

CHAPTER - 19

SCIENTIFIC SERVICES AND RESEARCH

19.1 The Scientific Services and Research head covers Science and Technology Department, Environment Department and Rajasthan State Pollution Control Board.

19.2 During the Tenth Five Year Plan, an expenditure of Rs. 857.60 lakhs would likely be incurred, on the various sub sectors as per details given below :

	(Rs.in lakhs)
1. Science and Technology Department	791.57
2. Environment Development	66.02
3. Rajasthan State Pollution Control Board	0.01
Total	857.60

19.3 A provision of Rs. 2970.00 lakhs has been proposed for Eleventh Five Year Plan and Rs. 270.00 lakhs is proposed for Annual Plan 2007-08. Sector-wise break up is as under :

	(Rs.in lakhs)	
	XIth Plan (2007-12)	Annual Plan (2007-08)
1. Science and Technology Department	2500.00	246.00
2. Environment Development	450.00	20.00
3. Grant-in-aid to Raj. State Pollution Control Board	20.00	4.00
Total	2970.00	270.00

19.4 Details of financial provisions and major physical activities are as under:

Science and Technology Department

19.5 Since the inception of the department in the year 1983, it has been the endeavour to initiate, support, promote and coordinate the activities in the field of science & technology by taking up of application oriented research and development projects and various programmes relating to transfer of technology, popularisation of science and application of modern technology of remote sensing.

19.6 During the tenth plan period, an amount of Rs. 791.57 lakhs is likely to be incurred. Emphasis was given on the development of the infrastructure and capabilities in the field of science and technology, transfer of technology and research. Five regional offices at Ajmer, Bikaner, Jodhpur, Kota and Udaipur are working. In addition to this, SRSAC office at Jodhpur, one STED project at Pali and three science centers at Bikaner, Kota and Udaipur are also working

19.7 To utilise the talent and potential of the students, scheme of student project has been initiated. Science Park which developed during Eighth Five Year Plan period and opened to public on 22nd September, 1998 plays very important role in popularisation of science in Rajasthan. It is established as activity center and a traffic park is also developed in it to make aware the masses about the traffic rules.

19.8 During the previous plan periods, the S&T department has established itself as a catalytic agent for development of the project through science and technology inputs and to initiate science and technology related projects/ programmes etc. through various departments/ organisations. The spread of these projects has been restricted mainly due to inadequacy of infrastructure. In view of this, in the tenth plan emphasis laid on consolidation and to provide broad base to the activities so that the impact of activities could be felt across the State. Priority was on finding solution to the problems of the common people through science and technology. The transfer of rural technology and need based technology developed in various national laboratories to small farmers, village artisans and rural poor was the priority area in the 10th Plan period. Science communication and popularisation projects/ programmes will be further strengthened.

19.9 During the tenth plan, looking to the importance of the field and opportunities and potential available in the state, a new division "Biotechnology" was started and promoting the investor to establish the industries in this area in the state, a draft Biotech Policy has also been prepared.

19.10 To connect all the district level functionaries of different department and to keep them well informed in their field, a satellite network (SATCOM) has been set up in the state.

19.11 Satellite Communication Network is operational in the State. Integrated HUB at Indira Gandhi Panchayati Raj Sansthan (IGPRS), Jaipur is being used for Telemedicine, Edusat and Gramsat activities. Under GRAMSAT Satellite Interactive Terminals (SITs) at Zila Parishads and Receive Only Terminals (ROTs) at all 237 Panchayat Samiti Head Quarters have been installed. Studio is also under preparation at Indira Gandhi Panchayati Raj Sansthan (IGPRS), Jaipur. The network will be used by various line departments of State for training and extension activities.

19.12 A provision of Rs. 2500 lakhs has been made for XI Five Year Plan and an amount of Rs. 246.00 lakhs is proposed for Annual Plan 2007-08 for Science & technology department. The details of financial provisions are as under :

(Rs. in lakh)

S.No	Item	Eleventh Plan Outlay (2007-12)	Annual Plan (2007-08)
1	Research and Development Division	232.75	27.70
2	Science and Society Division	179.35	21.35
3	Science Communication and Popularization	1465.74	130.99
4	Support Services		
a.	Remote Sensing Division	172.85	21.85
b.	Entrepreneurship Development Division	87.50	10.40
c.	Activities as per the directions of Biotechnology Policy	144.40	17.20
5	Capital works	213.00	16.00
6	PIC	4.40	0.50
7	EPRC	0.01	0.01
	Total	2500.00	246.00

19.13 Out of the proposed provision of Rs. 2500 lakhs in the XI plan, Rs. 2376.07 lakhs would be required to meet the committed liabilities of continuing programmes. Under the Research & Development scheme, 02 new and 12 on going research and development projects will be financed.

