

SN	Name of Sub-head/Scheme	12 th Plan (2012-17)		Annual Plan 2012-13
		Approved Outlay		Outlay for IT Sector
1	2	3	4	
ET 02/ET 2	Mission Mode Project for Computerization of Commercial Taxes (CS:SS)(65:35)	763.00	763.00	
	Sub-Total	24852.00	1763.00	
SECRETARIAT ECONOMIC SERVICES				
PM-03	Computer Cell of Punjab State Planning Board(Staff, equipment and consumeable etc).	150.00	28.10	
	Sub-Total	150.00	28.10	
REVENUE & REHABILITATION				
RR 01/RR-3	National Land Records Modernization Programme.(NLRMP)Componentwise shared	750.00	150.00	
	Sub-Total	750.00	150.00	
	Grand Total	344307.75	51643.67	
	% of Total Plan Outlay	4%	4.03%	

7.4 ECOLOGY AND ENVIRONMENT

Outlay Rs 411.00 lac

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 10 district level Biodiversity Management Committees (BMCs) in the state. Co-clubs have also been set up in 5000 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 Rs. 1119.77 lac incurred during 11th Five Year Plan, an outlay of Rs. 1285.00 lac is provided for 12th Five Year Plan. An outlay of Rs. 411.00 lac is provided for Annual Plan 2012-13 for the following schemes:-

On Going Schemes

State Funded Schemes

EE-1 Joint Programme with UNESCO

Outlay Rs 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 Rs. 2.55 lac incurred during 11th Five Year Plan, an outlay of Rs. 25.00 lac is provided for 12th Five Year Plan. An outlay of Rs. 5.00 lac is provided for Annual Plan 2012-13.

EE-2 Conservation and Management of State Wetlands

Outlay Rs 20.00 lac

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. Ministry of Environment and Forests, GoI provides funds for conservation of Harike, Kanjli, Ropar and Nangal wetlands. The activities are coordinated by DSTE through PSCST and works are carried out through respective line departments. For strengthening of this scheme funds are required for setting up a node for technology exchange and transfer for conservation of wetlands in Punjab.

7.4.7 Against an expenditure of Rs.1.00 lac incurred during 11th Five Year Plan, an outlay of Rs.100.00 lac is provided for 12th Five Year Plan. An outlay of Rs. 20.00 lac is provided for Annual Plan 2012-13.

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

Outlay Rs 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, both in English & Punjabi. 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. Awareness activities in form of workshops, seminars, lectures are also being carried out from time to time. 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.

7.4.9 Against an expenditure of Rs. 1.00 lac was incurred during 11th Five Year Plan, an outlay of Rs. 40.00 lac is provided for 12th Five Year Plan. An outlay of Rs. 8.00 lac is provided for Annual Plan 2012-13.

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

Outlay Rs.200.00 lac

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 Hydel Channel, remodeling of Bein, bio-fencing along the banks and development of catchments area.

7.4.11 An expenditure of Rs. 112.00 lac was incurred during 11th Five Year Plan. An outlay of Rs.200.00 lac is provided for 12th Five Year Plan and the Annual Plan 2012-13.

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

Outlay Rs 40.00 lac

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 the 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. Enami Bagh 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 trees 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 tree also needs to be declared as biodiversity heritage tree of Punjab.

7.4.13 Against an expenditure of Rs. 3.22 lac was incurred during 11th Five Year Plan, an outlay of Rs. 180.00 lac is provided for 12th Five Year Plan. An outlay of Rs. 40.00 lac is provided for Annual Plan 2012-13.

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

Outlay Rs 20.00 lac

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. The 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 Rs. 100.00 lac is provided for 12th Five Year Plan. An outlay of Rs. 20.00 lac is provided for Annual Plan 2012-13.

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

Outlay Rs 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 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, generate data and to make this project a regular feature. An outlay of Rs. 40.00 lac is provided for 12th Five Year Plan. An outlay of Rs. 8.00 lac is provided for Annual Plan 2012-13.

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

Outlay Rs 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 Rs. 50.00 lac is provided for 12th Five Year Plan. An outlay of Rs. 10.00 lac is provided for Annual Plan 2012-13.

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

Outlay Rs 100.00 lac

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 Rs. 550.00 lac is provided for 12th Five Year Plan. An outlay of Rs. 100.00 lac is provided for Annual Plan 2012-13.

Centrally Sponsored Schemes (100%)

CS (EE) -I Harike Wetland Project

Outlay Rs 50.00 lac

7.4.21 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, Amritsar 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. The Punjab State Council for Science & Technology is now trying to promote gainful utilization of water hyacinth, an invasive alien weed, by using its fiber for preparation of handicrafts. Local community and self-help groups set up by Forest Department are being trained with the help of NGOs. Against an expenditure of Rs. 179.00 lac was incurred during 11th Five Year Plan, an outlay of Rs. 250.00 lac is provided for 12th Five Year Plan. Against an expenditure of Rs. 28.93 lac was incurred during 2011-12, an outlay of Rs. 50.00 lac is provided for Annual Plan 2012-13.

CS (EE)-II Kanjli Wetland Project

Outlay Rs 20.00 lac

7.4.22 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 Rs.41.19 lac incurred during 11th Five Year Plan, an outlay of Rs. 100.00 lac is provided for 12th Five Year Plan. An outlay of Rs. 20.00 lac is provided for Annual Plan 2012-13.

CS (EE)-III Ropar Wetland Project

Outlay Rs 50.00 lac

7.4.23 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 230 ha 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 Rs.170.02 lac incurred during 11th Five Year Plan, an outlay of Rs. 250.00 lac is provided for 12th Five Year Plan. Against an expenditure of Rs.28.87 lac incurred during 2011-12, an outlay of Rs. 50.00 lac is provided for Annual Plan 2012-13.

CS (EE)- V Nangal Wetland Project

Outlay Rs 20.00 lac

7.4.24 Ministry of Environment & Forests, Govt. of India has included Nangal lake under National Wetland Conservation Programme in 2008. Against an expenditure of Rs. 70.47 lac incurred during 11th Five Year Plan, an outlay of Rs. 100.00 lac is provided for 12th Five Year Plan. Against an expenditure of Rs.37.32 lac incurred during 2011-12, an outlay of Rs. 20.00 lac is provided for Annual Plan 2012-13.

7.5 FORESTRY AND WILD LIFE

Outlay – Rs.72.08 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 6.07% 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.

7.5.2 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)
A. GOVERNMENT FORESTS		
1	Reserve Forests	4336
2	Protected Forests	41684
3	Strip forest (Roads, Railways, Canals, Drains)	73612
4	Unclassed Forests	18775
Total Government Forests		138407
B. PRIVATE FORESTS		
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
Total Private Forests		167320
Grand Total		305727

7.5.3 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,