

## 7. SCIENCE TECHNOLOGY AND ENVIRONMENT

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### 7.1 SCIENTIFIC RESEARCH

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*Outlay ` 7.12 crore*

7.1.1 Science and Technology plays a vital role in improving productivity, conserving resources and protecting the environment. For promoting scientific attitude, Punjab State Council for Science & Technology (PSCST) is continuing with its efforts for numerous science communication and awareness programmes. Council is the organizing agency for Children Science Congress in the state. Magazines & periodicals are also being published to take science to masses. The council also supports a patent information centre which provides awareness in intellectual property rights to educational institutions, industry and government departments and provides technical and financial support for patent filing.

7.1.2 Three national level institutes-National Agri-food Biotechnology Institute (NABI), Bio Processing Unit (BPU) and Institute of Nano Science and Technology (INST) have been set up with the assistance of Government of India in Knowledge City, Mohali. These institutes have already started working from the transit campus at Mohali. To give boost to science education, research & technology, Indian Institute of Science Education & Research (IISER) has also been set up on 125 acre land in Knowledge City Mohali. The first academic session of the institute has been started from August 2007.

7.1.3 The Indian School of Business (ISB) has also started functioning in the Knowledge City, Mohali on 70 acres land. The first session has been started from July, 2012. The campus has 280 seats in its Post Graduate Management Programme & 750 seats in Executive Education Programme. Besides, Agri-food Biotechnology Park would also be set up in public-private partnership for promotion of biotechnology industry at Knowledge City, Mohali.

7.1.4 Against an expenditure of ` 1182.06 lac incurred during 11<sup>th</sup> Five Year Plan, an outlay of ` 3944.00 lac is provided for 12<sup>th</sup> Five Year Plan. Against an expenditure of ` 11.00 lac incurred during 2011-12, an outlay of ` 533.00 lac is provided for Annual Plan 2012-13. An outlay of ` 7.12 crore is provided for the annual plan 2013-14, for the following schemes:-

**On Going Schemes:**

## **Centrally Sponsored/ Funded Schemes**

### **SR- 01 Pushpa Gujral Science City at Kapurthala (70:30)**

*Outlay ` 1.00 crore*

7.1.5 Science City has been set up at Kapurthala. The total cost of the project was ` 100.00 crore (GOI share ` 70.00 crore + GOP share ` 30.00 crore). The state has provided land and infrastructure for this project. The entire central share and state share has been released. Against an expenditure of ` 764.00 lac incurred during 11<sup>th</sup> Five Year Plan, an outlay of ` 900.00 lac is provided for 12<sup>th</sup> Five Year Plan. An outlay of ` 100.00 lac was provided for Annual Plan 2012-13. An outlay of ` 1.00 crore is provided for the annual plan 2013-14.

### **SR-02 Popularization of Science (50:50)**

*Outlay ` 1.22 crore*

7.1.6 The main objective of the scheme is to take science to the masses and especially involve school & college students and teachers in scientific programmes by organizing workshops, exhibitions, seminars and training programmes for students in collaboration with educational institutions, education department, Govt. Departments, NGOs etc.

7.1.7 Against an expenditure of ` 21.87 lac incurred during 11<sup>th</sup> Five Year Plan, an outlay of ` 914.00 lac is provided for 12<sup>th</sup> Five Year Plan. Against an expenditure of ` 11.00 lac incurred during 2011-12, an outlay of ` 183.00 lac is provided for Annual Plan 2012-13. An outlay of ` 1.22 crore is provided for the annual plan 2013-14.

## **State Funded Schemes.**

### **On Going Schemes**

#### **SR-03 Grant-in-aid to Bio-technology Incubator.**

*Outlay ` 1.50 crore*

7.1.8 The aim of the scheme is to develop Biotechnology Incubator comprising testing and certification facilities for agri- produce and products including processed food and to cater to farmers and biotech industry in Punjab. Land measuring 1 acre has been allocated for Bio-Technology Incubator in Knowledge City, Sector-81, SAS Nagar. The total cost of the bio-technology incubator is ` 1097.00 lac. Government of India had already released ` 513.41 lac and state government has released ` 290.00 lac. An expenditure of ` 803.41 lac ( ` 513.41 GOI and ` 290.00 lac GOP) was incurred during 2008-09.

7.1.9 This incubator has presently been made operational at SCO No.8, 3rd floor, Phase-V, S.A.S. Nagar in hired premises and would be shifted to Sector-81, as and when, the

bio-technology park is ready. Under this scheme, an expenditure of `385.00 lac incurred during 11<sup>th</sup> Five Year Plan and an outlay of `100.00 lac is provided for the 12<sup>th</sup> Five Year Plan. An outlay of `100.00 lac is provided for Annual Plan 2012-13. An outlay of `1.50 crore is provided for the annual plan 2013-14.

**SR-04/SR-5 Pilot Trials Extension through Approved Institutions**

*Outlay `0.20 crore*

7.1.10 Under this scheme, applied research projects, pilot / demonstration and survey projects involving data collection and documentation relevant to socio-economic developmental needs of the state are being taken up.

7.1.11 Against an expenditure of `5.41 lac incurred during 11<sup>th</sup> Five Year Plan, an outlay of `135.00 lac was provided for 12<sup>th</sup> Five Year Plan. An outlay of `27.00 lac was provided for Annual Plan 2012-13. An outlay of `0.20 crore is provided for the annual plan 2013-14.

**SR-05/SR-6 Promotion of Bio-technology and Nanotechnology in Punjab**

*Outlay `0.10 crore*

7.1.12 Punjab State Council for Science & Technology has played a pivotal role in bringing projects for development of world class infrastructure in Punjab in the areas of biotechnology and nanotechnology. The National Agri-Food Biotechnology Institute and Institute of Nano Science & Technology coordinated by the council have already been operationalised by Departments of Biotechnology and Science & Technology, Government of India, respectively in transit campus at SAS Nagar. The Punjab Biotechnology Incubator, a spin-off of the council is also operative in SAS Nagar and is providing facilities for quality testing & certification of agri-produce/products. Further, the council is facilitating the setting up of Biotechnology Park by state government and Department of Biotechnology, Government of India through public-private partnership in Knowledge City, SAS Nagar. Now that this infrastructure is coming up in Punjab, there is an urgent need to make all possible efforts to promote the state as destination for collaborations and investments in the areas of biotechnology and nanotechnology. Towards this end, there is a need to regularly showcase state's strengths at appropriate forums, organize bio-partnering events, stakeholders' meets and programmes for promoting enterprises in these sectors. Against an expenditure of `5.00 lac incurred during 11<sup>th</sup> Five Year Plan, an outlay of `50.00 lac was provided for 12<sup>th</sup> Five Year Plan. An outlay of `10.00 lac was provided for Annual Plan 2012-13. An outlay of `0.10 crore is provided for the annual plan 2013-14.

**SR-06/SR-15 Setting up of biotechnology based centre on green technologies.**

*Outlay `0.10 crore*

7.1.13 Punjab State Council for Science & Technology has been making consistent efforts to promote grass root biotechnological innovations relevant to socio-economic development needs of the rural areas of Punjab. The focus has been on promotion of eco-friendly green technologies. A number of projects have been undertaken over the years to empower the masses especially rural women & youth on technologies for agricultural sustenance, value addition etc. and number of trainings / demonstrations for relevance stakeholders have been organized by the Council. Hence the Council has proposed the centre with following thrust areas for promoting green biotechnologies in the state of Punjab:

- Promotion of innovative technologies for agricultural sector including bio-inputs as alternatives to farm chemicals, value addition of agri produce & effective utilization of agricultural residues.
- Affordable technologies for bioremediation of contaminated water & soil, promotion of natural alternatives like biodegradable plastics so as to curb the pollution menace etc.
- Studies for harnessing the biomass for production of energy, promotion of biofuels including bio-ethanol & bio-diesel.

This unique centre is proposed to be set up within 5 years duration at a cost of ` 5 crores. An outlay of ` 500.00 lac was provided for 12<sup>th</sup> Five Year Plan. An outlay of ` 10.00 lac was provided for Annual Plan 2012-13. An outlay of ` 0.10 crore is provided for the annual plan 2013-14.

