

INDEX

Page Nos.

1. INTRODUCTION	1
2. UPGRADATION OF GENERAL ADMINISTRATIVE SERVICES	3
2.1. Police Administration	3
2.1.1. Strengthening the Police Force.....	3
2.1.2. Housing for Police Force.....	3
2.1.3. National Police Mission	3
2.2. Human Resource Development Department	4
2.2.1. Establishment of District Institute of Education and Training (DIET)	4
2.2.2. Infrastructure Development for Replacement of Old Schools	5
2.2.3. Upgradation and Improvement of Playfield	5
2.2.4. Increase in the Number of Colleges	5
2.3. Public Works Department.....	5
2.3.1. Construction of Secretariat building at Raj Bhawan	5
2.3.2. Construction of Secretariat Annexe Building at Tashiling Complex.....	6
2.4. Urban Development & Housing.....	7
2.4.1. Drainage	7
2.4.2. Construction of Toilets	7
2.4.3. Hatsheds	7
2.4.4. Maintenance of Capital Assets	7
2.4.5. Upgradation of Towns	8
2.4.6. Garbage Disposal.....	8
2.4.7. Computerisation	8
2.4.8. Public Awareness Campaign	9
2.4.9. Multi-storey Parking Plazas at Mangan, Gyalshing and Namchi.....	9
2.4.10. Development of Sokeythang to create- Habitat Centre, State Children's Park, State Library, Community Centre, Food Centre etc.....	11
2.5. Capacity building for Administration and Fiscal reforms	18
2.5.1. Establishment of State Capacity Building Institute.....	18
2.5.2. Capacity building for Tax Administration	18
2.5.3. E-Governance - Development of an Integrated Financial Management Information System (IFMIS) for the Finance, Revenue and Expenditure Department	20
2.5.4. Improving Statistical Infrastructure.....	24
3. UPGRADATION OF SOCIAL AND CULTURAL SERVICES	26
3.1 Conservation of Heritage and Culture of Sikkim	26
3.1.1 Restoration/Preservation of Monasteries and Mandirs.....	26
3.1.2 Documentation of the Intangible Heritage of the State	26
3.1.3 Upgradation of Museum.....	27
3.1.4 Upgradation of Archives	27
3.1.5 Preservation/Restoration of Traditional Houses.....	27
3.1.6 Preservation/Restoration of Historical Buildings.....	27
3.1.7 Preservation/Restoration of Chorten, Mendangs and Mani Lakhang	28
3.1.8 Preservation of Devithans and Pilgrimage Centers	28

3.1.9	Preservation of Sacred Caves, Water Bodies and Hermitage.....	28
3.1.10	Revival of Traditional Arts and Crafts	29
3.1.11	Restoration/Preservation of Various Ruins in the State	29
3.2	Health Care, Human Service and Family Welfare Department.....	29
3.2.1	Upgradation of the Sir Thutob Namgyal Memorial Hospital into a 500-Bed Multi-specialty Hospital	29
3.2.2	Health Insurance Scheme for BPL Families of Sikkim.....	31
3.3	Water Security and Public Health Engineering Department	32
3.3.1	Upgradation of Namchi Water Supply scheme	32
3.3.2	Over-hauling of Lower Changay Source for Gyalshing Water Supply	33
3.3.3	Overhauling of Rabdentse Water Supply Scheme, Gyalshing	33
4.	UPGRADATION OF ECONOMIC SERVICES	35
4.1	Promotion of Tourism.....	35
4.1.1	Passenger Ropeway from Dodak to Barsey Rhododendron Sanctuary in West Sikkim.....	36
4.1.2	Nature Interpretation Centre, Eco-Lodge, Meditation Centre and Crafts Village at Cho-Dzo, Ravangla.	38
4.1.3	Promotion and Development of Village and Eco-tourism	41
4.1.4	Creation of Hydro-Tourism with River Course Development along the Teesta and Rangit rivers.	43
4.1.5	Snow Tourism Infrastructure at Lachen Village	45
4.1.6	Development of Wetland Tourism of Guru-Dongmar	46
4.1.7	Development of Neh, as a tourist destination.....	47
4.1.8	Construction of Skywalk at Bhaley Dunga, Yangyang.....	49
4.1.9	Construction of Darap Village Tourism Project.....	50
4.2	Forest Conservation & Environment Management.....	51
4.2.1	Conservation Oriented Forest Policy.....	51
4.2.2	Establishment of Institute for Protection of Environment (Water Bodies, Glacier, Melting Snow, Research and Skill Upgradation Training Centre).....	55
4.3	Rural Management & Development.....	59
4.3.1	Construction of Circular Road around Chardham at Solophok, Namchi	59
4.3.2	Repair/ Renovation of 71 Suspension foot Bridges under North District	60
4.4	Animal Husbandry, Livestock & Veterinary Services	63
4.4.1	Hygienic Slaughter House Proposed for Namchi & Geyzing	63
4.5	Agriculture/Horticulture	66
4.5.1	Rejuvenation of Large Cardamom	66
4.5.2	Rejuvenation of Mandarin Orange	68
4.5.3	Development of Apple Industry at Lachung and Lachen Valley	70
4.5.4	Establishment of an Integrated Floriculture Research and Development Centre.	72
5.	CONCLUSIONS AND SUMMARY OF DEMANDS FOR UP-GRADATIONS, SPECIAL PROBLEMS AND SPECIFIC NEEDS	79
5.1	Introduction	79
5.2	Up-gradation of General Administrative Services	79
5.3	Up-gradation of Social and Cultural Services	81
5.4	Up-gradation of Economic Services.....	81

CHAPTER 1

1. INTRODUCTION

With a view to removing the inter-regional imbalances and disparities in the provision of services by the States, it is important that the requisite funds are made available to the States to enable them to provide a reasonable standard of social, economic and administrative services to the people. In this context, the Finance Commission is empowered constitutionally and is expected to help the States in this regard by recommending transfer of resources in the form of upgradation grants out of the Consolidated Fund of India.

In the past, under Article 275, various Finance Commissions have recommended grants-in-aid to the States to meet their developmental needs irrespective of whether or not there is a direct mention of it in the Terms of Reference of the Commission.

In this context, the Seventh Finance Commission laid down the following principles:

1. Grants-in-aid may be given to narrow down the existing disparities in the available administrative and social services between the developed and the backward States. **Such grants are known as upgradation grants.**
2. Grants-in-aid may be given to individual States to help them to counter special problems due to their peculiar circumstances. This aid may also be given to the State for matters of national importance or for financial burdens which the State finances may not be able to sustain. **Such grants are special problem grants.**

Although, it was not specifically mentioned in the Terms of Reference (ToR), some of the earlier Finance Commissions also recommended grants-in-aid (under Article 275) for the upgradation of the standards of administration and to resolve the special problems of the States, in one form or the other.

The First Finance Commission, for example, recommended grants for primary education. The Third Finance Commission made grants for development of communication while the Sixth, Seventh and Eighth Finance Commissions recommended grants for backward States. Eighth Finance Commission in addition recommended grants to States facing special problems. Ninth Finance Commission recommended grants in its first Report for the completion of the spill-over works recommended by the Eighth Finance Commission. The Tenth, Eleventh as well as Twelfth Finance Commissions recommended grants for the upgradation and special problems of the States.

The ToR of the Thirteenth Finance Commission also does not specifically mention such a grant but its Para 4(ii) provides that its recommendation should be based on the principles which govern the grants-in-aid to the States out of the Consolidated Fund of India. These grants should be made to the States which are in need of assistance by way of grants-in aid, under Article 275 of the Constitution, for purposes other than those specified in the provisions to Clause (I) of that Article.

Keeping this in view, the State Government of Sikkim submits the following proposals for the consideration of the Commission and requests necessary grants for the upgradation of the services of public goods like general administration, law and order, and for other critical areas of fiscal deficiencies where corrections are necessary to maintain a certain level of standard of administration. Accordingly, the requirements of the different departments of the Sikkim Government requiring special attention and upgradation through financial support are detailed hereunder.

These proposals mainly relate to **General Administrative Services** (*viz.* Police Administration, Department of Personnel and Administrative Reforms, Human Resource Development, Public Works and Capacity building for fiscal services); **Social and Cultural Services** (*viz.* Health, Public Health Engineering Services and Cultural Affairs and Heritage Activities); and **Economic Services** (*viz.* Forests, Wild Life and Environment; Tourism, Agriculture/Horticulture, Animal Husbandry & Veterinary Services and Rural Management).The details of these sectors have been dealt in the subsequent chapters.

CHAPTER 2

2. UPGRADATION OF GENERAL ADMINISTRATIVE SERVICES

Provision of good administration is a public good. It, therefore, benefits all the citizens of the State. In Sikkim, while the efforts of the State have been to provide administrative services at par with the services provided by other States, certain issues of capacity building and infrastructural deficiencies have always come in its way. Some of the services given below need special attention of the Thirteenth Finance Commission for financial support through upgradation grants:

2.1. Police Administration

One of the important services that need upgradation relates to Police Administration. Prior to joining the Indian Union in 1975, the Sikkim Police had limited manpower and residential/ non-residential buildings. Since then, the State has benefited from the increased resource transfer recommended by the Eighth to the Twelfth Finance Commissions and also the transfers from the Government of India under a number of Centrally Sponsored Schemes (CSS). However, the Police Administration needs further support for upgradation in the following areas:

2.1.1. Strengthening the Police Force

The Police Modernization Scheme is jointly funded by the Government of India (GoI) and the State Government and this was initially in the ratio of 50:50. Since 2001, the contribution from the Government of India has also increased considerably. The funds provided by the GoI to the scheme helped the State Police to improve its infrastructure, in the acquisition of sophisticated equipment and firearms required by the Police.

With the help of these grants, Sikkim police now has a force of about 4,000 officers and police men, 28 police stations and 48 Out Posts/Police Posts located at different places within the four districts of the State.

However, the State needs a larger police force as there is a large influx of population and an increase in the existing population. An increase in police services is also needed given the changing political, economic and social climate and natural calamities/ disasters etc.

2.1.2. Housing for Police Force

To accommodate the additional force, the Sikkim Police needs strengthening of its infrastructure in terms of construction of additional residential and office buildings. Since the funds provided under Modernisation of Police Force (MPF) Scheme cannot be used for renovation purposes, the Sikkim police have to get funds from other sources to improve the infrastructure and for the maintenance of existing residential and office buildings located in all the four districts of Sikkim.

2.1.3. National Police Mission

The proposed National Police Mission will be a major step in improving the infrastructure for police functioning in Sikkim, as well as in the other parts of the country. The National Police Mission has also thought of setting up of Central Police University, Police Residential School,

Police Hospital, strengthening of Intelligence and Security Wing and increase in number of Police Personnel with the introduction of eight hour working shift. This will bring a moral boost to the police forces on the achievement of the proposed mission. In view of the arduous nature of duties, the long hours of work and the 'risky' nature of the job, it is important to examine the feasibility of providing risk allowance or extra pay for police personnel deployed in difficult assignments and also provide them with more welfare facilities to compensate for the hazardous nature of their job. The analogy could be drawn from the system currently available for police personnel posted at high altitude check posts in Sikkim.

2.2. Human Resource Development Department

Transition from the erstwhile kingdom to a special State under the Union of India has brought about tremendous progress in the field of education in Sikkim. However, there are many challenges and obstacles to overcome. The education sector in the State is under the administrative control of the Human Resource Development Department. This Department has its own Technical Wing to look after the overall infrastructure development of schools and Educational Institutions. The State Government has been paying special attention to the development of lower and upper primary schools. The Government has made plans and policies to impart education in rural areas as these schools mostly cater to the needs of the economically weaker sections of the society. Higher level education also has to be developed at the same pace to accommodate the eventual outflow of students passing-out from lower and primary schools.

The State Government, keeping in line with the policies of the Central Government, is also giving top priority to education by annually allocating a major share of its budget for the spread and development of educational infrastructure in the rural areas. However, the requirement of development activities in education far outweighs the annual budget provisions. Out of the 764 schools in the State, more than half are housed in old and *katcha* buildings requiring immediate replacement with proper modern infrastructures. This need is further accentuated given the emphasis of the State Government for targeted achievement of 100% literacy by 2015. Although the State has made rapid strides in the field of education, the gap between the need and the supply of proper infrastructure is still exceedingly high. The crucial areas that need financial support from the Thirteenth Finance Commission are given below:

2.2.1. Establishment of District Institute of Education and Training (DIET)

Though the Teacher's Training Institute of Gangtok was upgraded to District Institute of Education and Training in 1998, it has to be further strengthened and the establishment of similar institutes at other districts is the need of the hour.

Delivery of quality education depends on many factors. Of these, the training of teachers is an important one. It was only in the year 2006-07 that the construction of a District Institute of Education and Training was initiated and the work is still under progress. There is a great necessity for similar centers in the other three districts and the amount (projected) required for the infrastructure development of these centres is *Rs. 50.00 crores*.

2.2.2. Infrastructure Development for Replacement of Old Schools

Most of the schools in the rural areas of the State are old and in dilapidated conditions. Moreover, the rapid increase in the enrolment of the students has made it necessary to have additional infrastructure development to accommodate the growing demand for school education. *An amount of Rs. 100.00 crore is needed for the creation of required additional accommodation as well as new infrastructure.*

2.2.3. Upgradation and Improvement of Playfield

Other physical co-curricular activities are essential for the all round physical and mental development of students. So far, the Human Resource Development Department has only concentrated in providing school buildings. Hence, barring a few, almost all the schools are lacking proper playfields. *Therefore, another Rs. 100.00 crore is needed for the development of playfields.*

2.2.4. Increase in the Number of Colleges

At present there are only three colleges in Sikkim, which are totally funded by the State Government. However, the demand is far more than the existing facilities. Due to limited intake capacity of the existing colleges in the State, many students opt for institutes outside the State for pursuing higher education. As the demand is far more than the existing facilities, this wide gap has to be narrowed down substantially. Moreover, as per the guidelines of the Central Government, colleges have to be set up in the Districts with the aim to take education to the doorstep of the rural population. Thus, *, an amount of Rs. 300.00 crore is needed to meet this requirement.*

Keeping in view the above needs of the Human Resource Development Department to set up modern schools (with playfields) and more colleges, the Thirteenth Finance Commission is requested to provide a grant of Rs. 550.00 crore to the State of Sikkim for Human resource Department.

2.3. Public Works Department

Well planned administrative buildings are required to enable the administrative departments work efficiently. This work is generally undertaken by the public works departments in the State. The department will undertake the construction of the Secretariat building at *Raj Bhawan* and construction of the Secretariat Annexe Building at Tashiling Complex, Gangtok during the period 2010 – 2015 as these are the urgent need of the State.

2.3.1. Construction of Secretariat building at Raj Bhawan

In Sikkim, the *Raj Bhawan* Secretariat is being run from a very small structure which does not have the basic facilities required for a modern office. H.E. the Governor, being the Head of the State, needs a dedicated team of officers at his disposal. It is, therefore, proposed to have a new secretariat for *Raj Bhawan* equipped with modern facilities and elegant building design to provide the requisite efficiency to the employees. With this objective in view, it is proposed that the existing old structure will be dismantled and a new structure of slabs on caisson /raft foundations, with RCC frame, will be built at the very site. The proposed structure will have a

total floor area of 1500 sq. meters providing adequate office space for the officers and the staff of the *Raj Bhawan* secretariat, along with a conference room, canteen, V-Sat room and other standard facilities.

The cost of rebuilding a modern office building to accommodate Raj Bhawan Secretariat in the existing site is estimated to be *Rs. 15.00 crore* at current price levels and the time period for completion of the work has been fixed at 18 months. The project cost being very high, it is not possible for the State Government to fund the scheme from its internal resources. *It is, therefore, requested to the Thirteenth Finance Commission to provide a Grant of Rs. 15.00 crore for the rebuilding of the Raj Bhawan Secretariat.*

2.3.2. Construction of Secretariat Annexe Building at Tashiling Complex

The Government functions through various departments to implement its policies and provide services for the benefit of its citizens. It is best to have a single Secretariat Building housing all the departments under one roof so that all the government machinery can work in a coordinated manner for good governance.

In any engineering design, there is a limit to the ‘life’ of a building. With the growing developmental needs, burgeoning population and increased work load, the main Secretariat Building, constructed during the mid seventies, has reached its limit in the design capacity. The increasing number of departments and growing workforce cannot be accommodated within the present structure. Also, many Government Offices are being run in rented premises that are scattered all over the city. Since the existing Secretariat cannot be extended vertically or horizontally, there is an urgent need to construct a new Secretariat Annexe Building within the vicinity of the main Secretariat.

At present, the Health Secretariat of Sikkim is just below the main Secretariat building, on its eastern side. It is a double-storied structure, built more than half a century ago and has outlived its life, both in terms of space requirements as well as structural fineness. Keeping in view the present and future needs of the State Government, this structure is proposed to be dismantled and a six-storied structure will be built, with RCC frame and slabs on caisson/raft foundations, at the same site with modern design. The total floor area of the proposed building is 10500 square metres.

It will provide office accommodation to the Health Department, CM’s Secretariat, Offices for Cabinet Ministers, Office for the Chief Secretary, Banks, Post Office, Cabinet Hall, Canteen and VSat Room. The cost for a new modern office is estimated to be *Rs. 90.00 crore*, at current price levels. Keeping in view the inflationary market trend and the time period for completion of the work as 36 months, the completion cost of the **proposed new building is assessed at Rs. 120.00 Crore.**

The project cost being very high, it is not possible for the State Government to fund the scheme from its own resources. Therefore, the Thirteenth Finance Commission is requested to view the project as an essential need of the State and consider an allocation of funds for this purpose. **It is, therefore, requested to the Thirteenth Finance Commission to provide a total Grant of Rs. 135.00 crore for these two secretariats under Public Works Department.**

2.4. Urban Development & Housing

Sikkim is a developing State and needs more attention from the Centre in terms of creating physical infrastructure and providing for its maintenance. Urban Development is a sector facing several problems. The major problems faced by the Department are maintenance of 8 major towns and 46 other notified towns. The maintenance fund of the Department is not sufficient to meet the demands of all the notified towns and as a result, the infrastructures created are insufficient and in pathetic condition. The areas of prime concern are the buildings and maintenance of the drainage system, construction of toilets, *hatsheds*, maintenance of capital assets, garbage disposal etc. These are given below:

2.4.1. Drainage

There is a total provision of Rs. 20.00 lakh under the State Plan to take up drainage schemes for the total urban area of the State. However, this amount is not sufficient to meet the total requirements. Although a major project, the “Storm Water Drainage along NH – 31-A” has already been completed from Gangtok (Zero Point) to Ranipool, this only caters to the drainage along the highway. There is an urgent need to take up drainage schemes at Rangpo and Singtam and also in other parts of the State. Taking into account the 8 major towns and 46 other notified towns, the Department **requires at-least Rs. 50.00 lakh per annum (Rs.250.00 lakhs for 2010-2015) to take up the necessary drainage works.**

2.4.2. Construction of Toilets

In order to provide proper toilets to the public around the towns, a major project is underway and is being executed by the National Buildings Construction Corporation Limited (NBCC). The toilets in the semi-urban areas are being funded under National Bank for Agriculture and Rural Development (NABARD) schemes. However, it is felt that more toilets need to be constructed in other places in the State. The State, therefore, requests the **Thirteenth Finance Commission to grant a sum of Rs. 1.25 crore to enable it to carry out this project @ Rs.25.00 lakhs per annum.**

2.4.3. Hatsheds

Sikkim has a culture of having hat days once a week during which the villagers from the surrounding areas converge to a nearby town to sell their wares and commodities for their livelihood. Hatsheds form an integral part of a town. It is important to have a properly maintained hatsheds in all the towns so that the villagers from the nearby villages could comfortably sell as well as buy the commodities. Presently most of the hatsheds require major renovation as the old hatsheds are not in good condition and shape.

