/Seminars/Conferences – 12 seminars will be conducted in 2010-11 for dissemination of latest developments in R&D
- c) Student Projects Program – 300 student projects each amounting to Rs. 15000/- would be sanctioned in 2010-11
- d) An Empowered Committee under the chairmanship of Minister Science and Technology would be constituted comprising of representatives of Universities and State Government officials to formulate an S&T vision for Rajasthan to address the infrastructure gaps and formulate a roadmap for R&D development in the State.

Science & Society Division

16.9 The Programs & activities under Science & Society Division are primarily focused to disseminate key technologies developed by National Institutions / Research Organizations. The broad objective of the programs/ activities under Science & Society Division is "to transfer the proven technologies at the grass root level for socio economic upliftment of general masses."

16.10 Major activities under the division are:

- a) Support Special & pilot projects on appropriate Technologies.
- b) Science & technology Resource Centers
- c) Science & technology for Women
- d) Technology procurement& software Development
- e) Technology day celebration

16.11 A sum of Rs.98.11 lacs is proposed for the year 2010-11. Rajasthan has submitted 10 project proposals under the Technology Mission: War for Water, seeking technology solutions for addressing ground water problems of States including salinity and excess fluoride.

Science Communications and Popularization Division

16.12 The main objective of this division is communication & popularization of science programs to generate scientific temper among the student community. The main activities of this division are Science Centre, Science Park, Contest Programs, National Science Day, Science Clubs, Children Science Congress, Competitions. A sum of Rs. 221.48 lacs is proposed for the year 2010-11. The following are the major activities being taken up in the Science Communications and Popularization Division in 2009-10.

Innovation in Science Pursuit for Inspired Research (INSPIRE) Awards:

16.13 Under the centrally sponsored scheme of “innovation of Science Pursuit for Inspired Research (INSPIRE)” launched by the Department of Science & Technology, Government of India, 35219 nominations of the State would benefit in 2009-10. 1 student / school in classes 6 to 8 and 1 student/ school in classes 9-10 would receive a cash award of Rs. 5000/-. The scheme will be implemented in 17,500 schools (Secondary and Senior Secondary) of Rajasthan and a sum of Rs. 17.50 crores is to be utilized in 2009-10 for INSPIRE awards.

Support and Constitution of Science Clubs in Schools

16.14 Establishment of science clubs in Secondary & Senior Secondary schools of the State is one of the important schemes under Science Communication & Popularization activities. Presently a network of 1500 Science Club are operational in the State. In the year 2009-10, the financing of the Science Clubs was increased from Rs. 2000/- to Rs. 5000/-. 562 new science clubs have been constituted in the State. An amount of Rs. 26 lacs has been utilized for promotion of science clubs in Rajasthan. Following an assessment of Science clubs, 100 best performing science clubs have been proposed for technical/ financial linkage with Vigyan Prasar.

Remote Sensing Division

16.15 In Rajasthan, Remote Sensing Activities started with the establishment of “Aerial Photo Interpretation Laboratory (APIL)” at Jodhpur in 1979 as a part of Desert Development Program to assist Soil and Water Conservation Planning in the State.

16.16 In 1985 looking to multi-disciplinary utility of the Remote sensing Technology, the laboratory was transferred to State Department of

science and Technology and renamed as “State Remote Sensing Application Centre (SRSAC).”

16.17 Remote sensing techniques, in conjunction with ground surveys offers an efficient, time saving and cost effective method for assessment of natural resources on repetitive basis for planning the developmental activities of the State. The technology comprises of application of three components, satellite data, air borne data and ground data. Remotely sensed data has relevance to major sectors of economy such as Agriculture, Forestry, Irrigation, Human Settlement, and Geology through the optimal use of land, water, mineral resources. Remote Sensing is an emerging technology, which contemplates collection of spatial, spectral and temporal data of earth's surface using air and spacecraft. It provides a powerful tool for evaluation of Natural Resources (both renewable and non-renewable) with speed, accuracy and economy. A provision of Rs.41.00 lacs is proposed for the year 2010-11.