**SR-07/SR-16 Subsidy to students of government schools visiting the Science City.**

*Outlay ` 2.50 crore*

7.1.14 In order to develop scientific temper among the students and to encourage them to take up careers in science & technology, Government of India and Punjab Government has jointly set up Pushpa Gujral Science City at Kapurthala, Punjab. The Science City has been receiving a good number of students mainly from private schools.

7.1.15 In order to encourage the students from government schools to visit the Science City and to ensure that they are not deprived of enjoying the facilities set up in the Science City by the government, it is proposed that at least 50000 students from government schools should visit the Science City every year. The approximate cost of visit per student is ` 300/-. As the students can't afford this, therefore, it is proposed to give subsidy to the students of government schools.

7.1.16 An outlay of ₹ 1150.00 lac is provided for 12<sup>th</sup> Five Year Plan. An outlay of ₹ 100.00 lac is provided for Annual Plan 2012-13. An outlay of ₹ 2.50 crore is provided for the annual plan 2013-14.

**SR-08 Documentation and Assessment of Economic Potential of Microbial Diversity in Punjab.**

*Outlay ₹ 0.20 crore*

7.1.17 Under this project, data collection and analysis pertaining to research on indigenous microflora of economic value in the state is proposed to be carried out. The database generated will provide information on indigenous microbes having potential of exploitation in the sectors of agriculture, healthcare, environment, industry, etc.

7.1.18 An outlay of ₹ 85.00 lac was provided for 12<sup>th</sup> Five Year Plan. A token provision of ₹ 1.00 lac was provided for Annual Plan 2012-13. An outlay of ₹ 0.20 crore is provided for the annual plan 2013-14.

**SR-09 Value addition of Agri surplus a push to secondary Agriculture in Punjab**

*Outlay ₹ 0.20 crore*

7.1.19 Under this scheme, PSCST would promote the concept of secondary agriculture through R&D projects, training workshops and Brainstorming sessions etc. An outlay of ₹ 90.00 lac was provided for 12<sup>th</sup> Five Year Plan. A token provision of ₹ 1.00 lac was provided for Annual Plan 2012-13. An outlay of ₹ 0.20 crore is provided for the annual plan 2013-14.

**SR-10 Biotechnology Resources in Higher Education Sector in Punjab**

*Outlay ₹ 0.10 crore*

7.1.20 Under this scheme, data collection and analysis pertaining to resources devoted to bio-technology in the State is to be carried out. An outlay of ₹ 20.00 lac was provided for 12<sup>th</sup> Five Year Plan. A token provision of ₹ 1.00 lac was provided for Annual Plan 2012-13. An outlay of ₹ 0.10 crore is provided for the annual plan 2013-14.

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**7.2 INFORMATION TECHNOLOGY**

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**IT 01                    Development & Implementation of IT Parks, Knowledge Parks and IT enabled Services Industries.**

*Outlay- ` 2.00 crore*

7.2.1                    The department proposes to identify suitable sites in the current financial year in the state to set Knowledge Parks/ITES industry with the help of central and state level agencies and private parties involved in this task. The department also provide assistance to government for establishing and managing infrastructural resources such as integrated infrastructure including international communication/incubating facilities for development of IT experts. It will also prepare techno-economic feasibility report and detailed project reportws may be required for the development of the IT/ITes parks and will assist State preparation of master plan/layout plans for approval sites of IT/ITes parks.

An outlay of ` 10.00 crore has been provided for 12<sup>th</sup> Five Year Plan. Against an outlay of ` 2.00 crore during 2012-13, same outlay of ` 2.00 crore is provided for Annual Plan 2013-14

**IT 02    Creation of departmental infrastructure**

*Outlay- `2.00 crore*

7.2.2                    The department has recently been allotted new function related to Promotion of IT Industry in Punjab for setting up of iT Parks and Knowledge Parks and Policy for encouragement of IT enabled service industry for which the department has to set up the required infrastructure accordingly to perform its new functions effectively and efficiently. Strengthening of departmental infrastructure will result in overall positive outlook of the department with various multi-national conglomerates and will attract more private partners in India and abroad.

An outlay of ` 10.00 crore has been provided for 12<sup>th</sup> Five Year Plan. Against an outlay of ` 2.00 crore during 2012-13, same outlay of ` 2.00 crore is provided for Annual Plan 2013-14

**IT-03/VSI-09                    Development of Human Resources in the field of IT/ITES (Shifted from Industry & Minerals).**

*Outlay- `2.00 crore*

7.2.3                    In the area of human resource development, Punjab Infotec is committed to take Information Technology to the grass root level. This scheme aims at aligning the curriculum in colleges to industry requirement so that the students of the state may be employable.

An outlay of ` 2.00. is provided in Annual Plan 2013-14.

**IT-04/VSI-10                      Promotion of IT/Knowledge Industry in the State (Shifted from Industry & Minerals).**

*Outlay - `2.21 crore*

7.2.4                      The IT Policy covered under Industrial Policy, 2009 which contains the following incentives for Promotion of IT/Knowledge Industry in the State:-

- Capital subsidy @ 20% of fixed capital investment in a project, subject to ceiling of `20 lac to be available to first 10 approved SME units in the IT parks notified by PICTCL.
- The Government will reimburse 20% of expenditure incurred by the IT software company for obtaining quality certification for SEI CMM, eSCM and COPC, subject to ceiling of `4.00 lac. 25 companies will be covered.
- The state government will set up a development fund contributed by government agencies including PIDB and OUVGL scheme for promotion of IT/Knowledge Industry.
- 100% reimbursement for stamp duty and registration fee on land directly acquired by the developers for construction of IT park on IT unit/company to develop their own campuses only after IT park duly notified by PICTCL. Only 5 cases will be covered during a year with the condition of minimum 25 acres IT park with a land cost of `1 crore per acre.
- IT units/parks would be charged based on actual units consumed and not on the connected load .Exemption will amount to `25 lakh to `50 lakh.

An outlay of `2.21 crore is provided in the Annual Plan 2013-14.

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**7.3      GOVERNANCE REFORMS**

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*Outlay – `39.28 crore*

7.3.1                      The State Government has created a new department of Governance Reforms integrating the mandate of administrative reforms and e-Governance in all the departments to form the basis for inclusive growth and development in the State. The Ist Punjab Governance Reforms Commission was appointed in 2009 with a view to reduce the trust deficit and a sense of alienation that generally prevails among the common citizens vis a vis the government functioning. Based on the recommendations of the Commission, Punjab

Right to Service (PRTS) Act was enacted in 2011 to provide 69 services in a time bound manner.

7.3.2 The State Government is in the second phase of administrative reforms. 2<sup>nd</sup> Punjab Governance Reforms Commission has been set up in March,2012 to look at civil and criminal justice system, procedure for industrial development, regulatory frame work for NRI Affairs, Health and Medical Education, Education, Technical Education , Employment and Fiscal Management

7.3.3 The State Wide Area Network (PAWAN) has already been made functional with 194 Point of Presence (POPs), connecting 374 offices. It is envisaged to connect 635 more offices by May, 2013. For the convenience of general public, 1800 Common Service Centres (CSC) have been set up for extending the government services.

7.3.4 The important computerization works which have made big impact are – e-Sarkar to automate the core functioning of the state government, smart card based driving license, online registration of vehicles at dealer premises, computerization of land records and computerization of VAT information system etc. A sum of `32.80 crore has been provided in the Annual Plan 2013-14 for e-Governance initiatives under the department of Governance Reforms.

7.3.5 Against the expenditure of `16.11 crore in the 11<sup>th</sup> Plan, an outlay of `202.61 crore is provided for 12<sup>th</sup> Five Year Plan. Against an outlay of `42.70 for crore 2012-13, an outlay of `39.28 crore is provided for Annual Plan 2013-14.

7.3.6 An outlay of `3443.08 crore is provided for 12<sup>th</sup> Five Year Plan (2012-2017) for computerization under schemes of various sub-heads. Against an outlay `516.44 crore during Annual Plan 2012-13, an outlay of `527.67 crore has been provided for Annual Plan 2013-14 which is 3.27 % of total plan outlay, the detail of which is at Annexure 'A'.