The renovation work will be taken up in phases and the annual requirement of fund has been worked out to Rs. 1.73 crores per annum. The total cost for renovation these hatsheds would be Rs. 8.65 crores from 2010-11 to 2014-15.

2.4.4. Maintenance of Capital Assets

Maintenance of capital assets, created under the various Central and State schemes, requires a huge amount of funds. This expenditure cannot be made under the State Plan as the Department

is already short of funds to complete the various ongoing schemes started under the Eleventh Five Year Plan. The Non-Plan maintenance funds are being used for the purpose but the quantum of fund is not adequate to take up maintenance works in all the necessary sectors. Presently the department has limited provision under Non-Plan for such maintenance. It is estimated that the department would further require Rs. 150.00 lakh per annum *i.e. a grant of Rs. 750.00 lakh is needed to properly maintain the capital assets under this sector.*

2.4.5. Upgradation of Towns

Apart from Gangtok, the other important towns are Namchi, Geyzing and Mangan. These towns also function as District Headquarters. These towns have to upgrade their infrastructure as the population of these towns is increasing. The support from the Integrated Development of Small and Medium Towns (IDSMT) schemes of the Central Government is not sufficient to meet the ever-increasing demand of these towns. There is also a limit on the funding of more and more schemes under IDSMT due to inability of the State Government to make its contributory share. The recently introduced Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) Schemes will be implemented in the major towns, the smaller towns and Rural Marketing Centres (RMC). These schemes will require an additional *support of Rs. 5.00 crore from the Thirteenth Finance Commission @ Rs.1.00 crore per annum.*

2.4.6. Garbage Disposal

The accumulation of garbage in the State is on the rise and it increases substantially during the tourist season. The Department has not been able to upgrade the Sanitation Section, *viz.* manpower, machineries, vehicles etc., in order to meet the current public demand. This, therefore, has resulted in unhygienic conditions in and around the towns. The Department has been funding the scheme from the State Plan but the funds have not been sufficient. The Department has, however, been able to sanction the scheme for a garbage treatment plant in the East district under the North Eastern Region Fund. However, the condition is far worse in the other three districts where there is no proper place to dump the garbage. For proper disposal of garbage and to maintain hygienic conditions in the State, the *Thirteenth Finance Commission* is requested to grant a sum of Rs. 2.50 crore.

2.4.7. Computerisation

The Urban Development Department has multi-dimensional functions and more or less works like a Municipal Corporation. With the election to the Municipal Corporation of Gangtok to be held in the near future, the Department is gearing up to transfer the responsibilities to the Municipal body without any complication in terms of records, database etc. To facilitate the proper maintenance of records and for increasing the efficiency of the Department in terms of output, computerization is the need of the hour. Therefore, the *Thirteenth Finance Commission* is requested to grant a sum of Rs. 1.00 crore to facilitate the immediate computerisation of the Urban Development Department.

2.4.8. Public Awareness Campaign

Being a department that predominantly performs social functions, it is very important to inform the public about various policy decisions and changes undertaken by the Department. The general public has to be given information on various programmes and facilities being provided by the Government, viz. the urban poverty alleviation programmes, solid waste management etc. For dissemination of information to the public, the Department needs a *grant of Rs. 0.50 crore from the Thirteenth Finance Commission.*

The requirement of resources/funds indicated below is specifically for the Department of Urban Development for meeting the basic necessity. Separate projections have been made for the requirement of resources in the twelve Urban Local Bodies consisting of one Municipal Corporation, two Municipalities and nine Nagar Panchayats, under the Local Bodies format.

Table 2.1: Resource Requirements

(Rs. in lakhs)

Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2010-15
1. Drainage	50	50	50	50	50	250.00
2. Const. of Toilets	25	25	25	25	25	125.00
3. Hat sheds	173	173	173	173	173	865.00
4. Maintenance	150	150	150	150	150	750.00
5. Town Upgradation	100	100	100	100	100	500.00
6. Garbage Disposal	50	50	50	50	50	250.00
7. Computer-ization	20	20	20	20	20	100.00
8. Public Awareness	10	10	10	10	10	50.00
9. ULB's	The resource requirement is separately submitted vide Volume IV.					
Total	578	578	578	578	578	2890.00

2.4.9. Multi-storey Parking Plazas at Mangan, Gyalshing and Namchi

2.4.9.1. Multi-storey Parking Plaza at Mangan

Mangan, the district headquarter of the North district, is the biggest town in entire North Sikkim. It is not only the administrative centre but also the commercial centre of the region. Further, due to the picturesque landscape, it is the most sought after tourist destination. During the tourist season, more than 5 thousand tourist vehicles enter into Mangan. The rapidly growing tourist inflow into Mangan puts in a demand for a better parking lot. At present, all vehicles are parked near the North Sikkim Highway leading to traffic congestion, unsafe traffic parking and inconvenience to both vehicular and pedestrian commuters.

To tackle the problem of heavy traffic into Mangan and the lack of adequate parking space, the Government proposes to construct a multi-level parking place in the Old Hospital Complex at Mangan. The proposed parking plaza is designed to be used as a terminus for both inter-city and intra-city vehicles, and will accommodate 250 light vehicles, 5 buses and 15 trucks. There will

be a food court on the top floor of the car park. Approach road and the entry and exit shall be planned to facilitate smooth transit for moving vehicles. The provision for land protection has also been included to render stability and proper drainage facility to the area.

The land for the proposed car park belongs to the Government, which is around 2.0 hectares. The area of the parking facility will be around 5000 sq. m. The cost of building the car park on the basis of the plinth area is estimated at Rs. 15.00 crore. This estimated cost includes the cost of building, improvements in the approach road, protective works, land stabilization and drainage system.

The time period for the implementation of the project is two and half years and the estimated cost is Rs. 15.00 crore.

2.4.9.2. Multi-storey Parking Plaza at Gyalshing

The West district of Sikkim is well known for its scenic beauty. Gyalshing is the district headquarter and the largest town of West Sikkim. The presence of Khanchenzonga National Park makes the West district the hotspot of eco-tourism. International and domestic tourists visit places like Yuksom, Dzongri, Khecheperi Lake, Khanchenzonga base camp and the various other eco-trails for trekking.

The phenomenal growth of the tourism industry is compelling the district headquarter to have a suitable parking space, as at present all vehicles are parked on the kerb of State Highway leading to traffic congestion and inconvenience to vehicular and pedestrian commuters. It is proposed to construct a multi-level parking place below the Main Bazaar of Gyalshing.

This proposed car park is designed to be used as a terminus for both inter-city and intra-city vehicles and to accommodate 200 light vehicles, 7 buses and 12 trucks. There will be a food court and sit-outs to cater to passengers on the top floor of the car park. Approach road and the entry and exit shall be planned to facilitate the smooth transit of moving vehicles. The provision for land stability has also been included to render stability and proper drainage facility to the area.

The land for the proposed car park belongs to the Government. The area of the parking facility will be around 4800 sq. m. The total expenditure on the basis of plinth area is estimated as Rs. 14.60 crore, which includes the cost of building, improvement of approach road, protective works and land stabilization, provision of storm water and natural drainage system.

The time period for implementation of the project is two and half years with an estimated cost of Rs. 14.60 crore.

2.4.9.3. Multi-storey Parking Plaza at Namchi

Namchi is the district headquarters of the South District. In the past two decades, it has grown rapidly into a centre for administration and education as well as a popular tourist destination. The tourist places like Statue of Guru Rimphoche, Rock Garden etc. are located within a few kilometers of the district headquarters. Namchi is also the halting point for tourists on their way to the eco-tourism spots of the South District.

The rapid growth of the tourism industry, educational centres and decentralization of administrative powers has made the district headquarters in need of basic services like parking

space for vehicles. At present, all vehicles are parked on both sides of the main road of the town and the different roads taking off from Namchi. Therefore, it is proposed to construct a multi-level parking place on the land located near the Namchi – Jorethang road. This parking area will be designed to be used as a terminus for all vehicles, inter-city and intra-city. It will accommodate 200 light vehicles and 5 buses. There will be a food court on the top floor of the car park to cater to passengers travelling by the inter-city vehicles. Approach road will facilitate the smooth transit of moving vehicles and there will be a separate entry and exit for the vehicles. The provision for land protection has also been included to render stability and proper drainage facility to the area.

The area of the proposed parking Plaza will be around 4300 sq. m. and the estimated cost for the same on the basis of plinth area is Rs.13.00 crore, which includes the cost of building, improvement of approach road, protective works and land stabilization, and improvement of drainage system.

Thus, it is requested to the Thirteenth Finance Commission to provide a lump **sum grant of Rs. 42.60 crores (Rs. 15.00 crore for Mangan, Rs. 14.60 crore for Gyalshing and Rs. 13.00 crore for Namchi) to finance the construction of the Parking Plazas.**

2.4.10. Development of Sokeythang to create- Habitat Centre, State Children’s Park, State Library, Community Centre, Food Centre etc.

The Government of Sikkim is looking for infrastructure development of Gangtok, capital of Sikkim.

With no introduction necessary on Sikkim’s progress towards Development and various Industries like Tourism, construction, hydel power projects, opening of International Trade Route to China through Nathula which is 56km from Gangtok, the State at the same time proposes to retain its Natural Heritage and Culture. With this fast growth on Development Gangtok has sustained its mass influence of Visitors and Investors by its limited Habitation and Infrastructure. This aspect of sustaining has influenced a lot on the Gangtokians with a lack of space / centre of contemporary cultural economic, business and social events.

Hence with a concern for such centre, the proposal is now submitted for consideration of the Thirteenth Finance Commission for Betterment of Quality of Life for the Gangtokians and the visitors.

Habitat Centre: The Habitat centre will be a centre for contemporary cultural, economic, business and social events. It will contribute to the urban level functions of a vibrant modern city. The Centre will be a meeting point for people from diverse fields. The Habitat Centre will provide a range of facilities like conference venues, exhibition halls, seminar rooms, restaurants and theatre for cultural activities. Habitat Centre is conceived to provide a physical environment which would serve as a catalyst for a synergic relationship between individuals and institutions working in diverse fields.

Children’s Park: The setting up of a park for children will provide a natural environment for the physical development of the children. The State Government proposes to set up a Children’s Park with recreational and educational facilities. This space will be used by the children and also for conferences, meetings, and weekend picnics by schools and families.

The park will house indoor facilities for games and entertainment.



Merry – Go – Round



Boat ride



Helicopter and Flying Saucer ride



Little Dipper



Planes

The remaining area is to be developed as a large turfed area for multi- functional games etc.

State Library / Archives: There is a great need for a Library at the State level which can house books and literature on vast ethnic communities residing in Sikkim. It will also serve as a knowledge sharing centre with archives of the past, in many forms. Also there is a necessity for an interpretation centre to provide detailed information and updates on important historical and tourist spots of Sikkim. Besides, a State library and an interpretation centre, the State also needs a museum to preserve the past history, culture and traditions of Sikkim.

Community Centre: The State also needs a multi- functional public gathering centre where people from different walks of life can gather for group activities, social support, public information, and other purposes.

Food Centre: The need of a food centre with counters for multiple food vendors and a common area for self-service is highly felt. The concept of a food centre can also be used as a focal point where all food processing companies seeking to develop new food products and expand or explore new market opportunities can obtain the expertise and services required to support their goals in product development, interim processing, technology and training.

Preliminary Requirement Analysis and Area Programme is given in Annexure 1.

Annexure - 1

Preliminary Requirement Analysis and Area Programme for development of Sokeythang

Area Programme

Proposed space	Items	Area (in sqm)
Parking		
1	Light vehicles – 500 nos	7500
2	Heavy vehicles – 30nos	1215
3	Two wheelers – 400nos	800
	Parking Sub-Total	9515
	Services and Maneuvers(30% of parking total)	2854
	Total Parking Area	12369
Reception block		
1	Reception counter	25
2	Manager’s office	10
3	Staff members’ office	300
4	Ticketing counters	15
5	Record room	10
6	Store room	10
7	Toilets - male	10
	- female	10
8	Waiting Area/Lobby	300
	Reception block Sub-Total	690
	Services (20% of reception block total)	138
	Total Area of Reception Block	828
Habitat centre		
1	Entrance Foyer	250
2	Entrance Lobby	500
3	Reception	100
4	Lounge	120
5	Toilet	180
6	Reading	100
7	Information Kiosks	200
8	Art gallery	400
9	Exhibition halls 5	1000
10	Food courts	1200
11	Different NGO offices (25 nos.)	2500
12	Auditorium – 1000 capacity	2000
13	Conference room – 250 capacity	550
14	Banquet hall – 800 capacity	1600

15	Experimental Theatre	850
16	Library – (150readers) capacity	3000
17	Store	500
	Total 1 - 17	15050
	Services 20% of total	3010
	Sub –Total Habitat Centre	18060
18	Open air theatre – 2000 capacity	4000
	Total Habitat Centre	22060
Food Centre		
1	Food Court 32 nos	640
2	Service and Seatings (out door & indoor) 3000 people capacity	3346
3	Toilet	200
4	Seminar / Lecture Hall	300
5	Store	150
	Food centre Sub -Total	4636
	Services (20% of total food centre)	927
	Total Food Centre	5563
Community Centre		
1	Reception	12
2	Hall 500 capacity	1000
3	Old Age Recreation spaces	250
4	Lockers	20
5	Rooms (10 nos.)	120
6	Audio visual cum interactive lounge	200
7	Bar	20
8	Health club/yoga classrooms etc	2000
9	Fitness, Spa	1000
10	Toilet	200
11	Store	100
	Community Centre Sub-Total	4922
	Services (20% of community centre)	984
	Total Community Centre	5906
Children Park		
1	Seesaw (3nos.)	30
2	Merry go round (3 nos.)	1500
3	Slides (5 nos.)	60
4	Water slides (5nos.)	65
5	Swimming Pool(2nos.)	1200
6	Swings (5 nos.)	100
	Total children’s Park	2955

7	Services (20% of total)	591
	Total	3546
8	Indoor Recreation and Games room	900
9	Toilet Girls 15wc	100
10	Toilet Boys 10 wick & 10 urinal	100
	Total	1100
	Services(20% of total)	220
	Total	1320
	Grand Total Children Park etc.	4866

Preliminary Cost Abstract			
Particulars	Area(sqm)	Rs. per sqm.	Total (Rs. in Lakhs)
Parking	12369	8000	989.52
Reception block	828	25000	207.00
Habitat centre	18060	25000	4515.00
Open air theatre	4000	5000	200.00
Food Centre	5563	10000	556.30
Community Centre	5906	25000	1476.50
Children Park			
Outdoor Land development	3546	5000	177.30
Games and Objects			180.00
Indoor recreation and Games	1320	25000	330.00
Total (i)			8631.62
External Electrification		5% of (i)	431.58
External Plumbing and Sanitation		3% of (i)	258.94
Site Development and Landscaping		7% of (i)	604.21
Total (ii)			9926.35
Consultancy and site investigation		3% of (ii)	297.79
Contingencies		4% of (ii)	397.05
		Total	10621.19

2.5. Capacity building for Administration and Fiscal reforms

2.5.1. Establishment of State Capacity Building Institute

The setting up the Directorate of Capacity Building a year ago has had an appreciable impact on work done around the State. Therefore, the State proposes to establish an Institute of Capacity Building with the purpose of imparting training, facilitate transfer of knowledge, and for building and developing potential capacities of the unemployed youth. Such an Institute will provide training which will meet the needs of the state for trained manpower. It will help in capacity building and human resource development as it will include strategies related to academic development, work skills, social skills and core values.

Therefore, the Directorate of Capacity Building in consultation with the Director, Administrative & Accounts Training Institute (AATI) has undertaken the initiative to explore the possibility of having the Capacity Building Institute at Burtuk alongside the proposed AATI. This will help to meet the current and future infrastructure needs of the State. The aim is to have an Institute which will serve as a centre for youth to learn about their individual strengths which will help them make choices about their future and thereby take up related training for their chosen career.

The tentative cost estimate for Capacity Building Institute is Rs. 10 crore. Therefore, **the Thirteenth Finance Commission is requested to provide a grant of Rs. 10 crore for the establishment of a State Capacity Building Institute.** The item-wise cost break-up for setting up the State Capacity Building Institute is as follows: -

Table. 2.2: Cost estimate: State Capacity Building Institute

(Rs. in crore)	
Land acquisition	2.00
Construction of Institute building, hostels, residential quarters, approach road, and other civil works (including Institute amenities)	8.00
Total	10.00

2.5.2. Capacity building for Tax Administration

2.5.2.1. Value Added Tax (VAT)

The Value Added Tax (VAT) was introduced in the State on 15th April 2005. VAT replaced the sales tax. The successful implementation of VAT will need computerization of the entire commercial tax department and comprehensive training of tax officials to manage all the operations of revenue collection. The department has to build an interface with the general public and traders to give them access to information on Tax Acts and procedures, and to download the required forms.

E-Governance will improve the efficiency and reduce costs of administration. However, there are many stumbling blocks. One of the major problems of computerization in the State is lack of basic Internet connectivity that is the backbone for IT infrastructure. The computerized hubs established in districts and in various offices could not be connected online and this in turn

impedes the transfer of information and data. Priority should now be given to tackle this problem. In the context of computerizing the commercial tax department, the flow of information on traffic of goods imported and exported needs to be collated. There must be online facilities for issuing Forms to traders and for this faster connectivity is required.

Improvement in revenue productivity of the tax system calls for reforms in both the policy and institutional environment. The first issue is to bring accuracy in the forecasting of tax revenues. The Department needs a good statistical division to compile proper data, evolve good forecasting techniques and formulate monthly/ quarterly targets. Equally important is the need to have a good information system. The prevailing system is weak and there is no regular compilation of information needed for an efficient tax administration. An effective information system is critical for a scientific tax administration and enforcement and the State has to put this in place.

There is hardly any information system for determining either the tax policy or to aid administration. A system of administration that will rely on computerized information gathered from books of accounts rather than physical verification will have to be developed from scratch.

Tax compliance is an integral component of the rate of tax, probability of detection of non-compliance and the penalty rate. In the prevailing situation, the administrative tax organization and information systems are so weak that the probability of detecting non-compliance is virtually zero. Further, even if detected, the cases do not get decided within a reasonable period of time due to delay in judicial process and the conviction rate is also small. Therefore, effectively, the penalty rate is negligible. The new system proposes reforms in the administrative and legal/ judicial departments to encourage voluntary compliance of the tax.

