

## CHAPTER – IX

### SCIENCE TECHNOLOGY & ENVIRONMENT

#### 8.1 SCIENCE & TECHNOLOGY

**8.1.1.** A number of programmes are taken-up Science & Technology Sector to promote Science & Technology for over-all development of the State. Such programmes include Popularization of Science Programme, Introduction of Appropriate Technology Programme, Specific Projects Programme, Students' Projects Programme, S&T Library & Documentation Programme, S&T Entrepreneurship Development Programme, Science Centres Programme, Bio-Resources Development Programme and Remote Sensing Application Programme.

**8.1.2** Against the projected Eleventh Plan (2007-12) outlay of **`.1500.00** lakh, the actual expenditure during the first four years of the Plan was **`.853.15 lakhs**. The approved outlay for the Annual Plan 2011-12 is **`.335.00 lakhs** and the entire amount is expected to be utilized.

#### **8.1.3 Review of the Eleventh Plan:-**

In the 11<sup>th</sup> Plan, concentration has been made in the area of popularization of science with the ultimate goal of generating scientific minded citizens in the State. Concentration has also been made in the field of introduction of appropriate technology in the State, particularly, societal technologies aimed at improving the living conditions of the people, especially those living in rural areas. Efforts have also been made in the 11th Plan to promote S&T entrepreneurship and to tackle local-specific problems through few specific projects and studies. Environmental consciousness generation among the masses has also been taken-up during the 11th Plan through various programmes with school children and the people in the community. A programme on meaningful conservation and sustainable utilization of bio-resources of the State has been continuing during the 11th Plan.

Lately, another two agencies for promotion of Science & Technology in the State have been established, namely, the Bio-Resources Development Centre, Shillong and the Shillong Science Centre. Bio-Resources Development Centre was set-up with the mission to promote meaningful conservation and sustainable utilisation of bio-resources of the State. Shillong Science Centre was set-up with the prime objective of creating science awareness in the State and promoting science learning through fun.

The various activities carried out in the State under the different S&T programmes in the 11<sup>th</sup> Plan would also continue during the 12<sup>th</sup> Plan period. However, efforts would be made to strengthen and enhance such activities suitably.

**8.1.4** The proposed outlay for the Science & Technology sector for the Twelfth Plan (2013-17) is **`.3650.00 lakh** which include **`.1350.00 lakh** for Bio-technology. The Annual Plan 2012-13 budgetted allocation of **`.975.00 lakh** has been provided which include **`.50.00**

lakhs for Regional Centre for Science & Technology, `200.00 lakh for Bio-technology and `350.00 lakhs for TFC Award for District Innovation Fund .

**8.1.5 Twelfth Plan Programmes:** The various S&T programmes proposed for the 12<sup>th</sup> Plan are described here under:

- 1. Popularisation of Science Programme:** This programme has become a regular Science & Technology activity in the State. It is implemented with the objective of inculcating a scientific temper amongst the people of the State and with a mission to ultimately generate scientific-minded citizens in the State. Schemes like State-level Science Environmental Fair, Block-level Science Environmental Fairs, National Children's Science Congress, Meet-the-Scientist Programme, Science Awareness Camps, Environmental Awareness Programme, Science Talent Competitions, Science Exposure Trips, etc., are implemented in the State under this programme. During the 12<sup>th</sup> Plan period, it is proposed to continue with the Popularisation of Science Programme.
- 2. Introduction of Appropriate Technology Programme:** This is a major thrust programme in the 11<sup>th</sup> Plan under the Science & Technology sector in the State. This programme is aimed at promoting the application of various appropriate technologies for all round development of the State, particularly at the societal-level. Such technologies are improved chulha, water filtration, low-cost sanitation, stabilised mud-block, organic composting, low-cost cold storage, low-cost oven, pedal pump, hydraulic ram pump, rain water harvesting, paper re-cycling, solar LED lighting, etc.. These technologies are propagated in the State through various programmes like Technology Initiation Programme, Technology Demonstration Programme, Technology Experimentation Programme, etc. Under the Technology Initiation Programme, awareness camps, demonstration camps and training camps are organised in different parts of the State at village-level in order to initiate the intervention of appropriate technology at the grass root-level. New and innovative technologies are experimented in the State from time-to-time through the Technology Experimentation Programme. Under Technology Demonstration Programme, successful technologies are demonstrated to the people through various demonstration units installed at different places in the State. Introduction of Appropriate Technology Programme would also continue in the 12<sup>th</sup> Plan.
- 3. Specific Projects Programme:** Specific projects are taken-up from time-to-time in association with various research agencies in the Country with a view to generate scientific solutions to problems affecting the people of the State. This programme will continue in the 12<sup>th</sup> Plan.
- 4. Students' Projects Programme:** Schemes to encourage students to get themselves involved in research-based activities would be initiated. Such schemes would be benefited by students of different levels i.e. school, college and university levels which would also continue in the 12<sup>th</sup> Plan.
- 5. S&T Entrepreneurship Development Programme:** Technology-Oriented Entrepreneurship Development Programmes and Technology-Oriented Entrepreneurship Awareness Camps are organised in the State from time-to-time to expose the unemployed youth to various innovative technologies which could be made use-of for self employment generation which would also continue in the 12<sup>th</sup> Plan.

6. **S&T Library & Documentation Programme:** Under the Library & Documentation Programme, various scientific journals, books and magazines, etc., are procured regularly for the Library of the State S&T Council. From time-to-time, S&T newsletter, technology leaflets/brochures, etc., are also brought out under this particular programme. Documentation of S&T activities in the State is also taken-up under this particular scheme regularly. S&T Library & Documentation Programme would also continue in the 12<sup>th</sup> Plan.
7. **Science Centres Programme:** Under this particular programme, financial support is provided to the Shillong Science Centre for its day-to-day activities and its various programmes and projects. The Centre is an institution set-up for promoting science awareness among the public, particularly school children, and is functioning as an autonomous society of the State Govt. Under this programme, financial support is also provided to the State S&T Council for maintaining the Science Halls at different district headquarters. Under this programme, financial support is also provided to the State S&T Council for maintaining the Science Halls at different district headquarters.
8. **Bio-Resources Development Programme:** Under this particular programme, financial support is provided to the Bio-Resources Development Centre for meeting its various day-to-day expenses and expenses for carrying out its various projects and programmes. The Centre was set-up in the State for promotion of the conservation and sustainable utilisation of bio-resources in the State. The Centre is operating as an autonomous society of the State Government. Support to the Bio-Resources Development Centre will also continue during the 12<sup>th</sup> Plan period under this particular programme. However, few new initiatives would also be taken-up under this programme for meaningful conservation and utilisation of bio-resources in the State.
9. **Remote Sensing Application Programme:** Considering the potential for remote sensing application, including geo-spatial technology application, in various developmental sectors in the State, a number of remote sensing and GIS based-application projects have been proposed for implementation during the 12<sup>th</sup> Plan period. The proposed projects would be undertaken in close association with the North Eastern Space Applications Centre.
10. **State S&T Cell / S&T Council :** The provision for meeting the various establishment and operational expenses in the State S&T Cell and the State S&T Council would also continue in the 12<sup>th</sup> Plan.
11. **TFC Award for District Innovation Fund :** The Thirteenth Finance Commission in its report has recommended creation of the District Innovation Fund (DIF) aimed at making cutting edge levels of governance responsive to felt needs and innovations. This untied fund of Rupees One Crore, to be made available to every district in the country, aims at increasing the efficiency of capital assets already created. This investment will be used to fill in vital gaps in public infrastructure already available in the District, which is not being fully utilised for want of a relatively small investment.

**8.1.6.** The break up of the Twelfth Plan (2012-17) and the Annual Plan 2012-13 are indicated in the Table below:-

`In lakhs.

Sl. No	Name of the Scheme	Twelfth Plan (2012-17) Proposed Outlay	Annual Plan 2012-13 Budgetted Outlay
1.	2.	3.	4.