## **State- Level Schemes**

### **On-going Schemes**

**GR 01 Introduction of computerization in Punjab Government offices, semi-government offices including maintenance and up- gradation of the systems**

*Outlay – `15.00 crore*

7.3.7 In order to improve their functioning, the state departments approach the department of Governance Reforms, Punjab to provide technical guidance, advice and financial support as part of e-Governance initiatives. While doing so, Detailed Project Report (DPR), Request for Proposal (RFP) preparation and project execution are being/would be



undertaken for better service delivery and record management on the basis of their requirements worked out with the help of project consultants or internal capacities.

7.3.8 The funds are required for implementing information technology and e-governance projects in the government departments. These funds will also be utilized for connecting horizontal offices with the PAWAN project. The offices would be/are being covered in a phased manner on a case-to-case basis. 194 Point of Presence (PoP) for data, video and voice traffic connecting 374 offices horizontally across the state. The funds will also be utilized for clearing committed liabilities, broadband charges, annual maintenance charges (AMC) of existing infrastructure etc.

7.3.9 As many departments are introducing e-Governance, there is a need to establish temporary data centre at the network centre in MGSIPA, Chandigarh till State Data Centre (SDC) is made operational at Mohali. The Governance Reforms Department will take necessary steps for bringing departments in a progressive manner for introduction of e-procurement to process tenders online. After the successful completion of e-district project in two pilot districts namely Kapurthala and Shaheed Bhagat Singh (SBS) Nagar, the project will be rolled out in remaining 20 districts in a phased manner. Against the expenditure of ` 4.66 crore in the 11<sup>th</sup> plan, an outlay of ` 102.75 crore is provided for 12<sup>th</sup> Five Year Plan. Against an outlay of ` 12.00 crore during Annual Plan 2012-13, an outlay of ` 15.00 crore has been provided for Annual Plan 2013-14.

**GR- 02 Additional Central Assistance (ACA) under National e-Governance Projects (Special ACA under NeGAP) (From 2013-14 GR-04 and GR-05 is merged with GR-02)**

*Outlay - ` 11.90 crore*

7.3.10 Under the National e-Governance Plan (NeGAP), core infrastructure & various mission mode projects (MMPs) are being implemented at the state level as per the guidelines given by the Department of IT, Government of India with central funding through additional central assistance. Additional Central Assistance (ACA) of ` 7.43 crore was received during 2007-08 for the operationalization of State Data Centre in the state. ` 2.90 crore is received from GOI during 2013-14 under NeGAP. Against the expenditure of ` 2.87 crore in the 11<sup>th</sup> plan, an outlay of ` 28.17 crore is provided for 12<sup>th</sup> Five Year Plan.

7.3.11 As part of national e-Governance Plan (NeGAP), 2112 Common Services Centres (CSCs) are being established in villages in the ratio of one per 6 villages across the State for delivering government, private and social services with the participation of private sector in the first phase of its implementation. The approval of new proposal for establishing

additional 150,000 CSCs across the Country upto Gram Panchayat level with Punjab share as 10,000 + CSCs is in progress at the national level. The total 2,50,000 CSC network in the country will play a great role in service delivery in rural areas for convenience and proximity of general public for G2C services. `6.98 crore was received for Common Service Centre's BSNL connectivity during previous years.

7.3.12 The selected Service Centre Agencies (SCA) are setting up the allotted CSCs in respective of 10 zones in the entire state with the participation of local Village Level Entrepreneurs (VLEs) for delivering government services at doorsteps of the citizens. 1800 Common Service Centres have been set up for extending the government services.

7.3.13 The Department of Electronics and Information Technology (DEITY), GoI has released an ACA of `4.35 crore during previous years for incurring expenditure of annual bandwidth charges for procuring wide area connectivity from BSNL under PAWAN project. DEITY is likely to provide more funds for annual bandwidth charges for SWAN component.

7.3.14 Against an outlay of `9.20 crore during Annual Plan 2012-13, an outlay of `11.90 crore has been provided for Annual Plan 2013-14.

**GR 03 ICT infrastructure & construction of building for e-Governance projects.**

*Outlay – `3.50 crore*

7.3.15 Under the scheme, State Data Centre (SDC) is being constructed. The SDC is being constructed on half acre of plot in Phase-VIII, Mohali at a total cost of `15 crore to be borne by state government. `4.80 crore have already been spent on the project. So far basement, ground floor and portion of first floor have been completed. The nodal agency is PSIEC. SDC would have 4000 Sq ft. of server and storage area with 40TB storage network. Entire funds of `50 crore for the establishment and operation of the centre would be provided by GOI. State Data Centre would provide many functionalities and some of the key functionalities are Central Repository of the State, Secure Data Storage, Online Delivery of Services, Citizen Information/Services Portal, State Intranet Portal, Disaster Recovery, Remote Management and Service Integration etc. Against the expenditure of `4.80 crore in the 11<sup>th</sup> Plan, an outlay of `19.91 crore is provided for 12<sup>th</sup> Five Year Plan. Against an outlay of `5.00 crore during Annual Plan 2012-13, an outlay of `3.50 crore has been provided for Annual Plan 2013-14.

**GR 04 Common Service Centres under National e-Governance Action Plan (NeGAP) (from 2013-14-Merged with GR-02)**

7.3.16 Against the expenditure of ` 0.33 crore in 11<sup>th</sup> plan, an outlay of ` 8.38 crore is provided for 12<sup>th</sup> Five Year Plan. An outlay of ` 4.20 crore is provided for 2012-13. This scheme has been merged with GR-02 w.e.f. 2013-14.

**GR 05 Provision for Bandwidth with SWAN component (Special ACA) under NeGAP(from 2013-14-Merged with GR-02 )**

7.3.17 Against the expenditure of ` 1.89 crore in the 11<sup>th</sup> Plan , an outlay of ` 7.60 crore is provided for 12<sup>th</sup> Five Year Plan. An outlay of ` 1.90 crore is provided for 2012-13. This scheme has been merged with GR-02 w.e.f 2013-14.

**GR 06 SUWIDHA project.**

*Outlay – ` 1.50 crore*

7.3.18 The main aim of this project is up-gradation and enhancement in the existing infrastructure at SUWIDHA centres and at data centre for centralized access of application software and databases and to expand the SUWIDHA centres in more cities for providing Government to Citizen (G2C) services on the present pattern under one roof. Suwidha Centres have been set up in all the district headquarters and in every sub division of the state. Against the expenditure of ` 0.10 crore in 11<sup>th</sup> plan, an outlay of ` 6.30 crore is provided for 12<sup>th</sup> Five Year Plan. An outlay of ` 1.50 crore has been provided for Annual Plan 2013-14 at current year level.

**GR 07 Capacity Building for e-Governance projects (Special ACA under NeGAP)**

*Outlay – ` 0.90 crore*

7.3.19 During various stages of project implementation, highly capable IT professionals are required in departments, where e-governance project is undertaken. To play an active role during the implementation of e-governance projects/initiative, it would be a link between Department of Governance Reforms, Punjab and the concerned departments.

7.3.20 Post of GIS expert has been created in the department to formulate an overall state GIS action plan. Based on the action plan, common GIS facilities would be created for utilization by all departments for building their application layer on the core map of the state government. These funds would also be utilized for providing computer training to the government staff so that their services can be utilized during implementation of project at various stages. Against an outlay of ` 4.18 lac in the 11<sup>th</sup> Plan, an outlay of ` 4.50 crore is provided for 12<sup>th</sup> Five Year Plan. An outlay of ` 0.90 crore has been provided for Annual Plan 2013-14 at current year level.