19.14 Under the Science & Society division, rural youths will be trained in new techniques and technology. To cater to the needs of small, tiny and cottage rural industries, it is proposed to establish Technology Demonstration and Dissemination Centre. The proposed centre will coordinate the efforts of promoting and developing the appropriate technologies for rural masses and under privileged sections of the society as well as for rural industrialisation.

19.15 It is envisaged to carry out a survey for identification of traditional practices in science and technology in some selected fields. During the XI Five Year Plan period emphasis will be given to cover the priority areas in

which science and technology can be utilised for the achievement of socio-economic objectives.

19.16 The department has identified various innovative and need based technologies for different regions of the state. During the XI plan, it is proposed to implement pilot project covering priority areas such as housing, safe drinking water, energy, food/ agro-based industries, agriculture and health. These will include selected projects on specific needs of the areas.

19.17 In the past, Technology Demonstration and Training Centers (TDTC) were established in various technical institutions. Now it is proposed that these centers will be transferred to regional offices of the department and coordination of technology and research institutions will be drawn in order to utilise the expertise available with these institutions.

19.18 To generate the spirit of self-employment the youth, the department will organise one Entrepreneurship Development programme and 20 Entrepreneurship Awareness Camps. It is also proposed to strengthen remote sensing training activity and Management Information System. A data bank would also be maintained.

19.19 Establishment of GIAN Centre in Rajasthan: In order to scant the creativity of the people at the grass roots level and facilitate people to people networking among the innovators a decision has been taken to establish a GIAN Centre in Rajasthan in coordination with Honey Bee network and SRISTI of IIM, Ahmedabad

19.20 In the XI plan, it is proposed to construct a building for the Science and Technology Department where facilities for display gallery and exhibition, rural technology demonstration, organising conference etc. will be provided.

19.21 To accelerate the activities in the field of Biotech a "Centre of Excellence" is also proposed to be established during the XI Five year plan. This centre will enable to provide the best research and development facilities in the field of biotechnology and trained human resource to cater the need of industries in the field.

19.22 For communication and popularisation of science, existing 3 science centers will be further strengthened and about 1440 science clubs will be assisted.

19.23 In the XIth Five Year Plan few of the new activities under Science communication and popularisation division will be under-taken so that scientific atmosphere could be created in the state and to share the experience with the students of other state in the field of science such as:-

- Nature Science Activity Camp

- Volunteer for disaster Management
- Root and Shoot Activity
- Training in Science Communication
- Career counseling in Science
- Biodiversity Garden in School premises

19.24 In the Eleventh Five Year Plan, it is proposed to upgrade the existing science park to regional science centre with the technical support of NCSM, Kolkata, Ministry of Culture, Government of India. It is also planned to develop two sub regional science centres at Kota and Udaipur in collaboration with NCSM, Kolkata.

19.25 Science City would also be developed during the XI Five Year Plan period. A remote sensing cell would also be established to Deal with the activities related to the remote sensing applications for the sustainable planning of different government departments.

19.26 A Remote Sensing Cell (Sub-Centre of SRSAC) will be established at Jaipur in appropriate place. Initial working will be started at Indira Gandhi Panchayati Raj Sansthan (IGPRS), Jaipur where “SATCOM” activities are already under progress. Those are being coordinated by Project Director, State Remote Sensing Application Centre (SRSAC), Jodhpur. Existing staff at SRSAC will be rescheduled for the New Cell at Jaipur. Initially an amount of Rs.10.35 lakhs is proposed for the year 2007-08 to procure some of the instruments and hardware / software.

19.27 Total budget proposed during the XIth plan period is Rs.78.35 lakhs. This will be used for accommodation and procurement of hardware/software and other equipments.