Reorganisation of administration is a critical component for improving effectiveness in tax administration. Administrative changes to promote voluntary compliance of the tax requires that the administration should (i) be geared to provide assistance to taxpayers to comply with the tax, (ii) be able to detect the stop-filers and non-compliers swiftly, (iii) provide audit coverage for each taxpayer within a reasonable time period and (iv) charge a penalty rate that is deterrent enough to evoke better response. This implies that the Tax Department should not function as any other government department but as a specialized agency capable of dealing with influential and intelligent clientele that can hire the best of brains to evade and avoid payment of taxes. Besides, the function of the Department is to earn revenue for the State government and therefore, in order to improve revenue productivity, the government should invest in a specialised department. This will entail the recruitment of a separate cadre of officials to the department with appropriate qualifications needed to understand the economics and accounting framework of VAT, book-keeping, computerised information and networking, and the various legal processes and interpretations. The cadre should also be provided with proper training not only in the beginning of their career, but also during their service period so as to keep up with new trends in accounting, information system, law and judicial interpretations.

One of the most important parts of the tax administration is the Management Information System (MIS). Computerization of tax returns will help in collecting the necessary information. In addition, the information collected at the check-posts should be collated and matched with those of the various taxpayers and kept in their files, which may be used at the time of

assessment and audit. The comparison between purchases and sales of some dealers on a selective basis will help to strengthen the voluntary compliance to the tax. The system should be geared to help in auditing and in the selection of audit cases based on risk assessment. The information system generated by the unit would also help in formulation of policies and strategies for evolving effective administration. In the initial stages, it would be necessary to outsource the function to an agency providing computerized services, but over time, it would be useful to have some people in the department trained in the MIS.

2.5.2.2. Reforms in Other Taxes:

The computerization of land records is an important requirement. This requires to be used in the operation of transactions in land. This could also be used in the collection of stamps and registration fees. This would simplify the process and reduce much of the workload of the Tax Department. It will have an impact on collection of revenue as well. The computerization of property tax collection in urban areas after that of the urban local bodies will be the next logical step. The collection of water charges and other fees can be a part of the integrated computerization of the urban administration system. Presently, the computer generated electricity bills are given only in the major urban areas. This process needs to be extended to rural areas as most of the electricity consumption has now been metered. The Transport Department has to prepare a comprehensive computerization plan encompassing the operation of registration, annual fee collection and updating of vehicle data in the State. The online information of the Transport Department will enhance its vigilance efficiency and have an impact on the revenue collection.

2.5.3. E-Governance - Development of an Integrated Financial Management Information System (IFMIS) for the Finance, Revenue and Expenditure Department

E-Governance is a comprehensive computer-based process that not only improves the efficiency of the Government but also makes the system transparent and reduces the scope for corruption. It increases the interface with the public and improves the quality of services provided by the Government. The information base of the Government department increases and this helps in generating more revenue.

The success of computerization depends to a large extent on the participation of the Departments in providing timely information and updating their database. The basic IT infrastructure in terms of connectivity between various regions of the State needs to be improved. The Government websites is required to be maintained properly, with regular updating of information for the general public.

2.5.3.1. Present Organisational Set-Up

The present organisational set up of the Finance, Revenue and Expenditure Department (FRED) (as at Fig. 2.5.3) is composed of several divisions namely Administration, Budget, Accounts, Loans, Finance Commission, Treasury Pay and Accounts, Internal Audit, Pension/GIS/GPF, Lotteries and Income and Commercial Taxes. The names of the Divisions itself gives an overview of their function of each of the Sections.

2.5.3.2. Statement of the Problem

The Government maintains all its monies with Government Bank called the State Bank of Sikkim. To know the balance of money available with this Bank, the officials have to call the Bank everyday and ask them the balance. With this information made available from the Bank, the authority goes on to make lots of decisions namely the resource release to the different Departments, the Investments to be made, and all such decisions related to resources available. There are no means to check if the Bank is giving the right figures.

Similarly, the works carried out by one section and the data maintained therein are not linked to the other sections. As a result of this, assimilation of data within the various wings of the Department is a problem and needs to be approached the individual sections.

There is no system in place to know what amount of expenditure is incurred out of the resources released. Release of next resource is judged more by the earlier resources released or expenditures furnished by the Departments, which may not always give a true picture. As such, it is necessary to have a system that checks the available information of the Department to link with the future course of action to be decided.

2.5.3.3. Causes of the Problem

One of the main causes of the problem could be that the different functionaries of the Finance, Revenue and Expenditure Department have not been integrated i.e. budget, accounting, revenues and expenditures into one system. Without this integration, it is not possible to have the correct and up-to-date position of the financial resources of the State Government and thus the problem for the top and the middle level Management in taking effective and efficient policy decisions.

This non-integration of finances is also the reason why it is not possible to know the balances of the money available with the Bank at any point of time and also the fact that there is no effective control of the State resources. Though the Treasury has been computerised, the government officers who have been given sufficient authority have not been able to access the information they need from their desk top, view and print their own reports, and “drill down” to look at the individual transactions.

It is to hereby conclude that there has been an Ineffective use of Information System. The technology has not been explored to increase the efficiency of business processes and to measure performance for improved control environment. In this globalised and competitive environment, there has still been use of the old traditional ways of doing things, the business processes. The Information Technology has not been harnessed to its optimum level. There are situations when we have not been able to take advantage of the opportunity granted to us since our management has not had the required information to take quick and strategic policy decision at the right time.

2.5.3.4. Use of Information Technology & Integrated Financial Management Information System (IFMIS)

The technology needs to be harnessed and put to the best use and bring about a paradigm shift in our working culture. We need to have a broad understanding of our role and have the best use of managerial technology in the various functional areas of modern Organizations. In this globalised and competitive environment, it is required for the managers and executives to renew their skills and strategies and be able to adapt to change in this fast growing economy. The use of computers and Information technology could be explored to co-ordinate different sections of the Department and ensure proper exchange of Information necessary for the top management to

take efficient and effective decisions. Some of the challenges could be overcome by having an Integrated Financial Management Information System to help as a tool in better functionality.

An Integrated Financial Management Information System (IFMIS) is a computer based system to integrate all government financial information - budget, accounting, revenues, expenditures, and project financial information - into one system.

Some of the functions of the IFMIS that would help in the FRE are as under:

1. Budget & Accounts: Fiscal Management, Tax Strategy, Budget Processes, Financial Instructions, Debt Management, Resource Management, Data Recording etc.
2. Treasury : Pre-Auditing and Processing of Bills, Transactions Recording, Accounting & Financial Statements
3. Pension, GPF & GIS: Administration, data recording, pension fixation, disbursements and accounting of provident funds and Employees Group Insurance.
4. IT & CT: Tax Administration including Assessment, Revenue Forecasting, Return Filing, Data Recording etc.
5. Internal Audit: Audit of the transactions

Some of the critical goals of the IFMIS would be:

1. Fiscal Management:
Gives an aggregate and accurate fiscal position of the State and enables risk are monitored and managed properly.
2. Budget Realism:
The budget is realistic and implemented as intended in a predictable manner.
3. Comprehensive, Policy-based Budget:
The budget captures relevant fiscal transactions, and is prepared with due regard to government policy.
4. Information:
Adequate fiscal, revenue and expenditure records and information are produced, maintained and disseminated to meet decision-making, control, management and reporting purposes.
5. Control:
Arrangements are in place for the exercise of control and stewardship in the use of public funds.
6. Accountability and Transparency:
Arrangements for external transparency and scrutiny of public finances are operating.

The IFMIS will provide the Government with a vital tool for meeting its objective of better managing the financial resources of the State for the benefit of its people. When fully implemented, it will enable transparency in all of the Government's financial operations. It will make it possible to more accurately budget the scarce resources to priority services, manage cash so as to ensure budget funds are available, and ensure money is properly spent for the purposes intended.

The key benefit of an integrated approach is that all the information can be linked together, so that government officers who have been given sufficient authority can access the information, analyse reports and thereby make effective decisions by saving time and costs. Managers in government will be able to use the information to better manage their resources.

This huge step forward is possible because of advances in technology. There are available “off the shelf” financial management systems that provide all of the required functions for governments. Though certainly not cheap to build, because their development costs can be spread over many customers the systems make it economically feasible for countries such as to have the benefit of the most advanced technology. Also, the use of package software ensures the system can be maintained and upgraded into the future.

However, such systems are more complex than, for example, Microsoft Office! The implementation of the IFMIS will present a number of technological challenges and will also represent a massive exercise in change management. For instance, success requires the implementation of a standard chart of accounts, revisions to some work processes and changes in attitudes towards the sharing of data.

A Project Team could be formed to look into the details for the need of such a system, analyse different aspects of the strengths and weaknesses of such a system, the success and failures of implementation of such a system in similar work environment, the challenges and costs and provide an overall Report for its acquisition and implementation.

2.5.3.5. Stages for System Development

- I. Appoint Steering Committee
- II. Assessment
 1. Government Operations
 2. Economic Enterprises
 3. Whole-of-Government
 4. Coding Structure
 5. Information Technology
 6. Training
- III. Design
 7. Identify specific software and hardware needs during design phase
 8. Prepare Users’ Manuals
- IV. Conduct training programs
- V. Pilot test programs
- VI. Implementation

2.5.3.6. Estimated Financial Implications

It would be highly difficult to actually estimate the cost of development of MIS Software. The much larger component involved would be the development of the software rather than the hardware costs. The software cannot be bought “off the shelf” and used straight away, but it has to be developed and customized to the need of the Organisation.

The World Bank survey of experience of IFMIS implementation in 27 countries indicates:

- Time taken between 5 and 9 years to complete
- Average Bank funded cost US \$12 million
- Only 21% delivered on time, on budget and as specified

We may, as per the survey assume the cost of development of the IFMIS at US\$ 12 million per country i.e. 12,000,000 X Rs. 40.00 = Rs. 48,00,00,000.00 (Rs. 48 crores per country).

However, keeping in view the sheer small size of the State, area coverage and based on the information obtained from the line Departments namely the National Informatics Centre, Sikkim and the Information Technology Department, Government of Sikkim, based on their experiences of developing similar kind of software packages, it is estimated that the cost of developing IFMIS would be roughly about Rs. 7.00 crores.

2.5.3.7. Conclusion

The FRE Department plays a very important role in the functions of the Government of Sikkim. Its key function is to manage the financial resources of the State, proper utilisation of funds, Tax administration, Revenue forecasting and realisation etc.

Few of the issues, which are placed under high agenda of the Department of Information Technology and of the Government, are E-Governance and Introduction of Management Information System (MIS) and Decision Support System (DSS) in the Government. There has been a huge growth in the development of infrastructure as far as Information Technology is concerned. All the Government Department in the state capital is in the process of being networked through optical fibre and RF.

This is a very positive aspect for the Finance, Revenue & Expenditure Department. The two processes if coupled together at the same time could lead to a paradigm shift in our working culture and high technological intervention in terms of Information Systems.

The State urges the Thirteenth Finance Commission to consider the above proposal so that the development and implementation of the IFMIS will take place and would be fully implemented before the start of the Fourteenth Finance Commission Period.

With the IMFS in place, it is expected that the financial resources of the State would be properly and optimally utilised for the overall betterment of the people of Sikkim as well as for the entire people of India. This greatly benefits the fiscal administration, expenditure management and control besides storage of data for various analytical/ statistical purposes.

2.5.4. Improving Statistical Infrastructure

2.5.4.1. Training Measures

Training for primary staff: This includes training in the tools of basic statistics like measures of central tendency and dispersion, probability distributions, index numbers, NSS surveys, scrutiny of schedules, preparation of factors of multipliers, primary checks during data processing etc.

Training for Statistical Officers and Assistant Directors: This includes a review of topics related to basic statistics (which are taught to primary staff) and providing training in the use of computers so as to make them computer literate and well versed in validation of data and able to write short programmes.

Orientation Course for Senior Officers: This will include a brief comprehensive course on official statistics, sampling theory and applications, report writing and computer processing of data.

The above three courses may be part of an in-service training programme to be monitored by the Director of Department of Economic, Statistics, Monitoring and Evaluation (DESME). By adhering to a rotation process, all members of the statistical cadre will get trained over a stipulated period of time.

2.5.4.2. Staff Training for Better Expenditure Management:

Development of human skills is an essential part of fiscal reforms. There is a need for an intensive training programme for local officials in expenditure management. The training programme should adopt a two-tier approach, one for senior officials and the other for middle level and operational level officials. For the former, the training programme should be an orientation programme so that policy makers get a detailed picture of the existing and proposed fiscal system. Without a proper understanding and steadfast commitment, it would be difficult for the officials to sustain the momentum of the fiscal reforms. For the latter group, there should be a more intensive training programme of a longer duration. Moreover, Refresher Programmes for both levels should be considered at periodic intervals.

2.5.4.3. Capacity Building for Poverty Estimation

Immediate steps have to be taken for enhancing the capability of the Directorate of Economics & Statistics and Monitoring & Evaluation (DESME) to bring out the poverty estimates not only for a base year but also for the later years.

2.5.4.4. Upgradation of Library

The existing reports, documents and brochures need to be properly documented and kept methodically. The missing issues of Volumes 1 & 2 of Instructions to Field workers of National Sample Survey (NSS) rounds have to be obtained and kept properly. Similarly, the NSS Reports and volumes of *Sarvekshana* for the past rounds need to be procured or the NSSO needs to be approached for soft copies available at a price on discs. The Planning Commission reports dealing with poverty have to be procured. All journals dealing with price statistics, for example, Indian Labour Journal, Indian Labour Statistics etc. should be there in the library. In fact, a list of all the journals dealing with basic statistics of the Indian Economy should be maintained and these journals should eventually be added to the collection of existing journals in the library.

CHAPTER 3

3. UPGRADEMENT OF SOCIAL AND CULTURAL SERVICES

3.1 Conservation of Heritage and Culture of Sikkim

Sikkim was ruled by the Chogyals. It was after the signing of the Treaty of Titalia, in 1817, the Britishers came to Sikkim and managed to get a foothold onto this virgin land. However, the British influence on the social and architectural heritage of the State is very minimal, apart from a few historical buildings. Thus, apart from the Dak Bungalows and a few residential buildings of the *Jamindars* and the *Takshars*, there is no big influence of the British on the architecture prevailing in the State. Instead of Gothic Churches, malls and promenades there are Monasteries, *Mandirs*, *Chortens*, *mendangs* and *manilakhangs* dotting the landscape of the State.

Although, the archaeological department of the State was set up way back in the year 1976, conservation of heritage has not been properly carried out. This Department has been manned by Civil Service officers who are not archaeologists and therefore, were not able to tackle the problems faced by the decay of historical monuments. Over the years, the Department has tried to involve the Archaeological Survey of India and NGOs (like INTACH) in the restoration of the heritage sites. It has been able to conserve a number of monuments under the grant given by Twelfth Finance Commission. In spite of many hurdles, all efforts are being made by the Department to preserve the various monasteries, traditional houses, historical buildings and *devithans*.

Archaeology basically entails Preservation/Restoration of the monuments with historical relevance and has survived for 100 years without undergoing any major architectural changes.

In view of the utmost importance of Sikkim's historical heritage, the State of Sikkim is putting before the Thirteenth Finance Commission the following proposals:

3.1.1 Restoration/Preservation of Monasteries and Mandirs

These Monasteries and Mandirs have been in existence since time immemorial and they not only serve as a place of worship for the local people but also play a very important role in the social as well as the cultural aspects of the locality. The department intends to document the various fresco paintings that invariably adorn the walls, doors and the windows of the monasteries and Mandirs of the State and this will **cost the State Rs. 250 lakhs.**

3.1.2 Documentation of the Intangible Heritage of the State

Sikkim is replete with various diaspora of culturally diverse communities who exist peacefully with each other and in harmony with nature even though they have their own rituals and festivals. Though these ethnic groups have made efforts to preserve their rituals and traditions, the State has to decide which of these rituals and tradition have to be documented and preserved. **Estimated cost for this documentation work is Rs 50 lakhs.**

3.1.3 Upgradation of Museum

The State Government has prioritized the establishment of museum for a long time but nothing concrete has come up till date due to various administrative problems. A hall has been earmarked to showcase the various artefacts in the multi-purpose Cultural Centre, which is coming up at the Development Area, Gangtok. The Department is aiming to construct showcases along with requisite pedestals and signages and thus, establish a full-fledged gallery to showcase the culture of the State in a befitting manner. **The estimated cost for setting up this Museum is Rs. 50 lakhs.**

3.1.4 Upgradation of Archives

Even though the Archives were set up in 1976, very little headway could be made due to the lack of a proper house to store the records. It was only in the year 1990 that the old Councillor's House, the present State Archives, was handed over to the Department for the non-current records to be treated and kept in a scientific manner. Government has earmarked an amount of Rs. 15 Lakhs for the construction of a Record Room. This will be taken up in the next financial year and the non-current records will be *segregated* before they are transferred to the stack area. It is worth mentioning that the acquisition of the records has been notified by the Government and it is expected that more and more records will be transferred to the State Archives. In fact, Record Management has become more important with the implementation of the RTI and the Record Officers have to be trained properly so that there is no hitch in the transfer of records to the Archives.

It is also proposed that all the records of the State Archives should be micro-filmed and digitised. The initial process has already been started under the Twelfth Finance Commission Grant and will be completed within the award period of the Thirteenth Finance Commission. **The estimated cost for this is Rs. 100 lakhs.**

3.1.5 Preservation/Restoration of Traditional Houses

It is a matter of concern that the traditional Sikkimese Architecture and houses are fast disappearing and being replaced by modern construction. It has, therefore, been felt necessary to preserve/restore the few remaining traditional houses constructed without the use of a single nail and glass pane for posterity. Such an endeavour would be beneficial to research work, besides making a valuable contribution to the tourism industry.

These houses have withstood the vagaries of time and in spite of some damage have not lost their traditional ethnicity. These houses need to be appreciated and preserved. **Estimated Cost for the preservation of these traditional houses is Rs. 80 lakhs.**

3.1.6 Preservation/Restoration of Historical Buildings

Although the colonial influence in the architectural heritage of the State is minimal, there are a few buildings built by the British that are historically significant. Even though these buildings have not been built in the traditional Sikkimese Architectural style, they are mute witnesses to the fact that the British Raj was an integral part of the history of the State.

The Archives' Building is one of the oldest and most prestigious buildings of Sikkim. It was designed by a Swiss architect. This building is significant due to its historical value. It used to be the Councillors' House during the erstwhile reign of the Chogyal. Later on it was converted into the Sikkim State Legislative Assembly House. The earthquake that hit the State during 1980 and 2006 has caused major damage to this historic heritage structure and urgent intervention is required to restore it to its past glory. Moreover, this building and its complex is being developed as a museum. Hence, it becomes imperative that this heritage building be preserved and its complex be beautified and other facilities augmented.