**GR-08/ P-01 Punjab Governance Reforms Commission (Shifted from Department of Personnel)**

*Outlay- `2.10 crore*

7.3.21 The Punjab Government has set up the Punjab Governance Reforms Commission with the objective to provide all facilities under various government schemes to the down trodden people without any difficulty. To complete the job most appropriately, the commission will engage the services of experts from outside. The Commission on completion of work assigned to it was wound up in July 2011. Now the State Government is in the second phase of administrative reforms. 2<sup>nd</sup> Punjab Governance Reforms Commission has been set up in March,2012 to look at civil and criminal justice system, procedure for industrial development, regulatory frame work for NRI Affairs, Health and Medical Education, Education, Technical Education Employment and Fiscal Management. Against the expenditure of ` 1.41 crore in the 11<sup>th</sup> plan, an outlay of ` 10.00 crore is provided for 12<sup>th</sup> Five Year Plan. Against an outlay of ` 2.00 crore during Annual Plan 2012-13, an outlay of ` 2.10 crore has been provided for Annual Plan 2013-14.

**GR-09/P-03 Grant in Aid to Punjab Right to Service Commission (2011) (Shifted from Department of Personnel)**

*Outlay- `3.99 crore*

7.3.22 Based on the recommendations of the Commission, Punjab Right to Service (PRTS) Act was enacted in 2011 to provide 69 services in a time bound manner. 139 Police Saanjh Kendras were set up in separate buildings across the state to deliver police services. People are no longer required to visit the police stations for various works like copies of FIR, verification of documents, etc. The land records of 12538 villages out of 13206 villages have been computerized under National Land Modernization Programme. 167 Fard Kendras have been set up for providing computerized copies of revenue documents and other revenue services. Discretion of sub registrar was curtailed with a view to reduce scope for delays and corruption. The practice of multiple appeals and revisions is discouraged.

7.3.23 Suwidha Centres have been set up in all the district headquarters and in every sub division of the state. The data base for the birth and death records is being automated and procedure for registration has been simplified. In the Transport Department, dealers have been empowered to issue vehicles registration certificates. Similarly, Principals of colleges have been authorized to issue driving learner licenses. In addition, e-tendering and e-procurement has been introduced in all the departments. As per the provision of PRTS Act 2011, Punjab Right to Service Commission has been constituted and Chief Commissioner alongwith 4 Commissioners have been appointed to look after the task of

effective implementation of the Act. An outlay of `15.00 crore is provided for 12th Five Year Plan. Against an outlay of `6.00 crore during Annual Plan 2012-13, an outlay of `3.99 crore has been provided for Annual Plan 2013-14.

## New Scheme

### Centrally Sponsored Schemes

#### **GR-10 Capacity building and dissemination of information regarding Punjab Right to Service Act 2011(CS:SS)(75:25)**

*Outlay- `0.39 crore*

7.3.24 A new 75:25 centrally sponsored scheme is introduced in Annual Plan 2013-14 for providing training to officials of Punjab Government at state headquarter, district level and block level regarding Right to Service Act, 2011. An outlay of `0.39 crore has been provided in the Annual Plan 2013-14.

### Annexure-‘A’

#### List of Plan Schemes relating to Computerization (State Share)

(` lac)

SN	Name of Sub-head/Scheme	12 <sup>th</sup> Plan (2012-17)	Annual Plan 2012-13	Annual Plan 2013-14
		Approved Outlay	Outlay for IT Sector	Outlay for IT Sector
1	2	3	4	5
<b>GENERAL EDUCATION</b>				
EDS -07	Information and Communication Technology (ICT) Project.	171088.00	15200.00	24647.42
EDS -01	Information and Communication Technology (ICT) in Punjab Schools (75:25)	18240.00	2980.57	1614.37
HE -03	ICT Project for Higher Education (75:25)	42.00	12.00	12.00
LA-05	Computerization of Departmental Library	20.00	20.00	20.00
<b>Sub-Total</b>		<b>189390.00</b>	<b>18212.57</b>	<b>26293.79</b>
<b>ROAD TRANSPORT</b>				

SN	Name of Sub-head/Scheme	12 <sup>th</sup> Plan (2012-17)	Annual Plan 2012-13	Annual Plan 2013-14
		Approved Outlay	Outlay for IT Sector	Outlay for IT Sector
1	2	3	4	5
RT-02	Introduction of Computerization in the Transport Department.	1500.00	400.00	350.00
	<b>Sub-Total</b>	<b>1500.00</b>	<b>400.00</b>	<b>350.00</b>
<b>MEDICAL AND PUBLIC HEALTH</b>				
DHS 18	Strengthening of Logistic Services in the State of Punjab.	685.00	200.00	100.00
DHS 19	Strengthening of Hospital Management of information systems and IT Infrastructure in the Hospitals.	1500.00	100.00	100.00
	<b>Sub-Total</b>	<b>2185.00</b>	<b>300.00</b>	<b>200.00</b>
<b>IRRIGATION &amp; FLOOD CONTROL</b>				
IR-13	Public Works Information Management System (PWIMS) in the Irrigation Department.	520.00	120.00	120.00
	<b>Sub-Total</b>	<b>520.00</b>	<b>120.00</b>	<b>120.00</b>
<b>POWER</b>				
PP-01	Works Relating to Restructured Accelerated Power Development & Reforms Programme (R-APDRP).	107200.00	27200.00	15000.00
	<b>Sub-Total</b>	<b>107200.00</b>	<b>27200.00</b>	<b>20000.00</b>
<b>GOVERNANCE REFORMS</b>				
GR 01	Introduction of Computerization in Punjab Government Offices, Semi Government Offices including Maintenance & Upgradation of the Systems.	10274.50	1200.00	1500.00

SN	Name of Sub-head/Scheme	12 <sup>th</sup> Plan (2012-17)	Annual Plan 2012-13	Annual Plan 2013-14
		Approved Outlay	Outlay for IT Sector	Outlay for IT Sector
1	2	3	4	5
GR 02	Additional Central Assistance under National e-Governance Projects (Special ACA) (GR-04 and GR-05 - Merged with GR-02)	2817.25	920.00	1190.00
GR 03	ICT Infrastructure and Construction of Building for e-Governance Projects	1991.00	500.00	350.00
GR 04	Common Service Centres under National e-Governance Action Plan (NeGAP)(Merged with GR-02)	838.00	420.00	0.00
GR 05	Provision for Bandwidth Charges with SWAN Component )(Merged with GR-02)	760.00	190.00	0.00
GR 06	SUWIDHA Project	630.00	150.00	150.00
GR 07	Capacity Building for e-Governance Projects	450.00	90.00	90.00
	<b>Sub Total</b>	<b>17760.75</b>	<b>3470.00</b>	<b>3280.00</b>
<b>EXCISE AND TAXATION</b>				
ET 01	Computerization of Excise and Taxation Department	24089.00	1000.00	1000.00
ET 02	Mission Mode Project for Computerization of Commercial Taxes (CS:SS)(65:35)	763.00	763.00	1.00
	<b>Sub-Total</b>	<b>24852.00</b>	<b>1763.00</b>	<b>1001.00</b>
<b>SECRETARIAT ECONOMIC SERVICES</b>				
PM-03	Computer Cell of Punjab State Planning Board(Staff, equipment and consumeable etc).	150.00	28.10	6.50
	<b>Sub-Total</b>	<b>150.00</b>	<b>28.10</b>	<b>6.50</b>
<b>REVENUE &amp; REHABILITATION</b>				
RR 01	National Land Records Modernization	750.00	150.00	150.00

SN	Name of Sub-head/Scheme	12 <sup>th</sup> Plan (2012-17)	Annual Plan 2012-13	Annual Plan 2013-14
		Approved Outlay	Outlay for IT Sector	Outlay for IT Sector
1	2	3	4	5
	Programme.(NLRMP)Componentwise shared(100%,50:50,25:75)			
	<b>Sub-Total</b>	<b>750.00</b>	<b>150.00</b>	<b>150.00</b>
	<b>Grand Total</b>	<b>344307.75</b>	<b>51643.67</b>	<b>52767.49</b>
	<b>% of Total Plan Outlay</b>		<b>3.69%</b>	<b>3.27%</b>

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#### 7.4 ECOLOGY AND ENVIRONMENT

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*Outlay ` 7.26 crore*

7.4.1 Advanced technologies both in agricultural and non agricultural sectors have played a crucial role in the state's development but this has also led to degradation of environmental quality thus reducing the benefits of development. To promote environmental protection, conservation of natural resources and sustainable development, the state government set up the Punjab Pollution Control Board in 1975 and a division of environment in the Punjab State Council for Science & Technology was established in 1988, which is providing technical assistance to Department of Science, Technology & Environment, Government of Punjab.