Research and Development

19.28 Under this program, it is proposed to extend financial assistance for application oriented research and development project, inter-departmental Co-ordination Projects and Students' Projects for Science, Engineering, Medical, Veterinary and Polytechnic colleges of the State for the research and development activities in specific identified areas. Financial assistance is proposed to be provided for on going research and development projects, Student projects Young Scientist Fellowships and for workshops and seminars on latest topics. A provision of Rs. 27.70 lakhs is proposed in the year 2007-08 and Rs. 232.75 lakhs in Eleventh Five Year Plan.

Science and Society Division

19.29 Under this program, it is proposed to provide input of Science and Technology to disadvantaged sections of society for their overall development through transfer of appropriate low key technologies at the grassroot level. A provision of Rs. 21.35 lakhs is proposed in the year 2007-08 and Rs. 179.35 lakhs in Eleventh Five Year Plan

Science Communication and Popularisation

19.30 Under this program, it is proposed to take various measures for popularisation of science by setting up models in the Science Park, strengthening of existing science centres, quiz programs, special training to S&T persons, exhibition and melas, publication of news letters, etc. Besides, on going science clubs will be given assistance and tool kits and science models to schools. A provision of Rs. 130.99 lakhs is proposed in the year 2007-08 and Rs. 1465.74 lakhs in Eleventh Five Year Plan.

Remote Sensing Division

19.31 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. 21.85 lakhs is proposed in the year 2007-08 and Rs. 172.85 lakhs in Eleventh Five Year Plan.

Entrepreneurship Development

19.32 To develop the culture of entrepreneurship amongst the students of science and engineering degree and diploma holders, the National Science & Technology Entrepreneurship Development Board, Govt. of India has launched several schemes. To generate the spirit of self-employment among the S&T unemployed persons, the department will organise entrepreneurship development programs, entrepreneurship awareness camps and motivation camps for young people. For this, a provision of Rs. 10.40 lakhs is proposed in the year 2007-08 and Rs. 87.50 lakhs in Eleventh Five Year Plan.

ENVIRONMENT DEVELOPMENT

19.33 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.

19.34 An amount of Rs.66.02 lakhs would likely be spent by the Environment Department during the Tenth Plan on the activities in the field of environment development relating to preparation of policies for environmental development, execution of minor works of environmental improvement, environmental development programmes, environmental education and awareness, etc.

19.35 An outlay of Rs. 450.00 lakhs has been proposed for the Eleventh Plan and Rs.20.00 lakhs for Annual Plan 2007-08 period for the following items :

(Rs. in lakhs)

Item	Eleventh Plan Outlay (2007-12)	Annual Plan (2007- 08)
1. Pay, Allowances and other expenditure	20.00	4.00
2. Environmental Education & Awareness Programme	50.00	7.80
3. Communication and Extension (Publicity)	30.00	8.00
4. National River Conservation Plan (NRCP)	300.00	0.10
5. Expenditure on Special Services	50.00*	0.10*
Total	450.00	20.00

* For world lake conference to be held at Jaipur in 2007-08

19.36 The Government of India has identified the stretch of river Chambal between Kota and Keshoraipatan for its conservation and improvement under the National River Conservation Plan (NRCP). It is a centrally sponsored scheme to be funded in the ratio of 70:30 by Centre and State Government.

RAJASTHAN STATE POLLUTION CONTROL BOARD :

19.37 The State Pollution Control Board is functioning under administrative control of Department of Environment. The State Board was constituted in Feb. 1975 to implement the provision of the water Act. The main responsibility of the Board is to ensure the protection of environment and implementation of provisions of Water & Air Pollution Control Acts.

19.38 An amount of Rs. 20.00 lakhs has been proposed for Eleventh Five Year Plan 2007-12 and Rs. 4.00 lakhs for annual plan 2007-08 for providing grant to Rajasthan State Pollution Control Board to implement the following activities :-

(Rs. in lakhs)

S. No.	Scheme	XI Plan 2007-12 Outlay	Annual Plan 2007-08 Outlay
1.	Assessment of status of Air Quality & Noise Levels in Major Industrial Towns	13.50	2.70
2.	Monitoring of Important major water Bodies	6.50	1.30
	Total	20.00	4.00