We also propose to take up the Restoration/Preservation of other such houses that are scattered at various places of the State. **Estimated Cost for all these ventures is Rs. 100 lakhs.**

3.1.7 Preservation/Restoration of Chorten, Mendangs and Mani Lakhang

Chorten: Chorten means a receptacle of offerings. In Tibetan language it means an object of worship. Buddhists believe that by circumbulating around these Chortens, one can cleanse oneself of the sins of the past lives. Housed inside these Chortens (Stupas) are holy relics and religious scripts, known as "Zhungs" in Tibetan or Sikkimese language.

Mendangs: Mendangs are a loose pile of stones with holy relics inside them. They are very similar to 'chortens' or stupas. The stones that are piled up in a mendang are hand-carved with various mantras e.g. the Mendang at Gyalshing. We propose to preserve this unique, religious heritage of the State.

Mani Lakhang: Mani Lhakang literally means a place where the mantra of the Avalokiteshwara is chanted and practiced during the lunar month. The architectural contours of Mani Lhakhang are same as that of the Monasteries. Nyungney is the important ritual which is performed under the guidance of the *Lama* (Priest). This ritual is basically a recitation of Mani Mantra which ends with the ritual.

Total estimated Cost for the preservation of these religious sites is Rs. 40 lakhs.

3.1.8 Preservation of Devithans and Pilgrimage Centers

One of the most sacred places in every village of Sikkim is the *Devithan*. The local people in the village worship their natural deities in these places and almost all the *Devithans* are the perennial spring water sources. These areas are demarcated and respected by the locals. Due to different activities and modernization, the *Devithans* have not been properly protected and preserved. Hence, to retain this socio-cultural part of Sikkim society, the Department plans to undertake the conservation of these places with the grants to be awarded by the 13th Finance Commission. *Total estimated cost for the preservation of Devithans is Rs. 60 lakhs.*

3.1.9 Preservation of Sacred Caves, Water Bodies and Hermitage

There are a number of caves, water bodies and hermitages that are considered to be holy and sacred. These have been worshipped through the ages. This rich heritage of the State needs to be preserved as these are a legacy handed down by our forefathers. **Estimated Cost to undertake this preservation work is Rs. 50 lakhs.**

3.1.10 Revival of Traditional Arts and Crafts

The people of Sikkim have been practicing various forms of arts and crafts through centuries. This traditional form of arts and crafts not only is a means of livelihood of the people but also plays an important role in the social and cultural fabric of the society. The forms of traditional art and craft are now almost extinct and are being practiced only in small pockets in the villages. Department intends to identify these people and utilise their skills by arranging various training programmes where the younger generation will be imparted training in ancient folk arts. **Estimated cost for this is Rs. 30 lakhs.**

3.1.11 Restoration/Preservation of Various Ruins in the State

Many monuments in the State are in a state of ruin. These are scattered throughout the State and have been a witness to the various wars and palace intrigues that are a part of the history of Sikkim. These ruins, which are in various stages of decay, need to be restored for the sake of posterity. **Estimated cost of this restoration work is Rs. 50 lakhs.**

Thus, the Thirteenth Finance Commission is requested to grant a sum of Rs. 860.00 Lakhs to meet the requirements of Upgradation of Cultural and Heritage Conservation.

3.2 Health Care, Human Service and Family Welfare Department

3.2.1 Upgradation of the Sir Thutob Namgyal Memorial Hospital into a 500-Bed Multi-specialty Hospital

The Sir Thutob Namgyal Memorial (STNM) Hospital at Gangtok is a premiere 300-bed Government hospital in Sikkim that provides secondary and limited tertiary health care facility. In 1917, it was opened as a 25-bed hospital in memory of the IXth Chogyal of Sikkim, Sir Thutob Namgyal. Since then, the hospital has undergone major upgradation/expansion in all aspects to meet the growing health care needs of the population. The expansion has, however, been in an unplanned manner resulting in horizontal construction of buildings on either side of the 31-A National Highway.

The estimated cost of this hospital upgradation project is Rs. 203.31 crores .The detail break-up of the cost of the project is given in Table 3.1

Table 3.1: Approximate requirement of funds for proposed upgradation of Hospital at Gangtok.

Sl. No.	Details of Work		(Rs. in crores)
1	Civil Works (30,000 Sq.m)		
(a)	Building cost @Rs. 25,000/ Sq.m per CPWD norms		75.00
(b)	Additional special foundation viz. large diameter RCC Bored cast-in-situ Piles/RCC Caissons foundation/Raft foundation with RCC all round retaining wall for basement @. 10% of civil work cost.		7.50

(c)	Additional superior specifications viz. Aluminum glazed doors/windows, aluminum facades, coloured glass curtain walls, granite/marble/kota/vitrified non-skid type flooring etc. @ 10% of civil work cost.		7.50
	Total of Civil Work Cost (i.e.) Sl. (a) to (c)		90.00
2	Development of Site & Services		
(a)	Development of site by terrace-cutting, construction of RCC Retaining Walls, Breast Walls and other Protective Works including internal roads, pathways with steps, area drainage, boundary wall/fencing with steel gate etc. @ 6% of civil work cost.		5.40
(b)	Internal Services less HVAC, viz. internal water supply, internal electrification, power points, telephone lines, security system (Entry/Exit), first-aid, fire fighting system, alarm system, paging system, PA system and UPS system, medical information system, CCTV monitoring system etc. @ 15% of Civil Work Cost.		13.50
(c)	Heating Ventilation and Air Conditioning (HVAC) system @ 15% of civil work cost.		13.50
	External Services, viz.		
(i)	External Water Supply including overhead & underground water reservoirs, distribution line, filtration plant, demineralization plant, water softening plant, external electrification including Electrical substation with HT/LT panels, transformers and HT/LT underground cable line, DG sets, Earthing, Campus lighting, lightning arrestors, external sewer line with up-flow anaerobic-septic tank, solid water management including electrical incinerators etc. @ 7.5% of civil work cost.		6.75
(ii)	Passenger lifts, bed lifts, dumb-waters, approx. 10 nos. @ Rs. 30.00 lakhs each		3.00
(iii)	Centralized Medial gas system for supply of oxygen & nitrous oxide, including pipes & manifolds etc.	L.S.	1.00
(iv)	Central fire fighting system along with fire detectors and protection system which includes fire alarm with electronic panels, wet risers, sprinklers, fire pumps etc.	L.S.	1.00
	Total of Development of site & Services (Total 2)		44.15
3	Additional Medical Equipments	L.S.	8.00
4	Furnishing-offices/doctors' Chambers/ Library/ audition/ wards/ cabins/ OT's / ICU/ ICCUS/ ITUS/ Laundry/ Pantries/ CSSD/ Kitchen etc.	L.S.	8.00
5	Total civil work including development of site and services cost (i.e. Sl. 1 to 4)		150.15

6	Additional escalation of cost during the construction period for 3 years @7.5% per year of total overall cost (progressive basis)		36.37
7	Total project cost, <i>i.e.</i> Sl. 5 to 6		186.52
8	Additional consultancy charges @ 6% of total project cost		11.19
9	Additional contingencies @ 3% of total project cost		5.60
	Grand total of project cost (<i>i.e.</i> Item Sl. 7 to 9)		203.31

While the Radiology, Pathology, Surgery, Medicine, Endoscopes, CT scanner, Emergency and Administrative block are located above the National Highway, the departments like General OPD, Gynaecology & Obstetrics, Orthopaedics, Paediatrics, Cardiology, Microbiology and Psychiatry are located below the Highway. The scattered location of the different units has resulted in difficulty in efficient management of the hospital and with the present state of congestion the problems faced by the patients are enormous. There is hardly any scope for vertical/horizontal extension of the existing building for upgradation of the hospital unless the proposal for reconstruction of the hospital is taken up.

The Sikkim Manipal Medical College Hospital is yet to come up in a big way to provide tertiary health care facilities in the State. There is no private hospital in the State except for a few clinics in the urban areas. Therefore, the role of the government in providing health care facilities particularly with regard to curative care in the State is crucial. The upgradation of the STNM Hospital into a state-of-the-art Hospital is in line with the State government's vision of establishing a mini AIIMS in the State.

3.2.2 Health Insurance Scheme for BPL Families of Sikkim.

The Government of Sikkim, through the Department of Health Care, Human Services and Family Welfare, has decided to provide health care cover to below poverty line (BPL) families of the State through an effective Health Insurance Scheme. The objective of the scheme will be to improve the access of BPL families to quality medical care through an identified network of health care providers.

The scheme will be managed by an Insurance Company registered with the Insurance Regulatory and Development Authority (IRDA). The Department of Health Care, Human Services and Family Welfare, Govt. of Sikkim, shall act as the nodal agency. A committee, chaired by the Principal Secretary/Secretary- Health Care, Human Services and Family Welfare, will be constituted to oversee the management and execution of the scheme in the State.

Any BPL family residing in Sikkim will have the head of the family enrolled and enlisted in the report to be published by the Department of Economics, Statistics, Monitoring and Evaluation (DESME), Govt. of Sikkim. This will be used as proof of eligibility for enrolment under the scheme.

The coverage under the Scheme shall include the following:

- (a) Expenses for the out-patient department treatment, hospitalisation and surgical procedures of beneficiary members in any of the Government hospitals/health

centres of the State and networked hospitals/ nursing homes approved by the State Government.

- (b) Accidental death of earning head of the family.
- (c) Disability Benefit due to hospitalisation of earning head of the family.

It is proposed to provide an insurance package for 21,618 BPL households comprising 94,573 family members of the State (provisional DESME report). The benefit for the family will be on a floater basis, *i.e.* the total sum insured can be availed of individually or collectively by members of the family.

It is also proposed to dovetail this Health Insurance Scheme of the State with the Insurance Scheme for BPL families of the Government of the India for providing better package to the BPL families of the State.

In order to provide the above mentioned benefits, the tentative requirement for the period 2010-11 to 2014-15 (five financial years) would be Rs. 15.00 crore at the rate Rs. 3.00 crore per year.

3.3 Water Security and Public Health Engineering Department

Sikkim Government is required to take care of water supply in all the districts. For upgradation of water supply, the following three water supply projects will be undertaken during the next five years.

3.3.1 Upgradation of Namchi Water Supply scheme

Namchi, the administrative centre of South district is a growing town at a fast pace. New Government buildings, hotels and other residential and non-residential buildings have come up and this has increased the demand for more water supplies. Population of Namchi town at present is approximately 12,000 and as the town is growing rapidly, the per capita water consumption is around 135 ltrs. However, the present water supply is only 60 Litres per Capacity per Day (LPCD). Therefore, it is necessary to increase the per capita water supply of Namchi to 75 LPCD.

At present Namchi Water Supply is entirely dependent on Bermeli water source which is 47 km away from Namchi. The existing Water Supply was commissioned in 1989 but presently the water is not delivered at full force as the water pipe is embedded underground. The excessive rusting of pipes and subsequent leakages are not easily detectable. Also, there are blockages at many points along the pipe line which makes the replacement of embedded portion of pipe and fittings unavoidable. If the major overhauling of the water pipe line is not done in time it will be very difficult to meet up the growing water demand of Namchi town in the near future. The estimated total cost for this work is Rs. 1742.00 lakh. The item wise cost break-up of the proposed project is given in the following Table 3.2.

1.	Repair of Intake Structure I and II tanks	75.00
2.	Replacement of valve and washout valves	20.00
3.	Replacement of rusted underground pipes and fittings	1500.00
4.	Providing anchor blocks and pillars	20.00
5.	Improvement and construction of walkway along the pipe line	50.00
6.	Construction of resting shed	7.00
7.	Reconstruction of filtration unit	50.00
8.	Carriage of pipes and fittings to work site	20.00
	Total	1742.00

3.3.2 Over-hauling of Lower Changay Source for Gyalshing Water Supply

One of the sources of Gyalshing water supply is lower Changay. It was commissioned in the year 1975. The total pipe length is 7 Km of 4” diameter G.I. Pipes. As the terrain in which the existing pipe is laid is very steep and is usually hit by landslides and falling trees, it has become un-functional at many places. The line being very old, frequent disruption of water takes place. Therefore, the entire stretch of this pipe line needs to be replaced with new pipe line. By doing this, the discharge of water will definitely improve.

The **estimated total cost of replacing the old pipe line is Rs. 118.00 lakh.** Item-wise breakup is given below in Table 3.3.

Table: 3.3: Cost Estimates for Overhauling of Lower Changay Source for Gyalshing Water Supply

1	Repair of intake structure	10.00
2	Replacement of escape valves	2.00
3	Replacement of rusted & deformed pipes & fittings	90.00
4	Providing anchorage & saddle pillars	6.00
5	Improvement & construction of walkway	5.00
6	Carriage of pipes & fittings to work site	5.00
	Total	118.00

3.3.3 Overhauling of Rabdentse Water Supply Scheme, Gyalshing

Rabdentse water supply scheme for Gyalshing was commissioned in 1967. Its source is at upper Changay and the length is 15 Km of 4” diameter G.I. pipe. Since the time of commission, it has undergone many repairs and replacement of the pipe line. The pipe line passes through the

jungle and gets damaged by falling trees. The water supply is frequently disrupted by land slides. There are innumerable leakages along the pipe line due to deformed and rusted pipes.

At present, there is shortage of drinking water due to the growing demand of water at Pelling and Gyalshing. This calls for the over-hauling of the Rabdentse water supply scheme. The estimated cost of overhauling will be to Rs. 222.00 lakhs. Details of the proposed expenditure on this water supply line are given at Table 3.4.

Table 3.4: Cost Estimates for Overhauling of Rabdentse Water Supply Scheme

(In Rs. lakh)

1	Repair of Intake structure	12.00
2	Replacement of escape valves	2.00
3	Replacement of rusted & deformed pipes & fittings	180.00
4	Providing anchorage & saddle pillars	10.00
5	Improvement & construction of walkway	8.00
6	Carriage of pipes & fittings to work site	10.00
	Total	222.00

The total cost of these three projects is estimated at Rs. 2082 lakh. The fund ear-marked in the annual plan outlay cannot accommodate such a huge expenditure in view of the equally important priority new schemes in other sectors that have to be taken up for development.

Therefore, the Thirteenth Finance Commission is requested to provide a grant of Rs. 2082.00 lakh for the upgradation of above three water supply projects.

CHAPTER 4

4. UPGRADATION OF ECONOMIC SERVICES

4.1 Promotion of Tourism

The thumb-shaped State of Sikkim is a virtual paradise. This hill State is endowed with magnificent snow-capped mountains, rapidly flowing rivers and placid lakes, icy glaciers, lush green valleys and a rich biodiversity of flora and fauna. Sikkim's rich culture, mystical monasteries and pristine environment gives one the magical feel of a Himalayan fairytale land. Rated as one of the 26 rich bio-diversity "hot spots" in the world, Sikkim is a veritable treasure house of some of the world's most beautiful streams, lakes and waterfalls. The State has rich flora and fauna despite having only 0.22% land of the country.

Sikkim as a Tourist Destination

The topographic conditions of Sikkim limit the scale of human intervention. In the last three and a half decades, this hill state has undergone a multidimensional socio-economic transformation in an attempt to align itself to the rest of the Indian economy. However, the rugged mountainous terrain and isolated location of the State have been an impediment in the absorption of the gains from the reforms implemented by the Government of India. The lack of an investor-friendly environment has made the process of industrialization quite slow. **Besides hydro-power, the only other viable industry gaining a rapid endorsement in Sikkim is tourism** and it, therefore, should be treated as a priority sector.

Strategies adopted by the State Government.

Realising the importance of the tourism industry in economic growth, employment generation and poverty alleviation, the Government of Sikkim has given special recognition to this industry. Tourism is now the thrust sector and the State's objective is to tap its enormous potential in an environmentally sustainable manner.

With a view to doing so, the following steps have been taken to boost the tourism sector in the State:

- Efforts have been made to document Sikkim as the ultimate eco-tourism destination through various reform strategies and policies acknowledging the critical role of the private sector with Government working as a pro-active facilitator
- The use of plastic bags has been banned
- Restrictions have been put on the felling of trees
- Green Mission has been formulated for the preservation of a green belt in the State, and for a mega plantation movement under the slogan '*Clean and Green Sikkim*',
- Free distribution of seedlings, ban on sale and consumption of *Pan Parag* and *Gutka* etc. and

- Declaring:
 - Sikkim as an ‘Organic State’ to encourage the use of organic fertilizers for agricultural produce; and
 - Capital town, Gangtok, as litter and spit free zone;

Sikkim has already adopted the policy of management of natural resources based on the principle of conservation and sustainability keeping in mind the vision for a future ‘green’ Sikkim. Also, the State Government is laying special emphasis on infrastructure development of tourism in harmony with the National Tourism Policy to ensure that Sikkim tourism is marketed with the best of facilities and management strategies.

In this context, certain priority sectors under tourism which are in urgent need of grants from the Thirteenth Finance Commission are given below:

4.1.1 Passenger Ropeway from Dodak to Barsey Rhododendron Sanctuary in West Sikkim

Given the significance of the tourism industry in the State’s economy and to bring about the socio economic development of Soreng (a sub division in the west district of Sikkim), the Department of Tourism, Government of Sikkim, has conceptualised to connect the Barsey Rhododendron sanctuary with Dodak, a village near the Helipad. It is situated at an altitude ranging from 1600mtrs to 3600mtrs.

The Barsey Rhododendron sanctuary is one of the most important eco-tourism destinations in Sikkim. With the rapid growth of tourism activities and the creation of landmark religious monuments like Sai Temple at Daramdin, the area is fast becoming the most sought after tourist destination. The Department of Tourism has constructed trekking routes with the requisite wayside amenities to connect Barsey, Hilly and Hee-Gaon. However, it will still be useful (in terms of functionality and economic value) to connect Dodak (Burikhop) and Barsey with a modern cable-car facility. The vertical elevation difference between Dodak (Burikhop) and Barsey is 1300 mts. and the length of the required ropeway is 2500 mts. (approximately). It has been proposed to use bi-cable detachable Gondola system of ropeway for this purpose.

In the past, the ropeway systems have been successfully used to transport materials and passengers in hilly, mountainous and remote areas. Today, it is an acknowledged fact that such systems for transportation of passengers are primarily cost effective, pollution free, and environmental friendly. These are now considered to be the best mode of transportation for towns located around the hilly terrain. There are two main systems of ropeway—Mono-cable Ropeway System and Bi-cable Ropeway System. Given an analysis of the terrain (ropeway length is 2500 m.) and also the system capacity required, viz. 250 persons per hour (PPH), it is felt that the bi-cable, detachable Gondola ropeway system should be used to link Dodak base to Barsay in West Sikkim.

Mono-cable Ropeway System is not suitable for the following reasons:

- (i) the climbing angle is beyond 45 degrees; and,
- (ii) the rope size is very long due to its bending stress and the static inertia of the rotating mechanicals that support the rope.