7.4.2 Under national project supported by Central Pollution Control Board (CPCB), Comprehensive document on environment standards and good practices for electric arc furnaces and induction furnaces in SSI sector has been developed Energy conservation measures have been demonstrated in pulverized coal fired re-rolling mills at Mandi Gobindgarh and Khanna. The technologies for air pollution control have been replicated in cupola furnaces, rolling mills, brick kilns and rice shellers. Besides State Biodiversity Board has drafted state biodiversity rules to advise the government on matters related to conservation of biodiversity, regulate access to bio-resources for commercial utilization and equitable sharing of benefits. Capacity building activities have been taken up and a joint project with UNESCO was implemented in Hoshiarpur and Gurdaspur District. The Board has constituted district level Biodiversity Management Committees (BMCs) in all 22 districts



of the state. Eco-clubs have also been set up in 5500 schools in Punjab to create environment awareness. The Department of Science & Technology is also taking up conservation and management of three important international wetlands (Ramsar sites), namely Harike Wetland, Kanjli Wetland & Ropar Wetland, as well as two national wetlands i.e. Ranjit Sagar Wetland and Nangal Wetland under 100% centrally sponsored programmes.

7.4.3 Under the sub-head "Ecology & Environment against an expenditure of ₹ 1119.77 lac incurred during 11<sup>th</sup> Five Year Plan, an outlay of ₹ 1285.00 lac is provided for 12<sup>th</sup> Five Year Plan. An outlay of ₹ 411.00 lac is provided for Annual Plan 2012-13. An outlay of ₹ 7.26 crore is provided for the annual plan 2013-14, for the following schemes:-

### **On Going Schemes**

#### **State Funded Schemes**

##### **EE-1 Joint Programme with UNESCO**

*Outlay ₹ 5.00 lac*

7.4.4 The Punjab State Council for Science & Technology is regularly taking up joint programmes with UNESCO which attract international funding. The programs are jointly funded by UNESCO and state government. The council developed a model educational Kit on "Capacity Building for Promoting Environmental Sustainability through Biodiversity Conservation" comprising a film, a booklet, a poster and a pamphlet. This kit has helped to create awareness on biodiversity and livelihood issues in the Shivalik area in Punjab and is expected to serve as an adaptive model for other such areas. The council also organized an international conference on "Climate Change, Biodiversity and Food Security in the South Asian region" in which about 150 international and national experts participated. These activities have helped to provide international exposure to the council's scientists and to bring Punjab State Council for Science & Technology and Department of Science, Technology & Environment, Government of Punjab at the international arena. There are various other areas like biodiversity conservation, natural resource mapping, development of educational material on current environmental issues, etc. where collaborative work with UNESCO can be taken up. Equal partnership of state government is required for implementing projects with UNESCO. During the year 2011-12, Council took up activities in higher institutions of education for capacity building on climate change issues.

7.4.5 Against an expenditure of ₹ 2.55 lac incurred during 11<sup>th</sup> Five Year Plan, an outlay of ₹ 25.00 lac is provided for 12<sup>th</sup> Five Year Plan. An outlay of ₹ 5.00 lac is provided for Annual Plan 2012-13. An outlay of ₹ 5.00 lac is provided for the Annual Plan 2013-14.

## **EE-2 Conservation and Management of State Wetlands**

*Outlay ` 0.20 crore*

7.4.6 Punjab has several natural and manmade wetlands which are performing vital ecological functions like groundwater recharge, sullage water purification and providing water for various activities in rural areas. These wetlands are an integral part of our ecosystem. Wetlands of international importance are being supported by Government of India but the state government has to take action for conserving wetlands of state importance. The natural wetlands in the State, which were roughly occupying more than 23000 acre area have been under massive stress due to reclamation for agriculture, degradation, etc. Several such wetlands which existed during 1940s have therefore gone extinct like Bhupinder Sagar, Chhangli Chhamb, Rahon da Chhamb, etc. Several other such wetlands like Dholbaha reservoir, Maili, Mangrowal, Nangal lake, Keshopur, Miani wetland, Mand Bharthala, etc are under stress. This is affecting the groundwater recharge also. Hence, ecology of these areas need to be studied and immediate site specific measures such as plantation, catchment areas treatment, soil conservation, biological control of weeds, promotion of organic farming, water quality monitoring, remote sensing studies are required to be taken up for these wetlands. Further there is a need to prepare inventory of the existing wetlands.

7.4.7 Against an expenditure of ` 1.00 lac incurred during 11<sup>th</sup> Five Year Plan, an outlay of ` 100.00 lac is provided for 12<sup>th</sup> Five Year Plan. An outlay of ` 20.00 lac is provided for Annual Plan 2012-13. An outlay of ` 0.20 crore is provided for the Annual Plan 2013-14.

## **EE-3 Environmental Information System (ENVIS) Centre at PSCST**

*Outlay ` 8.00 lac*

7.4.8 In order to disseminate information about the state's environment to the general public, the Ministry of Environment & Forests, Government of India has initiated the ENVIS Program in all states. An ENVIS Centre has also been set up in Punjab State Council for Science & Technology with the merger of two ENVIS nodes on state environment issues and water resource issues functioning earlier. This centre is regularly collecting, compiling and analyzing state specific environmental data for use by government departments, policy makers, general public, researchers, teachers, students, etc. The information is regularly uploaded on the centre's website [www.punenvis.nic.in](http://www.punenvis.nic.in) (bilingual). The centre is also responding to international and national queries and regularly publishing ENVIS newsletters and other publications. This information is being used by academicians, journalists and general public. The Ministry of Environment & Forests is presently providing major funds for the ENVIS Centre. However, the state government is required to partially support the

Centre as per MoU signed with Government of India. Interaction & Brain Storming activities are held to collect from time to time.

7.4.9 Against an expenditure of ` 1.00 lac was incurred during 11<sup>th</sup> Five Year Plan, an outlay of ` 40.00 lac is provided for 12<sup>th</sup> Five Year Plan. An outlay of ` 8.00 lac is provided for Annual Plan 2012-13. An outlay of ` 8.00 lac is provided for the Annual Plan 2013-14.

**EE-04/EE-5 Restoration of Ecology of Holy Bein**

*Outlay ` 3.00 crore*

7.4.10 The rivulet Kali Bein (now designated as Holy Bein) originates from village Dhanoa in Hoshiarpur district and travels along river Beas in a zigzag manner for 160 Km before ultimately joining River Beas upstream of Harike wetland. Due to discharge of sewage, sullage from 8 towns and 45 villages falling in its catchments area it had got heavily polluted. The Bein was infested with wild growth impeding the free flow of water causing water logging at some points and depletion of underground water in villages. The project was conceived to clean the Bein by involving voluntary community participation. This project envisages stoppage of waste water from towns and villages, release of additional water- 500 cusecs from Mukerian Hydrel Channel, remodeling of Bein, bio-fencing along the banks and development of catchments area.

7.4.11 An expenditure of ` 112.00 lac was incurred during 11<sup>th</sup> Five Year Plan. An outlay of ` 200.00 lac is provided for 12<sup>th</sup> Five Year Plan and the Annual Plan 2012-13. An outlay of ` 3.00 crore is provided for the Annual Plan 2013-14.