1.	Popularization of Science Programme	300.00	60.00
2.	Introduction of Appropriate Technology Programme	400.00	100.00
3.	Specific Projects Programme	50.00	15.00
4.	Student' Projects Programme	20.00	0.00
5.	S&T Entrepreneurships Devevelopment Programme	50.00	15.00
6.	S&T Library and Documentation Programme	30.00	5.00
7.	Science Centres Programme	150.00	35.00
8.	Bio-Resources Development Programme.	150.00	65.00
9.	Remote Sensing Application Programme.	50.00	5.00
10.	State S&T Cell/Council	200.00	75.00
11.	Promotion of Bio- Technology	1350.00	200.00
12.	Regional Centre for Science & Technology	200.00	50.00
13.	TFC Award for District Innovation Fund	700.00	350.00
	<b>TOTAL</b>	<b>3650.00</b>	<b>975.00</b>

## 8.2. INFORMATION TECHNOLOGY

**8.2.1.** The State of Meghalaya has been a late starter in the field of IT. The IT Industry in the State is in a nascent stage and very few e-governance applications have been developed and rolled out. Basic IT infrastructure in the State is deficient. Most Government offices are not connected to the Internet and PC penetration amongst the population remains low. In respect of e-readiness, the State is a level 5 (five) achiever (below average). Since Meghalaya has been a laggard in IT, it has been unable to reap the benefits of the IT revolution in terms of jobs for local youths or increase in the State GDP. Youth from the State are forced to migrate to other parts of the country to find jobs in BPOs and software companies.

**8.2.2** Against the projected Eleventh Plan (2007-2012) outlay of **`6307.00lakh** in respect of Information Technology, the actual expenditure during the first four years of the Plan was **`2087.72 lakh**. The approved outlay for the Annual Plan 2011-12 is **`1300.00 lakh** and the entire amount is expected to be utilized.

### 8.2.3 Review of the Eleventh Plan:

The Plan Outlay of Information Technology Department during the Eleventh Plan was Rs.5000.00 lakh and the approved outlay by Planning Department was Rs.4532.00 lakh. From 2007-08 onwards the Department has been implementing Plan schemes like building up of IT infrastructure, furnishing of its newly allotted space, establishing and support for GIS activities in collaboration with NESAC, set up Computer Learning Centres in District Headquarters, participating in IT events, conducting IT related seminars and workshops, contribute towards setting up of IT Park by STPI, Govt. of India, made other contributions to other agencies and NISG, gave financial support to colleges for setting up of CISCO Networking Academies, providing internet connectivity to colleges etc. Apart from

these, the Department is also implementing State Wide Area Network, StateDataCenter, State Service Delivery Gateway and CommonServiceCenter under NeGP which are funded by the Govt. of India. To strengthen its effort to develop IT infrastructure and GIS activities, the Department has also received financial support from the North Eastern Council (NEC). Under the scheme IT Education Awareness funded by NEC, many schools have been benefitted under the Eleventh Plan.

The Department has also conducted the IT Skills training & IT Education courses for the unemployed youth of the State in a tie up with international company-Sysmantech Asia and NIIT. Many youths have completed the courses and employed in various sectors.

#### **8.2.4 Approach and Strategy for the 12<sup>th</sup> Plan (2012-2017):**

As already mentioned earlier that the State of Meghalaya has been a late starter in the field of IT, a comprehensive strategy is, therefore, necessary to simultaneously address the various issues involved. At the outset, it is absolutely vital to build up core IT infrastructure in the State namely, State Data Centre (SDC), State Wide Area Network (SWAN), Common Service Centres (CSC) and State Service Delivery Gateway(SSDG), the pillars of e-Governance. **It is our pride to state that the above NeGP Schemes, supported by the Government of India has been completed during 2011 except for SSDG which has been commissioned in April 2012.** These projects are also the key components of an initiative by the Government of India and substantial funding in this respect is available from the Ministry of Communications and Information Technology. However, there is also a significant counterpart state funding involving in respect of core infrastructure. While the precise quantum in respect of SDC cannot be assessed right now in the absence of Government of India guidelines, it is clear that in respect of the SWAN, to extend the horizontal connectivity to various Govt. Offices in the State, District, Subdivision and Block level would have to be borne by the State. The State would have to also budget for a disaster recovery centre and some support entrepreneurs for the CSCs.