4.1.1.1 Proposed System of Operation

The proposed operational cycle of the system is described below:

- a. The ropeway will have two terminal stations one at foothill and other at peak of the hill.
- b. The ropeway stations are connected by two separate track ropes, anchored at one end and tensioned (gravity type) at other end. Other than track ropes an end less haulage rope is used to provide drive to the system through drive and return sheaves at opposite terminal and system of prime movers and tensioning system (gravity type).
- c. The haulage rope at a specified spacing of gondolas moves continuously either clockwise or direction at a specified speed.
- d. At stations each gondola moves over the graded rail either by gravity or rotational force of tyres mounted with station structure or chain haulage system both are separately driven.
- e. Boarding/de-boarding takes place at specified zones at both stations for each cabin. At this zone, cabin comes to halt.
- f. After boarding/de-boarding cabins further moves on graded rail/tyre pusher mechanism and obtain almost same speed of haul rope and attach with it over a typical ramp that lock the carriage grip with the haul rope. Similarly, when cabin enters in to the stations it detaches from the haul rope over the similar type of reverse ramp that unclamp the carriage from the rope.
- g. Haul rope runs at constant speed and each cabin passes through the station mechanism as explained above and get attached and detached with the moving rope in cycle of operation.
- h. In this kind of system, haul rope only pull the cabin while weight of the cabin carried by the track rope.

Similarly, the other ropeway systems are also not suitable for the purpose due to various technical reasons. For example, Fixed Grip Gondola system is ruled out because in this system the boarding/de-boarding of passengers has to be carried out when the system is 'ON'. This would lead to serious problems particularly in the case of elderly persons and children. Being a 'fixed grip system', the ropeway speed will be less. Therefore, considering the length of the ropeway and the recommended capacity, a larger number of cabins need to be installed. In the same way, Jig Back System does not conceptually match with the idea visualized by the Tourism Department. Even with its high speed and huge cabin capacity, the projected ropeway capacity cannot be met. Also, due to the required track rope size, this system will need a "Track Rope Divide Station" to overcome the logistic problems of transportation of the rope to the site.

The only effective and economic solution is to have a ropeway 2500 metre long to cover the level difference of 1327 m. and with a capacity of 250 PPH and this is provided by the "Detachable Grip Bi-cable Gondola System".

The projected ropeway system will have two terminal stations, one at the foothill and other at the peak of the hill. It will take roughly 2 years for completion.

The construction of passenger ropeway will ensure accessibility to the remote areas. It will also ensure tourism traffic and this will give a boost to the local economy by bringing about self-sustained economic growth. The benefits of this socio economic development will get evenly distributed in the region.

To bring about the socio-economic development of Soreng (a sub division in the West district of Sikkim), the Department of Tourism, Government of Sikkim, has conceptualized the setting up of certain infrastructure at Soreng.

Barsay is situated at an altitude ranging from 1600 metres to 3600 metres. The proposed development programme will ensure accessibility to the remote areas. This will benefit the people living in adjoining areas.

4.1.1.2 Cost estimation

The estimated cost of the infrastructure for the above system was made in consultation with the district officials. The cost for providing power, water, approaches etc. is given in Table 4.1.

Table 4.1: Estimated Cost Break-up of Infrastructure Development Works for Ropeway System

Sl. No.	Description	Amount (Rs. Lakhs)
1.	Arrangement for power at both the terminals by the Power Department, Government of Sikkim	120.00
2.	Arrangement of water at both terminals by Rural Management & Development Department	50.00
3.	Cost of acquisition of land	35.00
4.	Infrastructure at lower terminal & upper Terminal	95.00
	Total	300.00

These estimates indicated vide Table 4.1 above include only the infrastructure development costs. The final Ropeway project costs can be ascertained only after the completion of the survey work. The Ropeway cost is estimated to be Rs. 1500.00 Lakhs. **Thus, the total Ropeway project cost would be around Rs. 1800.00 Lakhs.**

4.1.2 Nature Interpretation Centre, Eco-Lodge, Meditation Centre and Crafts Village at Cho-Dzo, Ravangla.

Ravangla is one of the favourite eco-tourism destinations in Sikkim. In recent times, there has been a heavy inflow of tourists (both domestic and foreign) creating a demand for better infrastructural facilities. With the Sakyamuni project coming up at this place, Ravangla will soon become a landmark tourist destination of the State.

The total built up area of the project will be approximately 21,000 sq. ft. and the estimated cost of the project is Rupees 4.90 crore. Details of the cost of the proposed project are given in Tables 4.2a, 4.2b and 4.2.

Table 4.2a : Area Covered and Cost for the Nature Interpretation Center, Crafts Village And Eco-lodge/ Meditation Center, Ravangla, Sikkim

Sl. No.		Area (Sq.ft)	Nos.	Total Area (Sq. Ft.)	Rate per sq.ft (in Rs.)	Cost (Rs. in lakhs)
A	Entry					
1	Reception	150	1	150		
2	Waiting Area	600	1	600		
3	Shop/Boutique	100	1	100		
4	Storage/Services	100	1	100		
5	Ticketing	50	1	50		
6	Administration	500	1	500		
7	Staff Area	500	1	500		
8	Toilets	300	1	300		
	Total Area			2300	1500	34.50
B.	Nature Interpretation Center					
1	Exhibition Area	5,000	1	5,000	800	40.00
2	Lecture Hall	500	1	500		
3	Movie Hall	500	1	500	1500	22.50
4	Research Laboratory	500	1	500		
	Administration Block					
5	Offices	100	4	400	1000	8.00
	Waiting Lounge	400	1	400		
	Toilet Block	150	1	150	1500	2.25
	Total Area			7,450		72.75
C	Crafts Village & Café Display & Sale Area					
1	A Type Units	200	2	400	900	6.30
2	B Type Units	300	1	300		
3	Open Display Area	600	1	600	500	3.00
	Work & Performance Area					
4	A Type Units	200	3	600	900	5.40
5	Double Storey	1000	1	1000	1000	10.00
	Artisans Hut					
6	A Type Units	200	4	800	900	7.20
7	Café	300	1	300		
8	Kitchen	150	1	150	1500	8.25
9	Toilet	100	1	100		
	Total Area			4250		40.15

D	Meditation Centre/Eco-lodge Huts					
1	Unit Hut	500	6	3000	1500	45.00
E	Development of Natural Reservoir					
F	Pavillions					
1	Unit Pavillion	150	6	900	500	4.50
	Total builtup area for the project			17900		196.90

Table 4.2b: Development of Natural Reservoir

	Qty.	Cost Rs./Sq. Ft.		Total (Rs. in lakhs)
Excavation	17000 CUM	96	CUM	16.32
Suitable Dumping Of Soil	400 TRUCKS	3000	P/TRUCK	12.00
Brick Lining And Sub Base Prep	1400 CUM	3690	CUM	51.66
Sand Cushion	300 CUM	329	CUM	0.99
500 Micron Agro Film	6500 Sq.m.	495.6	Sq. m	32.21
Total				113.18
Film Transport Of Materials		20%		22.64
Grand Total				135.82

Table 4.2: Cost Estimate for the Project

Sl. No.		Sq. Ft.	Rs. per Sq. Ft	Total cost (Rs. in lakhs)
1	Total Cost Of Built-Up Structure (From Table 4.6 a and b)	.		332.72
2	Site Development @ 12%			39.93
3	Total Cost of development			372.64
4	Architectural Consultancy at 3%			11.18
5	Civil Consultancy at 4%			14.91
6	Contingency at 4% of Development Cost			14.91
7	Transport/Escalation/Quality Control at 20%			74.53
8	Total Cost Of Project			488.16

Say Rs. 490.00 lakhs

Notes: The above rates are as per the prevailing market rates

Rates are liable to changes.

The above cost does not include the costs of finishing, furniture and furnishing.

To conclude, Sikkim is a fastest growing, most popular tourist destination in the Eastern Himalayas. The tourist arrival in Sikkim over the last decade has shown a steady increase. As a showcase of nature-tourism, Sikkim is one of the most favoured destinations in view of its exotic biosphere reserves and inimitable geographical location, biological wealth, environmental

setting and cultural diversity. The State Government is giving special emphasis on infrastructure development of tourism in harmony with the National Tourism Policy to ensure that tourism is marketed with the best of facilities and management. Numerous inducements for provision of tourism infrastructure and publicity programmes are being undertaken from the State Plan allocation and with financial support of the Central Government.

The State still needs to sensitize tourism incentives and value additions so as to attract more domestic and international visitors. **There is a need to lay focus on three basic aspects like infrastructure development, marketing and capacity building.** It is believed that the tourism proposals prioritized by the State Government for consideration of the Thirteenth Finance Commission will address the vital strategies for promotion of tourism in the State. These will give a big boost to the tourism sector of the State and pave the way for making Sikkim a self-reliant State.

4.1.3 Promotion and Development of Village and Eco-tourism

As a showcase of nature-tourism, Sikkim is the most favoured destination given its exotic biosphere reserves, scenic environment and cultural diversity. The State is blessed with an abundance of natural endowments like magnificent mountain ranges, snowy peaks, picturesque landscape, cascading waterfalls, rivers, lakes, glaciers, rich flora and fauna and lush green valleys. It possesses great potential to become a ‘must-see’ eco-tourism destination of the world. This project lays emphasis on effective management of Sikkim’s biosphere reserves, its economic regeneration through sustained community participation and preservation of the rich cultural and traditional matrix of the people of Sikkim.

4.1.3.1 Village or Rural Tourism

Across the world, the fast pace of growth and stress of urban lifestyles has led to a “counter urbanization” syndrome, *viz.* a growing interest in the rural areas. At the same time, the trend of urbanization has led to falling income levels and lesser job opportunities in the rural areas. People have left their villages and gone to cities in search of jobs. However, this trend can be reversed through Village Tourism *i.e.* encouraging tourists to visit the villages and enjoy the benefits of a relaxed and healthy lifestyle. Sikkim has 440 villages and each possesses unique natural attractions and a rich cultural heritage. Sikkim has a distinct potential for development through the promotion of village-tourism.

This project will give special thrust to village tourism by promoting the holding capacity of the chosen villages, where sizable assets of undiluted cultural and natural wealth exist. It will have direct and multiplier effects by employment generation and socio-economic development at the village level. Therefore, implementation of the programme would not only eliminate poverty and unemployment but will also be the driving force in enhancing the status of the weaker sections in the village, especially the women. It will also help in preserving the cultural heritage of the local people besides encouraging the promotion of tribal and local crafts, and improving the overall environment of the village. The villages of Sikkim will offer a perfect ambience for the tourists to feel physically and mentally invigorated, culturally enriched and spiritually elevated. This will also ensure the harnessing of the vast untapped potential of the village as it

becomes a tourist destination and this will help balance the gap of socio-economic development between the townships and the rural hinterlands.

4.1.3.2 Infrastructure requirements of the Project

The project aims at providing basic tourism facilities which would include improvement of the surroundings of the village such as development of parks, landscaping, fencing, improvement of connectivity and walkways, tourist accommodation (such as village guest house and home stay facilities), lights in the village, roadside parking yards, reception and information centers, auditorium for hosting cultural shows, improvement of pilgrimage sites, improvement of monuments, solid waste management system and providing linkage to and improvement of natural attractions, including the heritage centre in the village. This project will help in developing the skills of the local people to handle the influx of tourists, viz. reception of tourists, guides, cuisine, organizing village groups for entertainment programmes and cultural festivals, training on gender sensitization, packaging of culture and craft-based tourism products, promotion of literature on history, heritage, wild life etc.

4.1.3.3 Coverage of Villages with cost break-up

Keeping these thrust areas of the concerned project in view **the Thirteenth Finance Commission is requested to grant a sum of Rs.100.00 crore to develop eco-tourism and village tourism in Sikkim.** The item wise cost break-up for developing eco-tourism and village tourism is given in Table 4.3.

Table 4.3: Cost break-up for developing eco-tourism and village tourism

Sl no.	Proposal	Tentative Cost (Rs. in crore)
1.	Golf course Eco-Resort at Kupup, East Sikkim	20.00
2.	Archery Eco-Resort at Rabdentse, West Sikkim	4.00
3.	Eco-Tourism Project at Phurcha-chu, West Sikkim	3.00
4.	Eco-Tourism Project along Shingalila, West Sikkim	3.00
5.	Village Tourism Project at Daramdin, West Sikkim	2.50
6.	Village Tourism Project at Tharpu, West Sikkim	2.50
7.	Village Tourism Project at Hee-Bermoik, West Sikkim	2.50
8.	Village Tourism Project at Yoksum, West Sikkim	2.50
9.	Village Tourism Project at Labdang, West Sikkim	2.50
10.	Village Tourism Project at Rinchenpong, West Sikkim	2.50
11.	Village Tourism Project at Lampokheri, East Sikkim	2.50
12.	Village Tourism Project at Sang, East Sikkim	2.50
13.	Village Tourism Project at Lachung, North Sikkim	2.50
14.	Village Tourism Project at Langang, West Sikkim	2.50

15.	Village Tourism Project at Utterey, West Sikkim	2.50
18.	Village Tourism Project at Gelling, West Sikkim	2.50
19.	Village Tourism Project at Soreng, West Sikkim	2.50
20.	Village Tourism Project at Tikpur, West Sikkim	2.50
21.	Village Tourism Project at Rong, South Sikkim	2.50
22.	Village Tourism Project at Assangthang, South Sikkim	2.50
23.	Village Tourism Project at Perbing, South Sikkim	2.50
24.	Village Tourism Project at Bhanjang, South Sikkim	2.50
25.	Village Tourism Project at Maniram, South Sikkim	2.50
26.	Village Tourism Project at Kewzing, South Sikkim	2.50
27.	Village Tourism Project at Tokal Bermoik, South Sikkim	2.50
28.	Village Tourism Project at Passting, East Sikkim	2.50
29.	Village Tourism Project at Rey, East Sikkim	2.50
30.	Village Tourism Project at Damlakha, East Sikkim	2.50
31.	Village Tourism Project at Assam-Namroong, East Sikkim	2.50
32.	Village Tourism Project at Tumin, East Sikkim	2.50
33.	Village Tourism Project at Namthang, South Sikkim	2.50
34.	Village Tourism Project at Geythang, North Sikkim	2.50
	Total	100.00

4.1.4 Creation of Hydro-Tourism with River Course Development along the Teesta and Rangit rivers.

Sikkim is one of the fastest growing tourist destinations of India. Thus, the State has a great potential for hydro-tourism and adventure-tourism. These will give a boost to the State's economy through environmentally sustainable development programmes. Teesta and Rangit are the two major rivers of the State. Therefore, it has been proposed to develop hydro-tourism along the river courses of Teesta and Rangit. This will help to promote nature and adventure tourism in Sikkim.

The Teesta River originates from Cho-Lhamu, a glacial lake in remote northern Sikkim. It is an important tributary of the mighty Ganga and is referred to as the "lifeline of Sikkim". Numerous snow-fed streams in Sikkim have carved out river valleys in the West and South of the State and these eventually merge with the Teesta River.

The sparkling Rangit River flows down from the West to the South of the State and confluences with Teesta at Teeveni, near Melli. This river flows alongside the State Highway connecting South and Western part of Sikkim from Melli. Therefore, the strategic development of tourism spots along the river courses of Teesta and Rangit would definitely give a vibrant tourism support to the State of Sikkim. This will help the State to position itself as a leading tourism

global brand and help it to take advantage of the burgeoning tourism trade by harnessing the vast untapped potentials of the State.

The preliminary survey conducted along Teesta and Rangit rivers has revealed that the prominent tourist spots could be developed at different locations. These will have wayside facilities and amusement options for the tourists visiting the State.

The following works have to be undertaken for the promotion of hydro-tourism in Sikkim:

- River-Course Amusement Parks, gardens and tree-house accommodation for tourists.
- Promotion of water sports including angling, swimming pools, water bodies, beach volleyball etc.
- Boating, white water rafting and creation of facilities like those in the Water-World parks.
- Creation of picnic spots with camping platforms, kitchen, sheds and sanitation facilities.
- Rock-Garden and special effect illuminations, display of sculptures, crafts etc.
- View points, eco-huts, sand-huts, meditation, interpretation huts etc.
- Other facilities linked with hydro-tourism such as trekking to villages, rock-climbing and adventure activities etc.
- Road head parking slots, reception centre, linkage to the tourist spots etc.

Therefore, to meet the requirements of the above hydro-tourism project along the Teesta and Rangit rivers, the Thirteenth Finance Commission is requested to provide a grant of Rs. 200 crore. The item wise break-up of the cost of project is given in Table 4.4.

Table 4.4: Cost of Hydro Tourism along Teesta and Rangit Rivers

Sl. No.	Proposal	Tentative Cost (Rs. crore)
1.	Development of river course tourist destination at Karfectar, south Sikkim	35.00
2.	Development of river course tourist destination at Mazitar, along Melli-Jorethang Road, South Sikkim	25.00
3.	Riverside eco-tourism and hot-spring development at Phurcha-Chu, West Sikkim	20.00
4.	Development of river course tourist spot at Nayabazaar, West Sikkim	20.00
5.	Development of riverside tourist spot at Rimbi, West Sikkim.	20.00
6.	Development of Water World facility on the Teesta River Bank below Katang, in South Sikkim.	25.00
7.	Development of riverside tourist spot at Rangpo, East Sikkim.	35.00
8.	Development of river course tourist spot at Rangrang, North Sikkim.	20.00
	Total	200.00

4.1.5 Snow Tourism Infrastructure at Lachen Village

Lachen, a village of Northern Sikkim, is located at an altitude of about 9000 ft. This sleepy, sparsely populated, traditional village is a paradise for nature lovers due to its fascinating scenic grandeur.

The place lies en-route the path to Guru-Dongmar Lake and is about 120 km. (a six hours drive) from the capital city, Gangtok. The normal temperature is about 5⁰ C to 10⁰ C during the summer, while the winter remains freezing at sub-zero temperatures. The sparkling stream Lachen-Chu (Teesta) originates from Cholhamu Lake and meanders down the Lachen valley till it finally confluences with Lachung-Chu at Chungthang, about 27 km downstream. Lachen remains under a blanket of thick snow during the winter season.

Lachen is extremely spectacular especially during winter when the entire village is covered under a blanket of snow. A beautiful monastery on the imposing hill above the valley offers a bird's eye view of the entire habitation below. Beside its exotic natural beauty, Lachen is also one of the base camps on a visit to Guru-Dongmar Lake which is one of the most popular tourist destination as well as a pilgrimage centre. Tourists for the Guru-Dongmar tour or the high altitude trek to Green Lake have to make a night halt at Lachen or Thangu. This has to be done for acclimatization to the high altitude so as to avoid acute high altitude sickness. Hence, Lachen is also an important transit point for dispersal of tourists to other areas of tourist interest in the extreme northern border of Sikkim. The people of the valley, known as Lachen-pa, are the most ethnic tribe who still preserve a typical primitive tribal culture and tradition.

As the Lachen valley is covered with snow in winter, the State intends to promote snow tourism in this region. The valley of Lachen could be made a winter resort providing adequate accommodation for the tourists in a typical Igloo Home with facilities at par with international standards. The Government has, therefore, prioritised the proposal for integrated tourism development at Lachen based on the concept of Winter Tourism.