**EE-05/EE – 6 Bio-diversity Conservation and declaration of Bio-diversity Heritage Sites in Punjab.**

*Outlay ` 1.80 crore*

7.4.12 Biodiversity Act, 2002 is being implemented in the state of Punjab. The major objectives of the Act are conservation of biological resources, their sustainable utilization & access, equitable sharing of benefit arising from their utilization. Under Section 37 of Biological Diversity Act, 2002, state government is required to identify sites of great diversity and conserve them as heritage site. These sites could be rich in wild and domesticated flora and fauna. In Punjab one such site i.e. Inami Bag has been identified based on field survey in the kandi area of Punjab. The site is located in village Bassi Umar Khan, Block-Bhunga, District Hoshiarpur in an area of 10 acres. Presently, it comprises 165 trees of 29 varieties/land races of mango. The ownership of the site presently lies with 2 NRI's (Non Resident Indian). In view of the importance of the above said site due to rich biological diversity, it is proposed that site should be conserved for in-situ perseveration of native mango varieties/land races. Besides District Fatehgarh Sahib has one of largest

Banyana (Bohar) Tree of Punjab. The tree stands in village Cholti Kalan. The canopy of the tree spreads over 3 to 4 acres of land. According to local information, the tree is a few hundred years old. It is also known as the 'Kaya Kalp Vriksh'. This site also needs to be declared as biodiversity heritage site.

7.4.13. An outlay of ` 180.00 lac is provided for 12<sup>th</sup> Five Year Plan. An outlay of ` 40.00 lac is provided for Annual Plan 2012-13. An outlay of ` 1.80 crore is provided for the annual plan 2013-14.

#### **EE-06/EE -7 Capacity Building on Bio-diversity issues in Punjab**

*Outlay ` 0.20 crore*

7.4.14 India is a signatory to the convention of biological diversity under which it has enacted the Biological Diversity Act, 2002. Under the Act a 3-tier system is provided to implement the Act in the field (The National Biodiversity Authority-NBA at the Government of India level, State Biodiversity Board-SBB at state level and Biodiversity Management Committees-BMCs at the village/town level). One of the important tasks of SBBs is to build capacity of local communities to enable them to set up BMCs and prepare People's Biodiversity Register (PBRs.). For this the Biodiversity Board would also prepare awareness literature in English and Punjabi. These capacity building efforts would help in improving the grassroots efforts for conservation of biodiversity, natural resource management and protection of traditional knowledge. Training programme would be conducted all across state of Punjab for identification and capacity building of level 1 and 2 master trainers. The project will help to implement the Biodiversity Act in the State.

7.4.15 An outlay of ` 100.00 lac is provided for 12<sup>th</sup> Five Year Plan. An outlay of ` 20.00 lac is provided for Annual Plan 2012-13. An outlay of ` 0.20 crore is provided for the annual plan 2013-14.

#### **EE-07/EE-8 Status on Environmental reporting in Punjab**

*Outlay ` 8.00 lac*

7.4.16 The Ministry of Environment & Forests has initiated the State of Environment Reporting scheme to provide sound, reliable and timely information to governments, planners and general public. The first comprehensive State of Environment (SoE) report for Punjab was prepared in 1995 by PSCST. Subsequently, a scheme was taken up by Government of India under which PSCST has been identified as nodal agency for Status of Environment (SoE) Reporting Project. The following reports have already been prepared with the central government support:

- SoE, Chandigarh-2004 – covering air, noise & land degradation issues
- SoE, Punjab-2005- covering air, water and biodiversity issues

- SoE, Punjab-2007 – covering agriculture, solid waste management, hazardous waste management and biomedical waste management issues.
- Environmental Indicators for Punjab.

7.4.17 The Ministry has desired that the state governments should partially contribute towards the project to ensure state ownership, identify state related issues, and generate data and to make this project a regular feature. An outlay of ` 40.00 lac is provided for 12<sup>th</sup> Five Year Plan. An outlay of ` 8.00 lac is provided for Annual Plan 2012-13. An outlay of ` 8.00 lac is provided for the annual plan 2013-14.

**EE-08/EE-10 Preparation of Action Plan for Green Budget**

*Outlay ` 10.00 lac*

7.4.18 Preparation of Green Budget with the objective of protection of state's environment through conservation and wise use of its natural resources is the need of the hour in view of fast changing scenario of our environment. The important issues requiring attention include sustainable agriculture, providing clean and sustainable energy, safe drinking water, proper sanitation, protection of water bodies and ground water sources, conservation of natural resources, public awareness, etc. Punjab State Council for Science & Technology shall prepare an action plan for green budget with inputs from various departments.

7.4.19 An outlay of ` 50.00 lac and ` 5.00 lac is provided for 12<sup>th</sup> Five Year Plan and Annual Plan 2012-13. An outlay of ` 10.00 lac is provided for the annual plan 2013-14.

**EE-09/EE-12 Centre of Excellence for Technology Assessment & Transfer**

*Outlay ` 1.15 crore*

7.4.20 State of Punjab is the hub of small scale industry with clusters of cycle parts, electroplating and textile industry occupying a prominent place. Lack of interaction, proper communication between the industry and the academia and absence of mechanism for transfer of technologies are the major stumbling blocks in putting the technologies to gainful deployment. Therefore, it is proposed to set up the Centre of Excellence for Technology Assessment and transfer (COETA & T) which would act as a catalyst and a bridge between technical institutions/academia and the industry to facilitate the transfer of technology from lab to land. It shall identify the potential areas and needed technologies. An outlay of ` 550.00 lac and ` 100.00 lac is provided for 12<sup>th</sup> Five Year Plan and Annual Plan 2012-13. An outlay of ` 1.15 crore is provided for the Annual Plan 2013-14.

## **New Schemes**

### **EE-10 Setting up of node for Technology Exchange for Wetlands Conservation**

*Outlay ` 10.00 lacs*

7.4.21 A Node for Technology Exchange for Wetland Conservation needs to be set up at PSCST. The Node will do following activities:

1. Exchange of information on technologies being used by wetlands in other states.
2. Replication of successful technologies for wetlands conservation.
3. Consultation and capacity building including meeting on national/ International Experts of wetland issues.
4. Exposure visits of wetland managers of Punjab to the wetlands of the states.

An outlay of ` 10.00 lac is provided for the annual plan 2013-14.

### **EE-12 Livelihood generation to local people /women including weaker section of the society through preparation of handicraft from water hyacinth weed**

*Outlay ` 0.20 crore*

7.4.22 Council has standardized techniques of preparing handicrafts from water hyacinth and other weeds which may be used for promotion of livelihood, especially for economically weaker section of society. The activity will involve following steps :

- Formation of SHGs
- Training of SHGs members
- Capacity building for value addition
- Explore markets
  - Participation in Fairs, Exhibitions for promotion of sale.

An outlay of ` 0.20 crore is provided for the annual plan 2013-14.

### **EE-13 Scheme for continuous monitoring of air pollutants including noise pollution in the State**

*Outlay ` 0.20 crore*

7.4.23 An outlay of ` 0.20 crore is provided for continuous monitoring of air pollutants including noise pollution in the State for the Annual Plan 2013-14.

### **EE-14 Survey & monitoring of Air & ground water quality in the State**

*Outlay ` 0.10 crore*

7.4.24 An outlay of ` 0.10 crore is provided for Survey & monitoring of Air & ground water quality in the State the Annual Plan 2013-14.

## **Centrally Sponsored Schemes**

Joint Scheme – Earlier wetland projects were funded by Ministry of Environment & Forests, Govt. of India on 100% basis which has been changed to 70:30 GOI & State share basis w.e.f. 2012-13. Hence, this scheme may be treated as Joint Scheme. The funds from GOI will be sanctioned only after receiving commitment from State Govt.

### **CS (EE) -1 Harike Wetland Project (Direct Release) (Direct Release)**

*Outlay ` 0.50 crore*

7.4.25 Harike Wetland has the distinction of being one of the six Ramsar Sites in India designated as wetlands of international significance. It is also one of the largest wetlands in the Northern India. Located at the confluence of river Sutlej & Beas, this wetland falls in three districts of Punjab i.e. Kapurthala, Tarn Taran and Ferozepur. Spread over an area of 41sq. kms, this wetland provides a vital habitat for a number of floral and faunal components including the diversity of migratory avifauna. Ecological benefits of this wetland are widely well known. Conservation activities regularly required are afforestation, fencing & wildlife conservation, pollution, monitoring, soil conservation, control of water hyacinth and public awareness. Against an expenditure of ` 179.00 lac incurred during 11<sup>th</sup> Five Year Plan, an outlay of ` 250.00 lac is provided for 12<sup>th</sup> Five Year Plan. Against an expenditure of ` 28.93 lac was incurred during 2011-12, an outlay of ` 50.00 lac is provided for Annual Plan 2012-13. An outlay of ` 0.50 crore is provided for the Annual Plan 2013-14.