A strategic IT vision for the State titled “IT Vision 2020” has been drawn up by the State Government to cover various aspects of ICT development for the State as well as for promoting Meghalaya as a destination for IT investment. The overriding focus of the vision is the creation of jobs through ICT within the State. In addition to core infrastructure, one of the key elements of this vision is the setting up of IT Estate. While options in respect of Public Private Partnership (PPP) would be kept open, given the prevailing conditions in the North East it shall be necessary for the Government to take the lead in building up this Estate. Another vital element of the vision would be the extension for building up of skill sets and capabilities amongst the youth as well as teaching institutions so as to create an adequate pool of employable personnel.

#### **8.2.5 Initiatives for Inclusive Development:**

The SWAN programme of the State Government is providing connectivity to all the 7 Districts, 8 Sub-Divisions and 39 Blocks of the State. Connectivity in the form of optical fiber, leased line and VSAT is being provided at the Districts, Sub-Divisions and Block Head Quarter depending on the area. At the remaining 14 Blocks, since no telephone connecting exist, VSAT connectivity has been provided initially. It is anticipated that once BSNL sets up telephone exchanges at these locations, the Block Headquarters will also get connectivity through fiber. This would ease the communications among various Government offices across the State. The state of the artStateDataCenter which was commissioned in 2011

will host all the applications from various departments under one roof. These CSCs would be the delivery points for various e-governance applications till the grass root level is developed under the e-Governance Programme funded by Government of India.

#### **8.2.6 Thrust areas under IT sector:**

A major challenge would be the introduction of IT education in the rural schools and colleges so as to enhance job skills of rural youth. Some of this would be taken up through the Sarva Shiksha Abhiyan (SSA) but focused initiatives would be launched by the IT Department along with the Education Department in partnership with National and International IT companies. This needs to be done through a Human Resource Development (HRD) plan which will be drawn up by the IT Department in tune with market requirements.

GIS based applications are particularly relevant in the State in terms of reaching out to common people in the areas of forestry, agriculture, horticulture, road connectivity and disaster preparedness and mitigation. A state of the art GIS lab has been set up by the State and works have been initiated on some applications using remote sensing and satellite data. This work would be taken up on a much larger scale involving local communities and other user Departments. Professional agencies are proposed to be engaged in the task. During the Plan period equipment augmentation along with funding for application projects would be required.

IT Department requires a larger floor area to conduct training programmes, seminars, conferences and other events. It is proposed that a building be constructed at New Shillong Township with facilities like auditorium, training halls, etc. which will be necessary while setting up of an IT Estate, the land for which has already been handed over by Urban Affairs Department. The construction of the building would be as per international standard and executed by reputed IT estate construction companies. This would help various companies to come and set up their business, thereby enabling the growth of employment in the State.

The growth of IT sector primarily depends on the availability of knowledge professionals and the shortage of skilled manpower in this sector is expected to touch 5 lakh as per NASSCOM report and for this the Department proposes to promote IT education in the State. With STP coming up in the State, skilled manpower would be required by companies setting up shop at STPI. Software development and training will be the thrust areas to provide the manpower requirement of IT industry.