The total tentative cost for Complete Tourism Infrastructure at Lachen will be around Rs. 20.00 crore. Therefore, **the Thirteenth Finance Commission is requested to provide a grant of Rs. 20.00 crore to make Sikkim a snow tourism destination.** Item-wise cost break-up of the snow tourism project is given in Table 4.5.

Table.4.5: Item-wise cost break-up of Snow Tourism

Sl. No.	Proposal	Tentative Cost (Rs. in crore)
1.	Tourist Information Centre: The structure will be in ethnic vernacular design with telephone booths, internet, and toilet facilities.	0.50
2.	Tourists Huts: Eco-huts (comprising of 2 rooms with attached toilet and kitchen) will be constructed in vernacular design to blend with the ethnic surroundings.	2.50

3.	Igloo Huts: The Igloo huts will be the popular tourist accommodation as these will provide a typical polar experience for the tourists.	3.50
4.	Cafeteria with medical facility: Such facilities will provide quality food for tourists. The first aid room will help tourists to cope with altitude sickness.	0.60
5.	View Points and walkways: Viewpoints will be constructed at vantage points along the stone-paved walkways around the valley.	1.50
6.	Snow Sports: Snow sport facilities such as snow-skating etc will be provided to promote snow adventure in the area.	6.00
7.	Parking yard: Adequate parking lots will be created for the tourist vehicles.	0.80
8.	Landscaping and illumination: Overall landscaping of the area and compound illumination will be provided.	1.50
9.	Base camp: Lachen being the transit point for trekking, expedition and the Guru-Dongmar tour, a quality Base-Camp will be constructed with the requisite facilities.	3.10
	Total	20.00

4.1.6 Development of Wetland Tourism of Guru-Dongmar

Sikkim, the ultimate eco-tourism destination in Asia, is well known for its high and low peaked mountains, holy caves, hot springs and numerous glacial lakes. The Guru-Dongmar Lake is nestled like a jewel amid snow-crested peaks and is one of the most important highest tourist spots of the State at an altitude of 17,800 feet above the MSL. This spectacular lake is surrounded by razor-edged snowy mountains of amazing scenic beauty. This lake is also believed to be sacred and its water is considered as ‘Amrit’, viz. possessing amazing healing powers and curative properties. The scenic beauty of the Lake is awesome and breathtaking as it is surrounded by perennial glacial snow peaks on either side. Therefore, this Lake has enormous potential to become an independent tourist destination with pilgrimage, nature and adventure tourism.

Keeping in view the importance of the Guru-Dongmar Lake, the State Government has given top priority for initiating necessary development to make it an international tourist destination under the concept of Wet Land Tourism. Tourism development at Guru-Dongmar has to be strategically planned in view of the fragile ecology of the area. During the development process, optimum care needs to be taken to ensure that the ecological parameters of the place are not distorted. The construction of the requisite tourism infrastructure should be ‘eco-friendly’ with no visible use of cement. The tourist accommodation will be in typical log-huts with exclusive world class facilities. The stone-paved walkways will be alongside the Lake perimeter to facilitate ‘parikrama’ for the pilgrims. Similarly, the basic facilities such as toilets and parking places will be constructed at the road head, at a suitable distance from the lake to avoid any kind of pollution to Guru-Dongmar Lake. The development process will be undertaken with minimum of human activity near the lake.

The total cost of the proposed Wet Land Tourism at Guru-Dongmar is estimated as Rs. 10.00 crore. **Therefore, the Thirteenth Finance Commission is requested to provide a grant of**

Rs.10.00 crore for the development of Guru-Dongmar wetland tourism as an International tourist destination.



Guru-Dongmar Lake

4.1.7 Development of Neh, as a tourist destination.

Neh, a village of South Sikkim is located at the foothill of Bhaley Dunga, 55 km from the capital town of Gangtok and in close proximity to Yangyang village. It is situated at an altitude of 4500 ft. above MSL. It is a paradise for nature lovers, a place of worship for the pilgrims, and has immense potential to become a tourist hot spot because of its historic and religious importance.

The main tourist attraction of Neh is the hilltop of Bhaley Dunga (10200 feet) that offers a wonderful view of the entire surrounding hills, nearby hill stations of Sikkim and the plains of West Bengal. The Bhaley Dunga remains under the cover of a thick blanket of snow during the cold winter season.

The purpose of promoting Neh as a major tourist destination is to provide a link to the other tourist destinations. Besides providing connectivity between different destinations, the State aims at harnessing the optimum tourism potential of this region by adopting a proper marketing strategy so that the multiplier effects of tourism and its socio-economic benefits will percolate directly to the local community. It will also offer a tangible value addition to support integrated tourism development in Sikkim and this is expected to transform the entire region into an unmatched, independent tourist destination of southern Sikkim. Hence, the proposal for the strategic development of Neh as a tourist destination has been one of the top priority programs of the State Government.

In view of its tremendous tourism potential, the State Government has decided to take affirmative steps to develop this village as tourist destination. It will lay emphasis on development of village life styles, drainage, signage and community halls for cultural shows. The software component of the project will comprise the capacity building program for facility providers, awareness campaign in handling tourists and tourist related business.

The tentative cost of this development venture will be around Rs.500.00 lakh. **Therefore the Thirteenth Finance Commission is requested to provide a grant of Rs. 500.00 lakh to undertake the above said project.** Item-wise cost detail is provided in Table 4.6.

Table 4.6: Item-wise cost break-up of the Proposed Neh Development Venture

Sl. No.	Items Details	Amount (Rs. in Lakh)
1.	Eco-Huts: It is proposed to construct 4 Eco - huts at the location earmarked at Neh. The huts shall be constructed in a traditional style with maximum use of local materials.	80.00
2.	Open-air Theatre (OAT): This will help in the organization of various cultural, social and sports related programs and the site selected for this will be in the heart of village so that it gets a crowd.	75.00
3.	Eco-Park: This will be constructed near the OAT and will encourage villagers to place their crafts on display. The park will have seats, landscapes, a newspaper stand, library, water bodies, fruit and flower plantation to attract butterflies and birds.	50.00
4.	Crazy walkways: The stone-paved pathways will provide connectivity to the different activity centres.	40.00
5.	Gazebos: Three Gazebos will be constructed on an ideal location so that the same will provide a panoramic view of the area.	25.00
6.	Traditional House Cafeterias: Three cafeterias will be constructed to provide ethnic food to the tourists. These will also help to showcase the culture and tradition of the local residents by displaying local handicrafts, traditional utensils, paintings, photographs, tools and culture of the people of Sikkim.	60.00
7.	Development of Village life-styles: This is an attempt to showcase the agriculture and living style of people of Sikkim. A small plot of land will be developed with a thatched roof house. The villagers will demonstrate ploughing of the field and other activities to the tourists.	35.00
8.	Drainage: A drainage system in the village will be constructed to create awareness in maintaining health and hygiene.	20.00
9.	Signage: Signage with location activity and slogans will be provided for the information of tourists and local residents.	10.00

10.	Community Hall: A community hall will be constructed near the OAT to promote communication skills of villagers. The same will showcase global activities via Television, Internet, literature and capacity building programs.	40.00
11.	Landscaping	45.00
12.	Capacity building for service providers to promote awareness campaign programs.	20.00
	Total Cost	500.00

4.1.8 Construction of Skywalk at Bhaley Dunga, Yangyang

In term of the tourism infrastructure development strategy, the proposal for the construction of *sky walk* at Bhaley Dunga, South Sikkim has received top priority of the State Government. The **Bhaley Dunga** hill (10200 feet) which majestically towers high from Yangyang village (4500 feet) is a tourist hot spot due to its picturesque landscape and immense historic and religious importance. Located at a distance of 55 km from the capital town ‘Gangtok’, it is a paradise for the nature lovers with fascinating scenic grandeur and equally as a place of worship for the pilgrims. The Bhaley Dunga remains under the cover of snow during the winter season that would offer further excitement for the visitors. With the installation of proposed Sky walk, the **Bhaley Dunga** would be the focus of tourist attraction for the State. The hill-top as such offers wonderful view of the entire surrounding hills of Sikkim including the bird eye view of the other nearby hill stations and the plains of West Bengal. The unique history of the place also supports its importance for becoming a pilgrimage centre. The legend attached to it proclaims the ancient Lepcha tribes believed there will be a massive flood will submerge the entire land of Sikkim underwater and the people of Sikkim will have to take a refuge on the hills of Bhaley Dunga for survival. In view of its tremendous tourism potential, the State Government has already taken initiatives to connect the hilltop of Bhaley Dunga with an attractive *passenger ropeway* from a place called Dhappar near Yangyang. Located at the foothill of Bhaley Dunga, Yangyang is a quiet village endowed with serene beauty and impressive natural attractions with varieties of flora & fauna.

The proposed installation of a Sky-Walk at the hill-top of Bhaley Dunga is one of the most prestigious proposals of the State Government. The pre-feasibility study of the proposed Sky-Walk is in progress. M/S Grant Thornton (India) are the consultants for this project. The preliminary concept of the Sky Walk presented by experts is on similar lines of that of the Sky-Walk of Grand Canyon, U.S. The proposed Sky-Walk will be a landmark tourist attraction and will be the first of its kind in the country. It will attract local as well as international visitors as it would be exciting to walk over the transparent glass overlooking the skies below from the height of almost 5000 ft. The feasibility study reveals that the project is viable in commercial and technical terms. Since it is believed that the Bhaley Dunga is the abode of Lord Shiva, the place is expected to attract a large number of pilgrimage tourists.

The study would encompass a technical pre-feasibility study including soil testing studies, geo-technical investigations and topographical surveys. Also, the infrastructure development will have a major impact on areas like transport, water supply and sewerage, boarding and lodging facilities, re-creational and entertainment facilities, power etc.

The completion of the project will help raising the standard of living of local people by providing employment opportunities. In the process of construction of this Sky-Walk, it is expected that cutting edge technology will be used for the designing and implementation of the structure, which will lead in turn to the development of local human capital and knowledge base in building complex structures. It would, therefore, be an acquisition of a state-of-the-art technology for the State. The proposed project will help in the capacity building of various government agencies like PWD and the Tourism Department as these will be involved in the development of the project. The proposed project will enhance the degree of commercial activity, viz. hotels, transport, entertainment and other tourist related activities as it has to cater to the demand of the increased tourist inflow generated by the project.

Therefore, keeping in view the project requirements, the Thirteenth Finance Commission is requested to provide a grant of Rs. 200.00 crore.



Proposed Sky Walk at Bhaley Dunga in line with the Sky-Walk of Grand Canyon, U.S.

4.1.9 Construction of Darap Village Tourism Project

Darap, a quiet village of West Sikkim, is situated 16 km away from the West District headquarter of the State. It is a very pristine place with spectacular countryside locale. This village is mostly inhabited by the Limboo community and can rightly be called an ethnic village. People of this village are basically dependent on agriculture and allied activities for their livelihood. Most tourists visiting here opt for trekking to Goechala, Dzungri Base Camp and the Singhalila trail which are the designated trekking trails of the State. Other tourist places of the District are Kecheodpalri Lake, Dubdi Monastery (oldest monastery in Sikkim), Tashiding monastery and Melli-Aching monastery. Darap being centrally located, tourists have to invariably pass through this village to reach the other destinations in the West District of Sikkim. There are many tourists who want to stay in this village and enjoy a few days living a

rustic village lifestyle. Some households have started home-stay facilities and the inflow of tourist is encouraging. However, the available facilities at present are not sufficient to meet the demand of the increasing tourist influx into the region.

Keeping this in view, the proposed Darap Village Tourism Project requires certain infrastructural arrangements.

- Construction of a tourist guesthouse along with creation of adequate home stay facilities.
- Construction of an amphitheatre where traditional cultural shows can be hosted for the entertainment of the guests.
- Building ten eco-huts with eco-friendly vernacular design and proper landscaping and gardens.
- The adventure loving tourist will opt for trekking in the forest to Ranidhunga and therefore, stone-paved trekking trails in eco-friendly design along with the inter-connecting foot trail within the village need to be constructed.
- A tourist information centre for providing information to the tourists is a prime necessity.

The total cost of the proposed Darap Village Tourism Project is Rs.3.00 Crores. The local people have agreed to part with their land for the project if proper compensation is paid. The 'no objection' letters from the land owners have also been collected.

The Thirteenth Finance Commission is requested to provide a grant of Rs. 3.00 Crore to meet the requirements of the project.

The Thirteenth Finance Commission is requested to grant a lump sum amount of Rs. 560.90 Crore to finance all the above mentioned projects to develop the Tourism Sector in the State of Sikkim.

4.2 Forest Conservation & Environment Management

4.2.1 Conservation Oriented Forest Policy

4.2.1.1 Background

Sikkim is a very small hilly State of India. Forests constitute 45.97% of its total geographical area. On the basis of altitude & composition, the forests of Sikkim can be classified into five major types:

- (a) Upto 900 m (Tropical Semi-Deciduous and Tropical wet forest). Most of the lower southern valleys fall into this category. This mainly consists of deciduous plants like Sal Shorea robusta, Khair Acacia catedhu and many other species like Lannaea grandis, Garuga pilmata, Terminalia belerica, Macaranga sp., etc. Secondary growth consists of various species of Strobilanthes, Barleria, Cissampelus, Tridax, Polygonum, etc. Also species like Bananas, Pandanus and various species of palms and canes occur in inner valleys.
- (b) Vegetation between 900-1,800 m (Tropical Moist Forest or Broad-leaved Forests). This region includes mainly has various broad-leaved species like

Engelhardia, Schima, Castanopsis, Acer, Litsea etc. The Secondary growth consists of Girardinia, Boehmeria, Maesa, Ardisia, Malestoma, Edgeworthia etc. It also includes various climbers like Pathos, Villis, Rhapsidophora, Smilax, Dioscorea etc. some species of bamboos.

- (c) Vegetation between 1,800-2,800 m (Temperate Broad-leaved Forests). This region is dominated by Rhododendron and Michelia. Other species found in this region are Castanopsis, Quercus, Schima, Ilex, Acer, Mangnolia, Cinnamomum, Betula etc. The shrubs mainly consists of Debregeasia, Urtica, Gynura, Hypericum, Viburnum, Vaccinium, Piptanthus, Mahonia, Berberis etc. These are mostly temperate type of plants.
- (d) Vegetation between 2,800-3,800 m (Temperate Coniferous and Broad leaved Forests). Mostly consists of Rhododendron, Silver Fir and hemlock type. In some regions like Tsoka, Bakkim and Lachen area the species like dwarf rhododendron and Juniper recurva also occur. Secondary growth mainly consists of Silence, Astragalus, Fragaria impatiens, Geranium, smaller species of Rhododendrons. Gualtheria, Cynoglossum, Jasmine etc.
- (e) Vegetation between 3,800 – 4,500 m (**Sub-Alpine Vegetation**). Mostly coniferous trees and smaller shrubs occur in the area. The tree line in the West Sikkim is up to 4,000m while in the East it ceases at a much lower altitude. In North Sikkim in some parts like Tholung and Zema Valleys it is almost up to 4,500 m. Plants like Junipers, dwarf species of Rhododendrons, Azaleas and many spring lowers like Potentilla, Primulas, Ligularia, Pedicularis, Senecio, Aster etc. become very common in this region.
- (f) Vegetation between 4,500-5,500 m (**High Altitude Desert**). This region has typical high altitude desert plants which come out only in spring. These mainly include various species of Meconopsis, Sedum, Phlomis, Pedicularis, Bistorta, Potentilla, Saxifraga, Saussurea etc.

The area Statistics for the State, as per the Remote Sensing Data of 1988 is shown in Table 4.7.

Table 4.7: Area Statistics and Types of Forests in Sikkim

(Area in square km)

Sl. No.	CLASS	RESERVE FOREST	REVENUE BLOCK	TOTAL	% OF TOTAL
1	Crop land (Terraced/Semi Terraced)	0.00	604.85	604.85	8.52
2	Fallow/Scrub in Revenue Block	0.00	155.69	155.69	2.19
3	Sal dense Forest	5.30	0.77	6.07	0.09
4	Sal open forest	15.93	1.54	17.47	0.25
5	Sal degraded forest	3.32	0.71	4.03	0.06
6	Mixed dense forest	464.46	138.88	603.34	8.50
7	Mixed open forest	433.37	333.88	766.75	10.81
8	Mixed degraded forest	194.56	235.06	429.62	6.05

9	Dense conifer forest	351.94	16.14	368.08	5.19
10	Open conifer forest	340.63	21.55	362.18	5.10
11	Degraded conifer forest	156.89	16.30	173.19	2.44
12	Oak-Rhododendron forest	100.34	26.24	126.58	1.78
13	Scrubs in reserve forest	101.87	0.00	101.87	1.44
14	Forest blanks	90.56	0.00	90.56	1.28
15	Alpine scrub	611.44	27.72	639.16	9.01
16	Alpine pastures	431.32	0.00	431.32	6.08
17	Alpine barren	815.80	2.35	818.15	11.53
18	Snow	1018.23	5.41	1023.64	14.43
19	Glaciers	208.23	0.00	208.23	2.93
20	Lakes	32.30	0.70	33.00	0.47
21	Rivers/major streams	31.81	32.50	64.31	0.91
22	Dry river beds	31.49	9.10	40.59	0.57
23	Built-up area	0.30	3.24	3.54	0.05
24	Land slide areas	5.37	5.16	10.53	0.15
25	Miscellaneous	6.93	6.30	13.23	0.19
	TOTAL	5452.39	1643.59	7095.98	100.00

Source: Remote Sensing Data of 1988

4.2.1.2 Forest Policy

The State Govt. has throughout most part of the last two decades followed a conservation-oriented forest policy which emphasizes the preservation of biodiversity of forest areas and imposes a ban on commercial exploitation of forest resources of the State.

Creation of Protected Areas network comprising 32 % of the geographical area of the State which is the highest in the country, ban on green felling above 1000 m altitude, ban on grazing in reserved forest areas, ban on collection of non-timber forest produce for commercialization, free distribution of LPG cylinders to people living in the vicinity of forests, participatory forest management and launching of the State Green Mission are some of the notable steps taken by the State Government to preserve ecological balance and environment security especially with a view to moderation of the regional climate.

4.2.1.3 Implications for Revenue turn over due to conservation policy

The Forest Survey of India is the primary agency of the Country to assess forest cover information for all States of the Country. It uses remote sensing techniques for forest cover mapping and crop details assessment. The Forest, Environment and Wildlife Management Department have been undertaking collaborative study of its forest areas for quite some time. A report on Forest Resources of East and South Districts of Sikkim, was produced by Forest Survey of India in 1988 and for West and South in 2001. The forest cover and therefore the

wood content of Sikkim's forests have increased from 1988 to 2001. Hence the growing stock (wood content) of the four districts could be summarized in Table 4.8.

Table 4.8: Wood Content of Sikkim's forests

East District	28,16,204 mtr. cube
West District	128,07,000 mtr. cube
South District	44,19,000 mtr. cube
North District	233,27,036 mtr. cube
Total State	433,69,240 mtr. cube or 15313,67864 cubic ft.