### **CS (EE)-II Kanjli Wetland Project (Direct Release) (Direct Release)**

*Outlay ` 0.20 crore*

7.4.26 Kanjli wetland is also an important ecosystem in the state delivering diverse kind of values and benefits. It is the second wetland to be recognized as a wetland of national importance by the Ministry of Environment and Forests, Government of India in 1988. Kanjli wetland and the entire Holy Bein is an important ecosystem from ecological, socio economic, recreational and religious viewpoint not only for the state but for the whole country. This wetland was recognized as Ramsar Wetland of international importance in 2002. Despite tremendous ecological significance, Kanjli wetland has been suffering from various natural and anthropogenic threats like excessive weed growth (mainly water, hyacinth), decreasing inflow of water, increasing pollution levels, deforestation in catchments area, excessive grazing & soil erosion etc. Against an expenditure of ` 41.19 lac incurred during 11<sup>th</sup> Five Year Plan, an outlay of ` 100.00 lac and ` 20.00 lac is provided for 12<sup>th</sup> Five Year Plan and Annual Plan 2012-13. An outlay of ` 0.20 crore is provided for the annual plan 2013-14 on 70:30 GOI & State Govt. share as a joint scheme.

### **CS (EE)-III Ropar Wetland Project (Direct Release) (Direct Release)**

*Outlay ` 0.50 crore*

7.4.27 Ropar wetland situated about 45 kms from Chandigarh is the impounded part of river Sutlej near Ropar. This pond spread over an area of about 1365 hac was largely formed due to the construction of Ropar head regulator in 1952. Before that, during the year 1882, a small headwork was constructed on the right side of the river Sutlej near Ropar town so as to supply to Sirhind Canal. During the year 1952 with the construction of main barrage water was also diverted into another canal-Bist Doab Canal. This Wetland supports a wide variety of fauna and floral components and is an environmentally strategic ecosystem calling for immediate conservation and management attention. It was recognized as a wetland of natural importance by the Ministry of Environment & Forests, Government of India in 1988 and subsequently, as Ramsar wetland of international importance in 2002. In spite of tremendous ecological values, Ropar wetland ecosystem is threatened on many counts, which include excessive siltation as a result of the erosion from the adjoining nude hills. Interference to the avifauna is also matter of concern. Immediate steps, particularly, afforestation and soil conservation in the highly erosion prone catchments area in the vicinity of this wetland, social fencing and awareness of general public are required regularly. Against an expenditure of ` 170.02 lac incurred during 11<sup>th</sup> Five Year Plan, an outlay of ` 250.00 lac is provided for 12<sup>th</sup> Five Year Plan. Against an expenditure of ` 28.87 lac incurred during 2011-12, an outlay of ` 50.00 lac is provided for Annual Plan 2012-13. An outlay of ` 0.50 crore is provided for the Annual Plan 2013.

### **CS (EE) - V Nangal Wetland Project (Direct Release)**

*Outlay ` 0.20 crore*

7.4.28 Ministry of Environment & Forests, Govt. of India has included Nangal Lake under National Wetland Conservation Programme in 2008. The Lake is important for biodiversity & migratory birds. It needs to be protected from siltation and pollution. Against an expenditure of ` 70.47 lac incurred during 11<sup>th</sup> Five Year Plan, an outlay of ` 100.00 lac is provided for 12<sup>th</sup> Five Year Plan. Against an expenditure of ` 37.32 lac incurred during 2011-12, an outlay of ` 20.00 lac is provided for Annual Plan 2012-13. An outlay of ` 0.20 crore is provided for the Annual Plan 2013-14.



## 7.5 FORESTRY AND WILD LIFE

*Outlay – `82.37 crore*

7.5.1 Punjab being a predominantly agricultural state is deficient in forest wealth. Against the norm of 33% forest cover as prescribed in the National Forest Policy 1988, Punjab has 6.87% area under forests. Moreover, on account of high population density, the per capita forest area is only 0.01 ha against the national average of 0.11 ha. (which itself is far below the world per capita forest area). Ecological and environmental considerations also require that Punjab immediately increase its forest/tree cover from the present level of only 6% to a minimum of 15% of its geographical area.

7.4.2 The total area notified as forests in Punjab at present is 305727 ha, which is about 6% of the geographical area of the state. Breakup of this area according to legal status is given as under:-

SN	PARTICULARS	Area (ha)
<b>A.</b>	<b>GOVERNMENT FORESTS</b>	
1	Reserve Forests	4336
2	Protected Forests	41684
3	Strip forest (Roads, Railways, Canals, Drains)	73612
4	Unclassed Forests	18775
<b>Total Government Forests</b>		<b>138407</b>
<b>B.</b>	<b>PRIVATE FORESTS</b>	
5	Area covered under section 4 and 5 of the Punjab Land Preservation Act, 1900 and section 38 of the Indian Forest Act, 1927.	167320
<b>Total Private Forests</b>		<b>167320</b>
<b>Grand Total</b>		<b>305727</b>

7.4.3 The main commercial species in Punjab have traditionally been shisham, kikar and eucalyptus. However, diversification to other species is being done and species like teak, tun, gmelina, neem, siris, mulberry, burma neem, ailanthas, drek, rajain, simal, bamboos, arjun bahera, amala, jamun, mango, poplar etc. suitable for yielding timber and fruits are also becoming popular.

7.4.4 Against an expenditure of `125.43 crore during the 11<sup>th</sup> Five Year Plan, an outlay of `211.81 crore has been provided in 12<sup>th</sup> Five Year Plan. Against an outlay of `72.08 crore during 2012-13, an outlay of `82.37 crore is provided in the Annual Plan 2012-13.

7.4.5 The detail of the schemes included in the Annual Plan 2013-14 is as under :

## **On going schemes**

### **Centrally sponsored/funded schemes**

#### **FT-01/3 Assistance for the Development of Selected Zoos (50:50)**

*Outlay – ` 50.00 lac*

7.4.6 The objective of the scheme is to acquaint people with the wild animals and to educate them about the preservation of wildlife and its importance to mankind. For the maintenance and development of chhatbir zoo at Patiala, tiger safari at Ludhiana and deer parks at Patiala, Neelon and Bathinda, central assistance is provided to supplement the state resources.

7.4.7 Against an expenditure of ` 15.61 lac each as 50% Government of India's share and 50% state share during the 11<sup>th</sup> Plan, an outlay of ` 2.50 crore each as 50% Government of India share and 50% state share has been provided in the 12<sup>th</sup> Five Year Plan. Against an outlay of ` 50.00 lac each as 50% Government of India's share and 50% state share during 2012-13, same outlay is provided in the Annual Plan 2013-14.

#### **FT-02/4 Intensification of Forest Management (75:25)**

*Outlay - ` 68.00 lac*

7.4.8 The aim of the scheme is to curtail the damage to forests due to fire, by creation and maintenance of fire lines, construction of watch towers and construction of water storage & deployment of fire watchers. It is proposed to create awareness amongst the people through JFM and by organizing camps. Staff shall be trained for prevention and fighting the forest fire. The funds provided under the scheme will be utilized for strengthening of infrastructure for forest protection by improved mobility and communication network, modern information technology systems, buildings for forest protection offices and residence for the frontline staff.

7.4.9 Against an expenditure of ` 3.37 crore as 75% Government of India's share and ` 1.13 crore as 25% state share during the 11<sup>th</sup> Plan, an outlay of ` 10.27 crore as 75% Government of India share and ` 3.42 crore as 25% state share has been provided in the 12<sup>th</sup> Five Year Plan. Against an outlay of ` 2.04 crore each as 50% Government of India's share and ` 68.00 lac as 50% state share during 2012-13, same outlay is provided in the Annual Plan 2013-14.