**8.2.7 The proposed outlay for the Information Technology sector for the Twelfth Plan (2013-17) is `8850.00 lakh which includes ` 1350.00 lakh for GIS and Geo Spatial technology. The Annual Plan 2012-13 budgetted allocation of `1710.00 lakh has been provided which includes ` . 200.00 lakh for GIS and Geo Spatial technology.**

**8.2.8 The Department proposes to continue with the programmes and schemes it has taken up during the 11<sup>th</sup> Plan period as indicated under:-**

1. Conducting of seminars, conferences, workshops, etc.
2. Furnishing of the Department, etc.

3. Departments are going in for computerization of its entire setup for which a comprehensive SRS has to be prepared before actual implementation.
4. Printing and publication of IT related publications.
5. Participation in workshops, seminars, conferences, exhibitions etc. is proposed to be continued during the 12<sup>th</sup> Plan period.
6. Training of Govt. employees.
7. Contribution to IT institutions/agencies/NRIS etc.
8. A number of technical and non-technical posts need to be created with the proposed expansion of the Department/creation of the Directorate.
9. Procurement of IT related publications/magazines.
10. Publishing of advertisements both in the print and electronic media.
11. Broadband internet connectivity to senior Govt. officers and subscription/renewal of internet connection already provided.
12. Networking/LAN cabling needs to be continued for providing a dedicated network of the computers provided to the Departments, offices and the Secretariats.
13. E-governance/GIS Applications.
14. Computing infrastructure in all the 7 districts will need to be augmented over the years of the 12<sup>th</sup> Plan.
15. Printing of training materials and brochures for participating/conducting of workshops, seminars, conferences etc.
16. Common Service Centre (CSC) the delivery points for various e-governance applications.
17. State Data Centre (SDC) - the store house for State data.
18. Implementation of State Wide Area Network (SWAN) upto the last mile.
19. IT Education budgeted by IT Department.
20. Innovative schemes in line with the trend and advancement of technology is proposed to be taken up for the benefit of the masses during the 12<sup>th</sup> Plan period.

### **8.2.9 New schemes under the Twelfth Five Year Plan (2012-2017)**

1. Incentives to entrepreneurs under IT Policy.
2. Research and development on IT front.
3. Provision of network and computing infrastructure security - which is essential for the IT computing infrastructure.
4. Establishment of IT Estate/City in New Shillong Township, for the growth of IT and its related industries in the State.
5. Technological and financial support to ICT promotional activities.
6. Extension of SWAN Horizontal connectivity.
7. Setting up of IP Phones in various Govt. Departments.
8. Managing and monitoring the NeGP projects set up in the State.
9. Office Building for Directorate of IT.
10. Any other

**8.2.10** The break up of the Twelfth Plan (2012-17) and the Annual Plan 2012-13 are indicated in the Table below:-

Rs. In lakhs.			
Sl. No	Name of the Scheme	Twelfth Plan (2012-17) Proposed Outlay	Annual Plan 2012-13 Budgetted Outlay
1.	2.	3.	4.
1.	Development of IT Infrastructure	860.00	250.00
2.	Development of e-Governance	850.00	200.00
3.	Other Promotional Activities	450.00	130.00
4.	Contribution to ICT Institutions/ IT Society	140.00	10.00
5.	HRD Training with international certification	2600.00	575.00
6.	ACA for NeGAP	2600.00	345.00
7.	GIS/Geo Spatial Technology	1350.00	200.00
	<b>TOTAL =</b>	<b>8850.00</b>	<b>1710.00</b>

### 8.3. ECOLOGY AND ENVIRONMENT

**8.3.1.** The Eleventh Plan (2007-2012) Outlay for Ecology and Environment sector is ` 700.00 lakh and the actual expenditure for the first 4(four) years of the Plan i.e. 2007-08 till 2010-11 was ` 310.74 lakh. The approved outlay for 2011-12 is ` 135.00 lakh. This amount is expected to be utilized fully. The anticipated expenditure for the eleventh plan is therefore comes to ` 445.74 lakh. **The proposed outlay for the 12<sup>th</sup> Five Year Plan is ` 1000.00 lakh and the amount proposed for the Annual Plan 2012-13 is ` 160.00 lakh.**

**8.3.2** State Government through the State Forest & Environment Department has undertaken various measures for maintenance and improvement of the environment and ecological balance in the State. Such activities include creation and maintenance of nurseries, urban aesthetic and roadside plantations, setting up of public sanitary blocks, publicity and awareness measures etc.