The common practice for sustainable exploitation of forest resources practiced in the hill areas of the Country is Selection Felling System. By this system approximately 1% of the standing wood volume of a forest is removed annually for its sustainable management. On the basis of this 1% annual yield, the total amount of timber which could be harvested is 153,13,678.64 cubic feet. Based on an average present rate of Rs. 150/cft of round timber (range varies from Rs. 450/- to 1000/- depending on the species), the annual yield in monetary terms would be about Rs. 230.00 crores. Hence the revenue foregone due to the non-exploitation of forest resources by the State (due to the conservation oriented policies) is of the order of Rs. 230.00 crores annually.

4.2.1.4 Implications for Expenditure due to conservation Policy

As a consequence of the conservation policy of the State the investment required for forest protection would be high. The average area of patrolling by a forest guard in the country is one guard per 4 sq km. By this norm the State Forest Department should have about 800 Forest Guards. The expenditure on deployment of guards would be about Rs. 6.00 crores per annum apart from the cost of maintaining infrastructure for uniform, housing, mobility and communication.

Apart from the expenditure on placement of forest guards, the annual expenditure on forest protection and environmental preservation is given at Table 4.9.

Table 4.9: The annual expenditure on forest protection and environmental preservation

Sl. No.	Description	1 year (Rs. in crore)	5 year (Rs. in crore)
1	Forest Fire Control and management	0.30	1.50
2	Fencing Forest Area & Plantation	0.40	2.00
3	Soil conservation of Forest land	0.20	1.00
4	Infrastructure for Forest Protection	0.20	1.00
	TOTAL	1.10	5.50
Note: The above expenditure does not include the provision for placement of Forest Guards.			

Thus the total requirement of fund for the Implementation of Conservation Oriented Forest Policy would be Rs. 5.50 crores.

4.2.2 Establishment of Institute for Protection of Environment (Water Bodies, Glacier, Melting Snow, Research and Skill Upgradation Training Centre)

4.2.2.1 Introduction

Sikkim is a vertical strip of extremely rugged mountainous state, wedged in between the Himalayan states of Nepal in the west and kingdom of Bhutan in the east. It lies between lat. 27⁰5' and 28⁰9'N and long. 87⁰59' and 88⁰56'E and covers an area of 7096 sq Km. Its northern boundary with Tibetan Autonomous Region runs more or less parallel with the main Himalayan axis from the Dongkiala Mountain westward following the stupendous spur of Khangchendzonga.

The Singalia Ridge south to north almost plains level, separating Sikkim from east Nepal and culminates near its northern extremity in some of the loftiest mountains in the world, the Khangchendzonga massif 8579 meter includes many other peaks eg. Pandim, Simvo, Siniolchu, Jhophunu, Kabru all above 6096 meter. The greater part of eastern boundary of Sikkim is formed by Chola Range, much loftier than the Singalia, stretching south from the main Himalayan axis at Dongkia mountain over 7010 meter. The range is pierced by passes, some of which formed normal trade routes between India and Tibet through the Chumbi valley. Of these are the most frequented are Thanckerla 4877 meter, Nathula 4328.16, Jeleppla 4386 meter.

The Singalia Ridge on the West, the Chola on the East with the main Himalayan axis across their extremities virtually encloses Sikkim in a titanic horseshoe. The horseshoe is the catchment areas of the headwater of the Teesta River, one of the principle physical features of the state, which runs north south practically through its entire route length. Its principle feeder streams or affluent-the Lachen, Lachung, Zemu, Talung, Great Rangeet, Rongli, Rangpo- all rise either within the horseshoe or just beyond geographical boundaries of the state.

The climate varies from the tropical heat of the valleys and the alpine cold of snowy ranges. The rainfall except in the Tibetan facies near the northern boundary is very heavy, averaging 348-400 cm annually at Gangtok.

The main source of the Teesta River is the Cholamu Lake situated at over 5182 meter elevation. From here it descends steeply for some 4877 meter, down Rangpo all within a distance of 50 miles. The beauty of it is in its short and torrential course its waters are continually augmented by the concentrated drainage of smaller streams and mountain torrents in addition to its main effluents. Thus, the nature of the river is not predicted as it suddenly swell into the thundering, raging torrent gigantic landslides all along its course year after and wide spread floods and devastation where it debouches into the plains of West Bengal.



Condition of Zemu Glacier outlet in 1982



Condition of Zemu Glacier outlet in 2004



Tsomgo Lake



Cholamu Lake

4.2.2.2 Need for the Institute

These Himalayas have largest concentration of glaciers reserve which is the main source of downstream. The Alpine area and high altitude landscape also harbours highly significant fresh water lakes of different sizes which coal ace into complex of wetlands. They are also life line of mountain civilization.

There is clear evidence that Himalayan glaciers have been melting at an unprecedented rate in recent decades; this trend causes major changes in freshwater flow regimes and is likely to have a dramatic impact on drinking water supplies, biodiversity, hydropower, industry, agriculture and others, with far-reaching implications for the people of the region and the earth's environment. One result of glacial retreat has been an increase in the number and size of glacial lakes forming at the new terminal ends behind the exposed end moraines. These in turn give rise to an increase in the potential threat of glacial lake outburst floods occurring. Such disasters often cross boundaries; the water from a lake in one country threatens the lives and properties of people in another. Regional cooperation is needed to formulate a coordinated strategy to deal effectively both with the risk of outburst floods and with water management issues.

The glaciers of the Sikkim- Himalaya are nature's renewable storehouse of fresh water from which hundreds of millions of people downstream benefit just when it is most needed during the dry hot season before the start of monsoon. Understanding the pattern of snow accumulation and melting is therefore important for the appropriate utilization of this Himalayan water resource. Observing glacier advancement and recession is also important as it can assist in identifying and thus mitigating mountain disasters in order to safeguard the livelihoods of vulnerable mountain people and their downstream neighbors.

The proposed Institute shall provide important facilities to conduct baseline survey of the recent status of the Himalayas, glacier, water bodies, lakes and flora fauna. The Centre will affiliate with Universities in the country for research works on various factors affecting deterioration of the Himalayas and its surroundings landscape. The collaborative works on research and capacity building of young generations shall be promoted through various International Organizations.

The Officers, Frontline staffs, JFMC, EDC and a community will also be involved in skill upgradation and modern training for Environmental Protection, Conservation and Mitigation. The site for construction of Institute is available at Pangthang Nursery Area, East Sikkim.

4.2.2.3 Details of activities with financial implications

The cost estimate with details of activities to be undertaken has been indicated in Table 4.10.

Table 4.10: Cost estimates of the Institute for Protection of Environment

Particulars	Rupees in crore
1) Construction of Institute	2.50
2) Glacier mapping and monitoring- covering of snow cover, glacial retreat and glacial moraine dammed lakes.	0.30
3) Wetland inventory and assessment with high resolution mapping.	0.20

4) Study on climate change and local adaptation.	0.40
5) Installation of early warning system with relay modem.	1.10
6) Controlled breaching – using explosives and excavating etc.	1.50
7) Construction of outlet control structures.	0.70
8) Purchase of equipment.	0.60
9) Joint Collaboration.	0.40
10) Installation of Sedimentation Station, Hydrological Measurement /Recording.	0.50
11) Training, Awareness and Capacity Building	0.40
12) Environmental mitigation and improvement	1.40
Total	10.00

4.3 Rural Management & Development

4.3.1 Construction of Circular Road around Chardham at Solophok, Namchi

4.3.1.1 About Chardam at Solophok

The unparalleled beauty of the State and very friendly and hospitable people are our competitive and comparative advantage. Keeping in view the importance of “Rural and Religious Tourism”, the State Government is constructing a Pilgrimage-cum-Culture Centre at Solophok, which will not only promote religious and general tourism but will also provide immense income generation avenues and opportunities. Once completed this will be major centre for pilgrims and tourist visiting Sikkim.

This will be a unique Pilgrim Centre with a 108 feet tall statue of Lord Shiva on the hilltop at Solophok. Apart from the ground-scaled Shiva statue, this Pilgrim Centre would also provide replicas of the *Dwadas Jyotirlingas*, to offer one platform for Shiva devotees. It is believed that Lord Shiva incarnated as Kirateshwar in Indrakeel (Present Sikkim). Therefore, in this hunter incarnation he is locally worshipped by the people of Sikkim as Lord Kirateshwar. A statue of 18 feet height of Lord Kirateshwar has also been included as part of the complex.

In order to attain Moksha, the Hindu belief is to perform pilgrimage at all the four Dhams, and therefore replicas of these four Dhams, namely Badrinath, Jaganath and Dwarkanath and Rameshwaram are being constructed. The construction work of this project has been going on since May 2005.

4.3.1.2 Need for Circular Road

This pilgrimage centre is being constructed on top of the Solophok Hill in South Sikkim about 5 kilometres from Namchi town. The complex covers an area of approximately 25 acres and is accessible by a motorable road. However this road has a carpeted width of only 12 ft. and hence will not be able to cater to the expected flow of traffic to this pilgrimage spot after it is completed. A traffic study being conducted has shown that already more than 700 vehicles per

day are visiting this spot on auspicious occasions although the work is yet to be completed. This shows that this pilgrimage centre has a tremendous potential for drawing visiting tourists and pilgrims. Hence it has been proposed to continue this road further and make it a circular road with one way traffic. This road will be extended down from Solophok to Namchi – Assangthang road and the length of this road will be about 4 kms.

Although car parking for around 150 vehicles at a time is being constructed, it is expected that this facility will not be able to cater to the parking requirements during the peak rush seasons. Thus the widths of this circular road will more than the standard major district roads so that vehicles can be parked along this road.

It is also proposed to construct a footpath along this road for the pilgrims who want to travel on foot for the *Darshan*. This footpath will be provided with Kota stone or equivalent flooring and will have railings all throughout its length. Along this footpath will be constructed various amenities necessary for the pilgrims such as drinking water, sanitation, resting sheds and statues of various gods and goddesses.

The cost of construction of this work has been tentatively worked out to about Rs.15.00 crores. The Thirteenth Finance Commission is, therefore, requested to make available Rs. 15.00 crores for this Circular Road.

4.3.2 Repair/ Renovation of 71 Suspension foot Bridges under North District of Sikkim

The rural suspension type foot bridges were constructed decades back for rural connectivity of different villages at remote places in backward areas. Before the existence of the said bridges, the accessibility of one village from the other was very difficult due to hilly and steep terrain. People had to walk along long and steep pathway to reach from one village to another. The accessibility to medical facility and marketing facility was very difficult for the people residing in the villages of North Sikkim. Also, the accessibility to schools by the school children was very difficult. So the Government of Sikkim started constructing rural suspension foot bridges at various places in the state so that people can have accessibility to various facilities. Due to paucity of fund and higher demand for such bridges, all the constructed bridges till the year 1999 have wooden members as the available local materials in North District of Sikkim were timber and bamboo and the same were extensively utilized for the construction for these bridges. The problem of providing connectivity was solved economically but as the time passed, the local materials started decaying and regular maintenance cost enhanced yearly. Further, the depletion of forest produces lead to restriction of use of timbers for such work as the same proved costly as well as environmentally unfriendly and the trend has been discouraged throughout the area.

Now the present proposal is for replacement of the timber members of the suspension foot bridges, which were constructed from 1973 to 1999, by using steel members along with other requisite components of the said bridges. The list of existing bridges, its place of construction, span and type for the proposed replacement/ repair is enclosed in Table 4.11.

The cost of repair per bridge has been formulated keeping in mind the cost for replacement of wooden decking, wooden railing, wooden long beams & cross beams with steel members and also for replacement of old cables and suspenders. The total cost for repair/ renovation has been worked out as Rs. 90,000 per running mtr which includes the cost of steel components and

labour cost for replacement by the steel components. There are total 71 nos of existing bridges which are to be repaired having total length of 3894.35 mtr and the total **estimated cost stands at Rs. 35.05 crores, details of which is indicated in Table 4.11.**

Table 4.11: List of Suspension Foot Bridges to be repaired along with Cost estimate

Sl. No.	Location	Name Of The River	Span in Metre
1	Lachung	Bichu Khola	50.00
2	Tingvong	Over Kanka Khola At Tingbong	70.00
3	Shipgyer	Over Ramon Khola At Shipgyer	65.00
4	Chutunga	Over Teesta Khola At Chutenga Under Lachen	48.00
5	Talling	Over Teesta Khola At Talling	51.00
6	Thangu Pharay	Over Lasher Chu At Thangu	45.00
7	Salim Pakyal	Teesta	58.00
8	Gor	Phee Khola	25.00
9	Kabi-Tingda	Phiyong	71.40
10	Phodong	Chozomchu	40.00
11	Beema Khedum	Teesta River	55.00
12	Passingdang	Kanaka Rongong Kyong	60.00
13	Teesta Rindang	Tinsta Rindang	87.00
14	Rogyalkhola At Labi	Rogey Khola	30.00
15	Lachung River At Chungthang	Lachung River	76.50
16	Ringkhola At Barfok	Ring Khola	25.00
17	Tolungchu At Sakyong Thyok	Toloungchu	50.00
18	Teesta Between Latong- Denga	Teesta Khola	70.60
19	Shestiyochu Teesta At Naga	Teesta	86.00
20	Lachugchu	Lachugchu	59.00
21	Dolma Sampo	Dolma Sampo	35.00
22	Phiyong Khola	Phiyong Khola	31.00
23	Teesta At Maldong In Lum	Teesta At Maldong In Lum	40.00
24	Rongli Khola	Rongli Khola	36.00
25	Teesta At Yakthang	Teesta At Yakthang	39.00
26	Teesta River At Yakthang	Teesta River At Yakthang	10.00
27	Teesta At Reemakroo	Teesta At Reemakroo	80.00
28	Ronglikhola	Ronglikhola	36.00
29	Real Khola At Tung	Real Khola At Tung	45.75
30	Teesta River At Malodong In Lum	Teesta River At Malodong In Lum	11.00
31	Kamakachu	Kamakachu	72.00
32	Rumphu Khola	Rumphu Khola	40.00
33	Teesta At Chubimbim	Teesta At Chubimbim	80.00
34	Kumu Khola	Kumu Khola	42.00

35	Ranglo Khola	Ranglo Khola	36.00
36	Pheni Khola	Pheni Khola	36.00
37	Teesta	Teesta	75.00
38	Kamerey Khola	Kamerey Khola	64.00
39	Teesta At Rammom	Teesta At Rammom	
40	Supok Cju At Lachen	Supok Cju At Lachen	80.00
41	Simblimkyong At Manual	Simblimkyong At Manual	72.00
42	Funkyong Khola	Funkyong Khola	45.00
43	Phee Khola In North	Phee Khola In North	67.00
44	Kanaka River At Nampadong	Kanaka River At Nampadong	80.00
45	Lachungchu At Chungthang	Lachungchu At Chungthang	50.00
46	Over Thedungkyong. Lik Linko	Over Thedungkyong. Lik Linko	81.00
47	Over Yalchu. Chungthang(10) G.P.	Over Yalchu. Chungthang(10) G.P.	68.00
48	Chozam Khola. Rongong Tumlong	Chozam Khola. Rongong Tumlong	41.00
49	Pathel Puri	Teesta Khola	50.00
50	Lachen	Teesta	80.00
51	Latong Denka	Teesta	75.00
52	Green Lake Lachen	Domachu	46.00
53	Shipgeyer	Teesta Khola	48.00
54	Tarrang	Mormo Khola	30.20
55	Malangthang	Teesta Khola	50.00
56	Gaikhana	Piyong Khola	71.40
57	Gai Khana	Bakcha	76.00
58	Patalpuri	Teesta Khola	58.00
59	Lachen(Yukthen)	Teesta Khola	70.00
60	Lachung	Lachungchu	60.00
61	Lachung	Bichu	70.00
62	Leema	Lachung Chu	50.00
63	Shipgyer	Billinkyong	48.00
64	Leek	Rikee Khola	59.00
65	Bridge Over Meyong Khola	Tung Naga	21.50
66	Phyankyong	Teesta	90.00
67	Choten	Raye-Chu	70.00
68	Khedum	Khedum Chu	68.00
69	Lachen(Singithang)	Teesta Khola	67.00
70	Manual	Simbling Kyong	45.00
71	Lingdong + Berfok	Mangzing Khola	76.00
A	Total Span in mtr		3894.35
B	Estimated Cost per mtr Span (in Rupees)		90000.00
C	Total Estimated Cost (in Rupees) (AXB)		3,50,49,150.00 Say 35.05 crores

4.4 Animal Husbandry, Livestock & Veterinary Services

4.4.1 Hygienic Slaughter House Proposed for Namchi & Geyzing

4.4.1.1 Introduction

The food habit of the people of Sikkim is very simple and the majority of them are habitual meat eaters. In rural households, meat is consumed at almost every meal and the consumption of meat is associated with social, ritual and ceremonial life.

In the wake of economic liberalization, the dietary pattern of the people has changed and people are more conscious about the quality of the food products. The demand and preference of quality meat and meat products is steadily increasing. To meet the growing demand, large numbers of animals are brought from outside the State. It is estimated that 70% of the total meat produced in the State comes from unregistered slaughter house, which do not fulfill the standard norms. Thus, the meat is unhygienic and is therefore a risk to the health of the consumers.

Right from the slaughtering unit to transportation, the wholesome meat is required to be produced at the most hygienic condition free from diseases, for consumption in local areas. Hence, a hygienic slaughter house is felt necessary.

The two major towns in Sikkim, namely Geyzing in West District and Namchi in South District of Sikkim are being developed as a major eco-tourism hot spots, the Demand for meat would definitely be higher in these areas. In the absence of 'hygienically managed' slaughter house within a reasonable distance from the main consumption areas, the local people and tourists have to depend on unhealthy meat available locally.

Since, there are no slaughter houses with mechanical carcass handling system for hygienic meat production in these towns, the State Government proposes to establish two modern slaughter houses (abattoir), each at Geyzing and Namchi with installed capacity of 20 and 30 heads of large animals per day respectively.

In addition, this project also has social objectives. The Government of Sikkim has been formulating special programmes to develop livestock resources of the State including production and marketing of meat and meat products. Further, it is required to wean away the exploited farmers from the clutches of middlemen and to provide remunerative prices for their livestock thereby facilitating economic up-liftment of the poorer section of the farming community.