#### **FT-03/11 Assistance for the Development of Sanctuaries (50:50)**

*Outlay – ` 50.00 lac*

7.4.10 Earlier 100% funds were provided by Government of India for development of sanctuaries in the state. Now the funds are provided as 100% for some components and

50% for other components. As such a sharing scheme was introduced in state Plan on 50:50 sharing basis in addition to 100% Government of India's funded scheme during 2009-10. The scheme aims at the development of wildlife sanctuaries in the state. Works like fencing of the areas, construction of ponds and water holes, construction of check post, education and scientific studies on wildlife would be undertaken.

7.4.11 Against an expenditure of ` 1.86 lac as 50% Government of India's share and ` 1.86 lac as 50% state share during the 11<sup>th</sup> Plan an outlay of ` 2.50 crore each as 50% Government of India's share and 50% state share has been provided in 12<sup>th</sup> Five Year Plan. Against an outlay of ` 50.00 lac each as 50% Government of India's share and 50% state share during 2012-13, same outlay is provided in the Annual Plan 2013-14.

**FT-04/20 Development of Forest (13<sup>th</sup> Finance Commission)**

*Outlay – ` 2.30 crore*

7.4.12 The 13<sup>th</sup> Finance Commission has recommended preparation and implementation of scientific work plans for management of forests for the country as a whole. Under this programme, it is proposed to maintain the forests in the state as per working plans/management plans and review of existing plans, preparation of new plans in place of the expired ones, updation of growing stocks of forests which include enumeration of trees on forest lands, demarcation and survey of forests, preparation of high quality forest maps of some selected areas using modern tools & techniques and up-gradation of existing facilities related to collection, compilation and retrieval of field data .

7.4.13 Against an expenditure of ` 1.84 crore during the 11<sup>th</sup> Five Year Plan, an outlay of ` 11.50 crore has been provided in 12<sup>th</sup> Five Year Plan. Against an outlay of ` 2.30 crore during 2012-13, same outlay is provided in the Annual Plan 2013-14.

**FT-05/10 Punjab Forestry & Watershed Development Project and Promotion of ICT and e-Governance in the State**

*Outlay – ` 40.40 crore*

7.4.14 This is a comprehensive scheme comprising of number of sub components like raising of new plantations on forest lands, institutional and other non-forest government lands, farm forestry, forest research and training activities, infrastructure development including buildings and e-governance issues etc. It is proposed to undertake plantations over 20,000 ha of forest lands and 5,000 ha of institutional and other government land during the 12<sup>th</sup> plan period.

7.4.15 Against an expenditure of `35.62 crore during the 11<sup>th</sup> Five Year Plan , an outlay of `75.00 crore has been provided in 12<sup>th</sup> Five Year Plan. Against an outlay of `48.00 crore during 2012-13, an outlay of `40.40 crore is provided in the Annual Plan 2013-14.

**FT-06/21 Conservation Management and Development of Wildlife in the State**

*Outlay `25.20 crore*

7.4.16 The Protected Area network of the state consists of thirteen Wildlife Sanctuaries (WLS), two community reserves and one conservation reserve. It is proposed to enhance the scope of works pertaining to conservation and wild life in the state by addition of certain new activities such as replenishment of the old stock of exotic fauna in Chhatbir Zoo, setting up of helpline in each district for rescuing and rehabilitation of stray wild animals, conservation of cranes in Shalla Pattan Wetland in Gurdaspur district and conservation of Indus River Dolphin and turtles at Harike, conservation measures, habitat improvement including fencing of wildlife sanctuaries of the state, compensation for crop damage and livestock injury done by wild animals, development and upgradation of Bir Talab Mini Zoo Bathinda and upkeep of Tiger Safari at Ludhiana during the 12<sup>th</sup> plan period.

7.4.17 Against an expenditure of `5.97 crore during the 11<sup>th</sup> Five Year Plan , an outlay of `37.50 crore has been provided in 12<sup>th</sup> Five Year Plan. Against an outlay of `11.00 crore during 2012-13, an outlay of `25.20 crore is provided in the Annual Plan 2013-14.

**FT-07/22 Purchase of Land for Compensatory Aforestation on account of Non-availability of degraded land in the State**

*Outlay: `1.00 crore*

7.4.18 The objective of the scheme is to compensate the loss of forest land which takes place due to various development projects on forest lands such as roads, transmission lines, sewerage works, buildings etc. The non forest land will be purchased through the funds realized from the user agencies on royalty of the trees currently being given by the department as revenue to the state. The purchased land will be used for compensatory afforestation in lieu of the forest land being diverted for non-forest purpose. It is expected that net loss to the extent of forest area of the state due to developmental activities can be prevented through this scheme.

7.4.19 An outlay of ` 20.00 crore has been provided in 12<sup>th</sup> Five Year Plan. Against an outlay of ` 1.00 crore during 2012-13, same outlay is provided in the Annual Plan 2013-14.

**FT-08/23 Action to Control Environment Pollution in Critically Polluted areas in the State**

*Outlay: ` 4.36 crore*

7.4.20 The main objective of this scheme is to take corrective measures to mitigate the pollution levels and improve the environment in some of the critically polluted cities such as Ludhiana, Jalandhar, Mandi Gobindgarh and Batala. For this purpose, the department has prepared a detailed action plan for increasing forest/green cover, organizing trainings/seminars/awareness camps, providing green belt around the industrial area and the pollution sources in these cities. Action plan of approximately ` 21.50 crore has been prepared for afforestation and maintenance of plantation for atleast 5 years.

7.4.21 Against an expenditure of ` 1.00 crore during the 11<sup>th</sup> Five Year Plan, an outlay of ` 50.00 crore has been provided in 12<sup>th</sup> Five Year Plan. Against an outlay of ` 4.00 crore during 2012-13, an outlay of ` 4.36 crore is provided in the Annual Plan 2013-14.

**FT-09 Plantation along roads of Malwa Region**

*Outlay: ` 3.42 crore*

7.4.22 A new scheme has been included in the 12<sup>th</sup> Fiver Year Plan to carry out quality plantations on the major roads in Malwa region of the state. Major components of the project are Mesquite removal, urban plantation, avenue plantation, plantation in Pit Model in Blank areas & in waterlogged areas.

7.4.23 An outlay of ` 9.39 crore has been provided in 12<sup>th</sup> Five Year Plan. Against an outlay of ` 4.10 crore during 2012-13, an outlay of ` 3.42 crore is provided in the Annual Plan 2013-14.

**New Schemes**

**FT-10 Purchase of Mechanical tree spades for transplantation of fully grown trees**

*Outlay – ` 4.00 crore*

7.4.24 A new scheme has been included in the current year for purchase of Mechanical Tree Spades which are used in foreign countries for transplantation of fully grown trees from one place to another.

7.4.25 An outlay of ` 4.00 crore is provided in the Annual Plan 2013-14.

**FT-11 Rehabilitation of water logged and degraded areas through bio drainage, agro forestry and other plantation activities in Punjab (NABARD)(95:05)**

*Outlay – ` 1.00 lac*

7.4.26 Under “Green Punjab Mission” a 3 year project has been approved by NABARD at a total cost of ` 9039.13 lac. 95% of the cost i.e. ` 8587.17 lac would be provided by NABARD and balance 5% i.e. 451.96 lac would be provided by the state.

7.4.27 A token provision of ` 1.00 lac has been made for 2013-14.

**Centrally Sponsored Scheme (100%)**

**CS (FT)-04/1 Assistance for the Development of Sanctuaries**

*Outlay – ` 75.00 lac*

7.4.28 This scheme aims at development of wildlife sanctuaries viz Harike bird sanctuary, Abohar wildlife sanctuary, Bir Gurdialpura sanctuary, Bir Motibag sanctuary and Bir Bhunerheri sanctuary. Works like fencing of the areas, construction of ponds and water holes, construction of check posts education and scientific studies on wildlife are undertaken.

7.4.29 Against an expenditure of ` 58.35 lac during the 11<sup>th</sup> Five Year Plan, an outlay of ` 3.75 crore has been provided in 12<sup>th</sup> Five Year Plan. Against an outlay of ` 75.00 lac during 2012-13, same outlay is provided in the Annual Plan 2013-14.