### 8.4. FORESTRY AND WILDLIFE

**8.4.1** The Forests & Environment Department is one of the oldest departments of the un-divided State of Assam. After the creation of a separate State of Meghalaya in 1972, the department took birth with only two divisions namely the Khasi Hills Division and the Garo Hills Division and the activity of the department was mainly restricted to protection and management of the government owned Reserved Forests (RFs) & Protected Forests (PFs) and enforcement of the Assam Forest Regulation, 1894 adopted by the Meghalaya as the Meghalaya Forest Regulation, 1973.

At present, the strength of the Deptt. has increased to 19 Divisions undertaking multifarious activities; not only for the conservation, improvement and sustainable utilization of forests constituting more than three-fourth of the total geographical area of the State, but also for conservation and improvement of wildlife and their habitat in the entire State. The Department today is directly responsible for enforcement of four central statutes; namely the



Indian Forest Act, 1927, the Wildlife (Protection) Act, 1972, the Forest (Conservation) Act, 1980 and the Biological Diversity Act, 2002 along with four State statutes; namely the Meghalaya Forest Regulation, 1973; the Meghalaya Forests (Removal of Timber) (Regulation) Act, 1981, the Meghalaya Tree (Preservation) Act, 1976 and the Meghalaya Protection of Catchment Areas Act, 1990. It is also responsible for enforcement and execution of wide ranging orders passed by the Hon'ble Supreme Court of India, Hon'ble Guwahati High Court and other courts of laws.

**8.4.2.** The Eleventh Plan (2007-12) Projected Outlay for the sector is ` 16000.00 lakh. The actual expenditure incurred for a period of the first 4(four) years i.e. 2007-08 to 2010-11 of the Plan was `12341.39 lakh. The approved outlay during 2011-12 is `4250.00 lakh which includes `2101.00 lakh under TFC award and ` 50.00 lakh for setting up of a Bird Sanctuary and ` 4020.00 lakh is expected to be fully utilized. The Eleventh Plan anticipated expenditure is therefore comes to `16541.39 lakh. **The proposed outlay for the Twelfth Plan period is ` 32600.00 lakh and the proposed outlay for the Annual Plan 2012-13 is ` 7875.00 lakh including the Award under the Thirteen Finance Commission.**

#### **8.4.3. Achievements made during the Eleventh Plan Period:--**

- i) During the Eleventh Plan period, creation, plantations and maintenance of plantation nurseries were taken up in the State both within the govt. lands and the community/privately land covering an area of about 17546 hectare. .
- ii) The number of seedlings raised under forest nurseries which were distributed to the public was about 99,14,000 nos.

#### **8.4.4. Objectives and Strategy for the 12<sup>th</sup> Five year Plan (2012-2017)**

The state of Meghalaya has been entrusted with both regulatory as well as development works. The regulatory works have increased in the wake of the Supreme Court judgement WP 202/95 where cases under FC Act for various forest diversions in matters of establishment of industries etc and regulation and protection of forests etc. have increased tremendously. Creation of enforcement infrastructure as per Supreme Court directions shall be initiated in vulnerable areas. In matters of development, afforestation on clan/ community land through Joint Forest Management Committees will continue. Thrust will be given in medicinal plants and bamboo sectors apart from normal plantations. There will also be measures on protecting catchment areas critical to water supply projects as well as in other critical stream and river banks.

In the wildlife sector, efforts will be made to conserve areas of rich biodiversity where efforts will be made to identify community conservation areas. Efforts will be made to provide timely ex-gratia payment to people affected by elephant depredation. Elephant migratory routes shall be identified and works and works to minimize man-elephant conflict shall be undertaken.

#### **8.4.5. Forestry and Wildlife**

This scheme aims at intensification of management of forest areas, especially the Reserved Forests, Protected Forests, Green Blocks etc. under its direct administrative control of the department. The amount available under the head is required to defray day-to-

day expenses and also engagement of professionals etc. at Divisions, Ranges, & Beats in Territorial and Forest Utilization Divisions.