Collaboration with ISRO

16.18 In 2009-10 State Government has entered into collaboration with ISRO and Department of Space on the operations and management of the SATCOM studio and receives only terminals at Panchayat Samitis / Satellite interactive terminals at Zilla Parishads. Full operationalization of the SATCOM studio will greatly enhance the State Government's capacity for trainings skill building. Collaboration with ISRO would provide Rajasthan access to ISRO's technology and regular hand holding support.

Entrepreneurship Development Division

16.19 Developing entrepreneurship amongst graduates can provide highest dividend to society as compared to any other category. Efforts are being made to organize result oriented activities by involving small scale industrial sector of the state as well as financial institutions for tapping natural/financial resources available within the State. Thus, enable to generate "Self Employment" opportunities and generate a feeling of self reliance among youths. To achieve these goals, a sum of Rs.10.78 lakhs is proposed for the year 2010-11

Biotechnology Division

16.20 The main objectives of this division are to create strong academic base, to create grass root awareness regarding sector, to generate human resource, to invite Biotech Industries in the state. Government of Rajasthan has constituted a State Biotechnology Advisory Board under the chairmanship of Hon'ble Chief Minister comprising of eminent scientists, subject experts and concerned secretaries to the government. The Board is an autonomous body attached to the Department of Science & Technology and aims to promote enterprise in Biotechnology by:

- a) Ensuring proper scientific coordination amongst different institutions and universities of state for rendering advice in matters related to Biotechnology.
- b) Exploring opportunities for collaborative research.
- c) Assisting in mobilizing resource, technology & financial for ensuring that the state attains a prime position in biotechnology.
- d) Providing a policy framework on human resource development, techno infrastructure, bio safety and bio surveillance.

16.21 For activities of this division, a provision of Rs. 50.12 lacs has been proposed for the year 2010-11.

Bio-technology Policy 2010

16.22 Rajasthan seeks to develop bio-technology Policy 2010, incorporating significant amendments to Bio-technology Policy 2004 which did not attract major biotech investments into Rajasthan. There is a need for (a) strengthening of existing infrastructural facilities to cater to bio-tech industry; (b) setting up finishing schools for building a pool qualified personnel and (c) a strong institutional set up for effective monitoring of policy implementation. In this regard, Rajasthan would be undertaking a feasibility study which takes a comprehensive look at the various interventions that would be needed to take the process forward.

Environment Development

16.23 The Environment Department was created in 1983 to act as a nodal agency in the state in matters related to preservation of ecological balance, research and studies on environmental matters and prevention and control of soil, water and atmospheric pollution and issues of Rajasthan Pollution Control Board (RPCB).

16.24 The Environment Department has been creating Environmental awareness through a number of education programs from primary level to All India level in co-ordination with Education Department, institutions like Lalit Kala Academy and NGOs. An outlay of Rs.112.80 lacs is proposed for the year 2010-11.

16.25 The Ministry of Environment and Forests, Government of India has issued a notification on 14th September, 2006 for constitution of State Level Environment Impact Assessment Authority in consultation with the Central Government. This Notification is in super session of the notification no. SO 60 (E) dated 27 January 1994. Henceforth, from the date of its publication the construction of new projects or activities or the expansion or modernization of existing projects or activities listed in the schedule of this notification entailing capacity addition with change in process and or technology shall be undertaken only after the prior environmental clearance from the Central Government or as the case may be from the State Level Environment Impact Assessment Authority.

Vide this notification, the environmental clearance in many projects/ activities will be given by the State Level Authority. This work will involve scrutinizing of such proposals by an Expert Committee

16.26 For processing the cases to be put up before SEIAA and SEAC and to work as its Secretariat an Environment Clearance Cell has been set up. Rs. 15.09 lacs is proposed for this cell.