#### **8.4.6 Education and Training**

The deptt is imparting training to front-line field functionaries of the Department in the rank of Forest Guard and Forester at the ForestGuardTraining School, Darugiri. Meghalaya Forest Service (MFS) Officers and Forest Rangers on their initial appointment to their respective services are being sent to receive Induction Training at StateForestServiceCollege.

#### **8.4.7 Survey and Utilization of Forest Resources**

The deptt through the Working Plan and Forest Resources Survey Divisions have make preparation of working plan for Government owned forests and survey & inventory of forest resources available in the State to facilitate scientific harvesting, management and utilization of the vast forest resources available in the State.

#### **8.4.8 Forest Conservation and Development**

Forests are under severe threat from miscreants and organized timber smugglers which needs protection through effective patrolling; including strengthening of the patrolling infrastructure viz. purchase of arms and ammunition, construction of Beats, Sub-beats and patrolling camps etc. in the vulnerable forest areas.

Under this scheme the deptt is also undertake works like creation, maintenance and improvement of public parks, children's parks and other information, education and communication (IEC) infrastructure.

#### **8.4.9 Social & Farm Forestry**

The land belonging to the communities, clans and in some cases lands which are privately owned by individuals are being taken up by the Deptt. for creation and maintenance of plantation and nurseries. This is to augment the work taken up under the National Afforestation Programme and upkeep of existing plantations.

#### **8.4.10 Assistance to Public Sector and Other Undertakings**

Under this scheme sanction of *grants-in-aid* to the Forest Development Corporation of Meghalaya (FDCM) Limited and the Meghalaya State Medicinal Plants Board for carrying out creation and maintenance of medicinal plants and Bamboo which are growing abundantly in the State.

#### **8.4.11 Wildlife Preservation**

Day-to-day expenses are being incurred on conservation and improvement of wildlife and their habitat in general and protection and management of various National Parks and Wildlife Sanctuaries viz. BalpakaramNational Park, NokrekNational Park, Siju Wildlife Sanctuary, Nongkhylllem Wildlife Sanctuary, Pitcher Plant Sanctuary, in particular. The

scheme is also meant for protection works under the four Wildlife Divisions (including Ranges and Beats under their administrative control) and two Wildlife Circles.

#### **8.4.12 Zoological Parks, Public Gardens**

There are many parks and gardens in the state which have to be protected, manage, upkeep and improvement viz. LumNehruPark, located at Umiam and the NehruPark located at Tura, LadyHydariPark, Wards Lake State Central Library Park etc.

#### **8.4.13 Other Expenditure - Contribution to Eco-Development Society**

The Department sanction *grants-in-aid* to the Eco-Development Society, Tura to facilitate payment of Salaries and wages to its staff and to defray its day to day expenses. A part of amount available under the above head is also utilised to undertake suitable eco-development activities in the vicinity of the Balpakaram National park, Nokrek National Park, Siju Wildlife Sanctuary and other wildlife rich areas located in Garo Hills region of the State.

#### **8.4.14 Thirteenth Finance Commission Award**

Having recognised the fact that Forest in India constitute first line of defence against pollution resulting from economic activities, whether of industrial or agriculture in origin, the Thirteenth Finance Commission (ThFC) recommended that there is a paramount need to carry forward the grants-in aid for maintenance of forests as recommended by its predecessor, i.e., the Twelfth Finance Commission. The ThFC has recommended a grant of ` 168.08 crore for Maintenance of Forests for five years i.e. for the period 2010-11 to 2014-15. Year-wise distribution of the above grant is as below:

2010-11 and 2011-12: ` 21.01 crore per annum

2012 -2013 to 2014-15: ` 42.02 crore per annum

The ThFC further recommended that release of the grant during first two years will be unconditional; however release of the above grant during the next three years will be linked to progress on preparation and approval of working plan. During the last three years the entire grant earmarked in favour of a State for the year will be released only if at-least 80 % of the forest area available in the State is covered by the working plan duly approved by the Ministry of Environment & Forests, Government of India. In case area of forests covered by approved working plans is less than 80 % the release of the grants will be proportionately reduced. The ThFC further recommended that 75% of the above grant will be for developmental purposes and the remaining 25 % is for preservation of forests wealth.

During the financial year 2012-13 the outlay under the above component is therefore proposed to be pegged at ` 42.02 crore as recommended by the Thirteenth Finance Commission.

#### **CENTRALLY SPONSORED SCHEME – Intensification of Forest Management Scheme**

The Central Government has been providing financial assistance to the State Forest Departments to supplement their efforts of forest protection through a Centrally Sponsored Scheme called Integrated Forest Protection Scheme. The Scope of this Scheme has been expanded by adding four new components which are forest management interventions and accordingly the name of the Scheme has been changed to Intensification of Forest Management Scheme.

This is a centrally sponsored scheme for which 90 % of the total outlay is funded by the Ministry of Environment & Forests, Government of India. The scheme is divided into the following components:

- **Forest Fire Control and Management** containing various items of work to prevent and successfully manage and control accidental forest fires.
- **Strengthening of Infrastructure for Forest** containing various items of works for upgradation of the existing infrastructure facilities available with the Forest Department to ensure successful implementation of its assigned duties.
- **Working Plan Preparation/ Survey and Demarcation** containing provisions for survey & assessment of the forestry resources available in the state and preparation of working plans for scientific management of these resources on the principals of sustainability.
- **Conservation and Restoration of Unique vegetation and Eco-system.**
- **Protection and Conservation of Sacred Groves.**
- **Control and Eradication of Forest Invasive Species.**

#### 8.4.5. Proposed 12<sup>th</sup> Plan & Annual Plan 2012-13 outlay:-

The break up of the expenditure of the 11<sup>th</sup> Five Year Plan & the outlay proposed for the 12th Five Year Plan and the Annual Plan 2012-13 as indicated in the table below:-

( ` . Lakh)

Name of scheme	11 <sup>th</sup> Plan projected outlay (2007-12)	Cummulative actual Expd. 2007-08 to 2010-11	Approved outlay 2011-12	Anti. expd. 2011-12	Proposed Outlay for the 12 <sup>th</sup> Plan	Proposed outlay for Annual Plan 2012-13
Direction & administration	1200.00	681.86	308.70	275.00	1500.00	400.00
Training	500.00	265.04	102.00	75.00	794.00	150.00
Survey of Forest Resources	270.00	152.87	47.00	40.00	400.00	60.00
Statistics	150.00	65.94	23.00	20.00	200.00	30.00
2406-070-Communication & Bldg	300.00	454.26	315.00	250.00	700.00	400.00
Forest Conservation & Dev.	1000.00	556.42	171.60	150.00	1000.00	350.00
Social & farm Forestry	3000.00	1594.31	572.04	525.00	6500.00	1100.00
Assistance to public sector & farm other undertakings	300.00	173.70	115.00	100.00	900.00	150.00
Preservation of wildlife	2500.00	646.22	255.11	220.00	6000.00	513.00
Zoological parks	200.00	67.24	37.46	30.00	300.00	100.00
Public gardens	200.00	145.44	60.09	53.00	400.00	150.00
Contribution of Eco Development Society	200.00	197.93	62.00	54.00	750.00	85.00
Forest Conservation & Regeneration (i) Acquisition of Mawpalai Afforestation Area.	-	1000.00	-	-	-	-
12 <sup>th</sup> /13 <sup>th</sup> Finance Commission Award						
a) Maintenance of Forest	4100.00	6219.39	2101.00	2101.00	12606.00	4202.00
b) Establishment of Zoological Parks &						

Botanical Garden.						
Bamboo Mission	1500.00	-	--	-	-	-
Agricultural Research & Education .	100.00	53.11	25.00	23.00	500.00	30.00
4406-Communication & Building	480.00	67.66	5.00	4.00	50.00	5.00
Setting up of Bird sanctuary	-	-	50.00	50.00	-	150.00
<b>Total</b>	<b>16000.00</b>	<b>12341.39</b>	<b>4250.00</b>	<b>3970.00</b>	<b>32600.00</b>	<b>7875.00</b>