4.4.1.2 Slaughter of animals and meat handling system

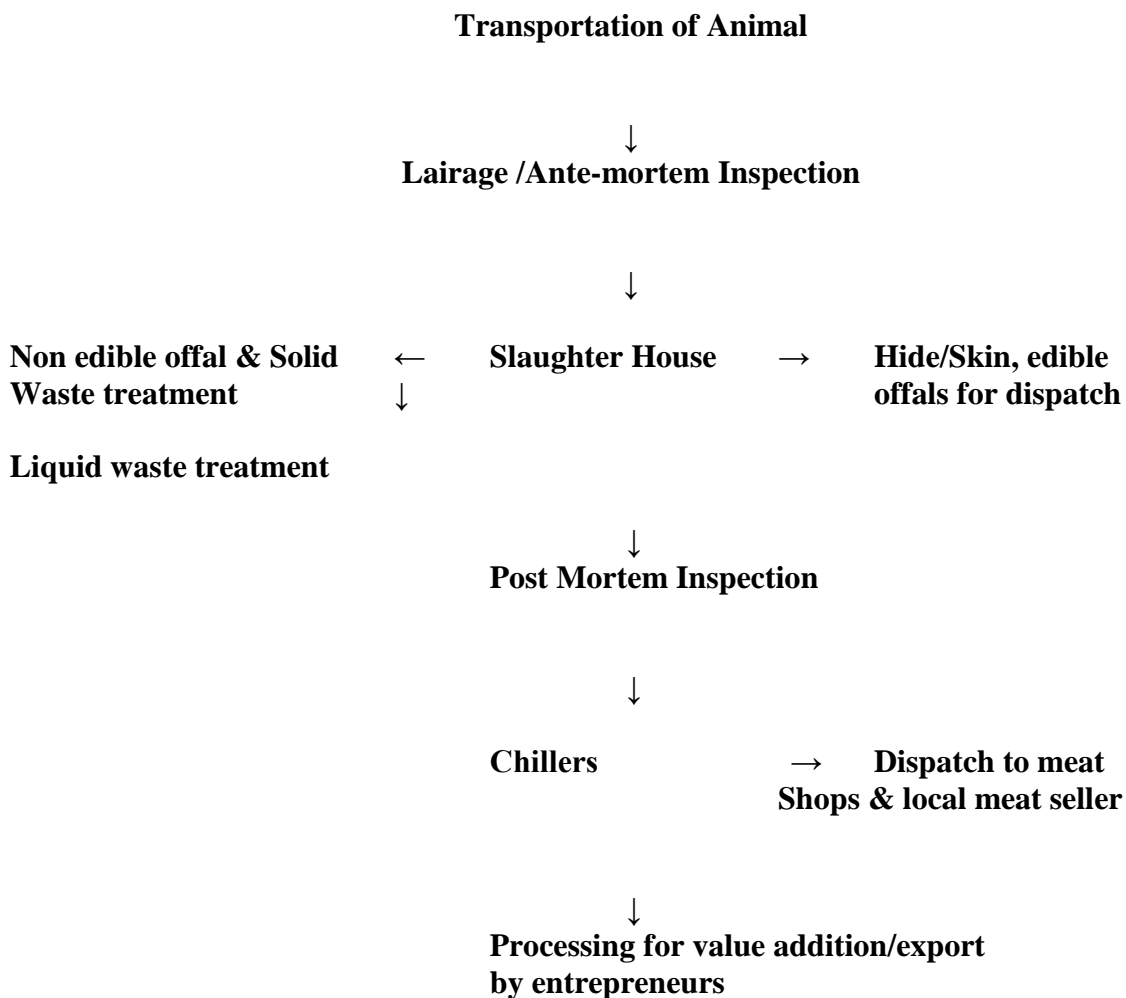
The slaughter and carcass handling system is still in the primitive stage, there is no slaughter house with mechanical carcass handling system. The slaughter house at Majitar is not in good shape where all operations are done manually not in conformity with code and standard practice.

When the animals are slaughtered in modern slaughter house, various by-products like skin, hide hooves, horns, blood, bones can be effectively utilized for converting into other various products.

4.4.1.3 Details of the proposed Project

Installed Capacity/day	:	100 heads (Namchi)
	:	20 heads (Geyzing)
Implementing Agency	:	Department of Animal Husbandry Livestock & Veterinary Services or Sikkim Livestock Processing & Development Corporation (Govt. Undertaking)
Project Components	:	
		a. Land acquisition and development
		b. Building
		c. Machinery & equipment
		d. Transport
		e. Working capital.
Requirement of land	:	10 Acres.

4.4.1.4 The flow Diagram of proposed arrangement of Modern Abattoir Complex



4.4.1.5 Cost estimate

Item-wise cost break-up of the proposed slaughter houses at Namchi and Geyzing is furnished at Table 4.12 and Table 4.13.

Table 4.12: Tentative Project Cost for Construction of a Slaughter House at Namchi		
Sl. No.	Particulars	Cost (Rs. In lacs)
1	Land acquisition	80.00
2	Site development	30.00
3	Building & Civil Work	160.00
4	Main plant & equipment	200.00
5	Transport	50.00
6	Design & Engineering	12.00
7	Furniture	10.00
8	Pre-operative expenses	6.00
9	Contingency	30.00
	Total Cost	578.00

Table 4.13: Tentative Project Cost for Construction of Slaughter House at Geyzing		
Sl. No.	Particulars	Cost (Rs. In lacs)
1	Land acquisition	50.00
2	Site development	10.00
3	Building & Civil Work	126.00
4	Main plant & equipment	150.00
5	Transport	50.00
6	Design & Engineering	10.00
7	Furniture	10.00
8	Pre-operative expenses	5.00
9	Contingency	25.00
	Total Cost	436.00

Total cost of the projects: Rs. 578.00 lakhs + Rs. 436.00 lakhs = Rs. 1014.00 lakhs.

The Thirteenth Finance Commission is requested to consider the allocation of fund to meet the requirement of the construction of slaughter houses in Namchi and Geyzing.

4.5 Agriculture/Horticulture

4.5.1 Rejuvenation of Large Cardamom

Large cardamom is the main cash crop of Sikkim. However, the cultivation of cardamom is presently facing all sorts of problems which threaten the very survival and existence of the crop. Old plantations, drought, reduced crop vigour, unrestricted movement of planting materials within the State, the lack of intra-State quarantine, pests and diseases, continuous cropping, lack of proper management etc. have been the major factors that have contributed to the rapidly declining yield of the cardamom crop over the years. In fact, some farmers have gone to the extent of abandoning their plantations.

Thus, there has not only been a reduction in area under the crop from 24,800 hectares in 2003-04 to 19,000 hectares in 2006-07, but the lack of interest shown by farmers given the falling productivity has further led to a decrease in production from 3500 MT in 2003-04 to 3100 MT in 2006-07. The loss of livelihood and support system of farmers is a cause for serious concern and reversing this trend is a challenge for the State Government. Despite several steps taken by different agencies¹ to study the problem and suggest recommendations to remedy the situation, success has been limited. Restoration to former levels of production and improvement in productivity has not been fully achieved and the 'health' of plantations has not improved.

Therefore, in order to restore the level of former productivity of the ailing/aging cardamom plantations in the State, it is proposed to take up a programme of '*Rejuvenation of Large Cardamom*' so as to revive the cardamom crop, which is the commercial crop of the State.

To rejuvenate large cardamom cultivation various efforts needed are: (a) the department has to establish 25 small nurseries to produce disease-free planting materials in private sector and take up re-plantation in a phased manner, (b) massive awareness programmes will have to be conducted by both the Horticulture Department and Spices Board for educating the farmers on scientific cultivation, field sanitation and disease management practices, (c) treatment of the crop using control measures like intensive phyto-sanitation and application of bio-control agents.

Horticulture and Cash Crops Development Department proposes to take up programmes for rejuvenation of old and diseased cardamom plantations. This includes establishment of small nurseries of 0.5 hectare area size in the private sector through sucker multiplication and re-plantation scheme. Estimated total financial outlay for establishing 25 nurseries is around Rs. 57.65 lakh. The item-wise cost analysis is given in Table 4.14. The re-plantation scheme will start by the beginning of the second year of the scheme when the first batch of multiplied suckers will be ready for distribution. This is estimated to cost around Rs. 174.50 lakh as given in Table 4.15.

¹ An expert committee comprising scientists and officials from Indian Council of Agricultural Research, Indian Agriculture Research Institute, Central Integrated Pest Management Centre, and Horticulture and Cash Crops Development Department was constituted in the year 2003 to study the problem and suggest recommendations.

Table.4.14: Cost Analysis of Establishment of Small Nurseries (area size 0.5 hectares) in the Private Sector through Sucker Multiplication(1st Year)

Cost Analysis for 0.5 Ha of land	P. U. Expenditure	Total Expenditure (In Rs.)
Agro net 5000 sq. m.	Rs.28/- per sq. m	1,40,000.00
Irrigation LS		20,000.00
Spraying machine		1,500.00
17,500 suckers	Rs. 1.50 per sucker	26,250.00
Organic manure 2.0 tons	Rs.10, 000/- per ton	20,000.00
Bamboo (150 nos).	Rs. 40/- per unit	6,000.00
Plant protection:		
a. Bacillus Thuringiensis 1 L/Ha(2 sprays)		1200.00
b. Copper oxychloride 1.5 Kg/Ha(2 sprays)		675.00
Carriage of inputs, 4 times ploughing of land, site preparation, planting, whole year round maintenance, irrigation, construction etc. (50 % farmers' contribution)		15,000.00
Total Expenditure		2,30,625.00
Total number of Units proposed:		25
Expected number of seedlings per unit per annum :		1 lakh
Total Financial outlay required:		Rs. 57, 65,625.00

Table 4.15: Cost Estimate for Development of Large Cardamom under Rain fed Conditions (Area:1Ha)

(In Rs.)

Sl. No.	Particulars	1st Year	2nd Year	3rd Year	4th Year	5th Year
1	Planting materials @ Rs.1.50 per seedling	6,660	660	330	-	-
2	Organic manure @ Rs. 10/- per Kg.	15,000	5,000	5,000	-	-
3	Plant Protection					
a.	Spray machine @ Rs. 1,500 per no. (2 nos.)	3,000	-	-	-	-

b.	Copper oxychloride (for management of <i>Colletotrichum spp.</i>)@.2.5 Kgs/Ha(3 sprays)	3,375	3,375	3,375	-	-
c.	Neemacin 10,000 ppm @ 1 L/Ha (2 sprays)	720	720	720	-	-
d.	Plastic bucket (20 L capacity) & Mug (10 nos.)	1,700	-	-	-	-
e.	Mask (4 sets)	200	-	-	-	-
4	Carriage of inputs LS	5,000	-	-	-	-
5	Labourers for uprooting affected clumps, clearing field, burying, digging pits, manuring, planting, spraying etc. (50 % farmers 'contribution).	10,000	2,500	2,500	-	-
	Total	45,655	12,255	11,925	-	-
A	Unit Cost = Rs 69,835/- approximately (upto 3rd year)				Rs. 69,800.00	
B	The total area proposed for re-plantation scheme				250 Ha	
C	Total expenditure for the period of 3 years				Rs. 1, 74, 50,000.00	
	(Rupees One crore seventy four lakhs fifty thousand) only					

Compact areas in all four districts will be selected for the re-plantation scheme in consultation with the Area representative and *Panchayat* bodies before implementation of the programme. The selected farmers will be imparted training for rejuvenation of cardamom before execution of the programme. All operations will be carried out under the supervision of the District officials. The required inputs for the programme will be procured as per government procedure and at prevailing rates at the time of procurement.

Hence, the proposals for development of 25 nurseries (each of area size 0.5 Ha) to produce 1 lakh seedlings approximately per annum per nursery and the cardamom rejuvenation on 500 hectares, in three years, needs an expenditure of Rs.2.32 crore (Rs. 57.65 lakh for development of nursery and Rs. 174.50 lakh for large cardamom re-plantation).

It is, therefore, requested to the Thirteenth Finance Commission to provide the grant to meet the cost requirement for the rejuvenation of cardamom.

4.5.2 Rejuvenation of Mandarin Orange

Sikkim is endowed with favourable agro-climatic conditions suitable for successful cultivation of Mandarin Orange. The valleys of Tista and Rangit Rivers and their tributaries offer an ideal Himalayan climate for the cultivation of the fruit.

Mandarin Orange is the most important commercial fruit of the State. It is cultivated on an area of 5600 hectares but due to poor management practices the average yield is even less than 2 tons

per hectare. Though the decline in this citrus fruit production is a worldwide phenomenon, the reasons for the decline in Sikkim are different from that of the leading citrus growing countries. In Sikkim, this is caused by different biotic and abiotic factors such as general orchard negligence, improper nutrient management, improper pests and disease management, moisture stress during dry spells and cultivation of exhaustive crops like ginger, turmeric and cereals. All these factors, individually or collectively, are responsible for citrus decline. The magnitude of decline will be more with the age of the plants, which become ‘uneconomical’ as the fruits possess less juice content after a certain number of years.

Hence, to overcome these problems, the State government with the help of the Central Government initiated orange rejuvenation programmes in different orange growing belts of the State. Scientific farming practices were used on these orange farms and as a result, the old orchards are now bearing good fruit. Now the State government proposes to rejuvenate all the orange orchards of the State, covering an area of 650 hectares. The rejuvenation programme will be implemented continuously for at least 3 years in the same orchards and assistance to the farmers will consist of a complete package for replanting/gap filling, appropriate nutrition, plant health measures and scientific know-how.

For the above proposed project, the total outlay is estimated at Rs. 1.72 crores (Table 4.16 and 4.16a).

Table 4.16. Detail Mode of Implementation in 3 years with Cost estimate		
Detail Mode of Implementation in 1st Year per Ha.		
Sl. No.	Particulars	Amount in Rupees
1	Cost of 30% Planting materials for gap filling i.e 80 nos/ha @ Rs.10/seedling.	800.00
2	Cost of organic manures 2 kgs per plant in 2 split doses 550 kgs.	10000.00
3	Pests and disease management measures	1000.00
4	Horticulture tools and implements	1000.00
5	Grator foot sprays for spraying of pesticides and micronutrients.	5000.00
6	Bamboo ladder for pruning operations. (4.Nos) @ Rs.250/ladder	1000.00
7	Construction of dug-out sunken pond along with pond liner 2 nos.	6000.00
	Total Amount	24800.00
Detail Mode of Implementation in 2nd Year per Ha.		
1	Cost of organic manure 2.Kgs/plant	10000.00
2	Pest and Disease management including control of fruit fly.	1000.00
3	Cost of Technical manpower for spraying, pruning and training @ 2.Nos/hac for 15.days.	3000.00
	Total Amount	14000.00

Detail Mode of Implementation in 3rd Year per Ha.		
1	Cost of organic manure 2.Kgs/plant	10000.00
2	Control of pest and diseases	1000.00
3	Cost of Technical manpower for spraying, pruning and training @ 2.Nos/hac for 15.days.	3000.00
Total Amount		14000.00

Table 4.16a Cost estimate for Orange Rejuvenation Programme					
District	Area(ha)	Fund requirement			Total (in lakhs)
		2010-2011 (in Lakhs)	2011-2012 (in Lakhs)	2012-2013 (in Lakhs)	
East	100	24.80	14.00	14.00	52.80
West	100	24.80	14.00	14.00	52.80
South	100	24.80	14.00	14.00	52.80
North	25	6.20	3.50	3.50	13.20
Total:	325.ha	80.60	45.50	45.50	171.60
Say Rs 1.72 crores.					

All 4 districts will be covered during the entire period of 2010-11 to 2012-2013.

4.5.3 Development of Apple Industry at Lachung and Lachen Valley

Sikkim, the smallest State of India, has already found a place in the horticultural map of India as it is producing valuable cash crops, viz. large cardamom, rare orchids, seed potato, ginger and off season vegetables because of its favourable climate and soil. The State has the privilege of having a unique blend of tropical, subtropical and temperate climate that provides an ideal abode for the growing of a wide range of fruits including apple.

Since apple cultivation is predominantly labour intensive and mainly confined to small and marginal farmers, it offers immense scope for employment generation in the rural areas apart from improving income level and nutritional standard of the masses.

The success story of apple cultivation in Himachal Pradesh and the recently evaluated trial plots at the Lachung government farm has given confidence to the State's Department of Horticulture and Cash Crops Development to carry out the project on development of the apple industry at Lachung and Lachen valley. Both these regions have similar agro climatic situations suitable to apple cultivation.

Apart from the employment generation, environmental benefit and provision of nutritional security, the project is expected to benefit the existing processing industry of the State. The non-marketable grade of apple will serve as important raw materials for production of apple juice, jam and jellies. Thus, inferior grade fruits can be transformed into high value products. Further, government can levy nominal tax on the produce and generate additional revenue.

The proposed project will include improvement of infrastructure, introduction of scab resistant varieties with high yielding potential, high tech package of practices of cultivation, post harvest management, and market network and technology for the multiplication of quality planting materials.

For the concerned project, the Department of Horticulture and Cash Crops Development plans to bring 150 hectares of land in the North District under apple plantation. In the first phase of the programme, the focus will be to extend financial benefit to the farmers who have limited scope to fulfill their need based subsistence from their traditional agricultural practices as it is fraught with many constraints. The whole planning of this programme is designed to be spread over a period of five years and it is estimated that the total cost will be Rs.249.41 lakh. Break-up of the total outlay is given in the Table 4.17.

Table 4.17: Cost Summary of the Apple Project

A. For Area Expansion Programme.

Sl. No	Particulars	Year wise expenditure (Rs. in Lakh)					Total Expenditure
		1 st year	2 nd year	3 rd year	4 th year	5 th year	
1	Cost of planting materials.	22.50	22.50	22.50	22.50	22.50	112.50
2	Cost of FYM	1.125	1.50	2.25	3.375	4.875	13.13
3	Cost of Organic fertilizers	3.47	6.95	10.42	13.89	17.37	52.10
4	Cost of pesticides.	0.674	1.368	2.138	2.915	3.81	10.91
5	Cost of tools and implements	0.24	0.24	0.24	0.24	0.24	1.2
6	Cost of equipments.	0.99	0.99	0.99	0.99	0.99	4.95
7	Cost of farmers training	3	3	3	3	3	15
8	Cost for farmers tour	1.25	1.25	1.25	1.25	1.25	6.25
9	Cost for training of officials.	2.9	-	-	-	-	2.9
10	Manpower requirement for handling & head load etc.	1.64	1.64	1.64	1.64	1.64	8.2
11	Manpower requirement for plant protection cover	1.64	1.64	1.64	1.64	1.64	8.2
	Total- A	39.43	41.07	46.07	51.44	57.32	235.33

Sl. No.	Particulars	Amount required for 5years (Rs. in lakh)	Remarks
1	Cost of planting materials	1.9	-
2	Cost of FYM	0.9	-
3	Cost of organic fertilizers	1.16	-
4	Cost of pesticides.	0	Will be utilized from area expansion
5	Cost of tools and implements	0.4	-
6	Cost of equipments.	0.13	-
7	Manpower requirement for handling & head load etc.	0	Regular labour will be utilized
8	Manpower requirement for plant protection cover	0	Regular labour will be utilized
	Total- B	4.49	

Total project cost (A + B) =Rs. 239.82 lakh

Total amount required (including approximate inflation) =Rs. 249.41 lakh

4.5.4 Establishment of an Integrated Floriculture Research and Development Centre

4.5.4.1 Introduction

In addition to tourism and hydel projects, horticulture and floriculture is recognized as an important sector with huge potential to provide livelihood security and to transform the rural economic scenario of Sikkim. Organic farming and floriculture have become the two important areas which, if nurtured appropriately, will ultimately become the two important pillars of the rural economy. The rich biodiversity and diverse agro climate ranging from sub-tropical to alpine type are the two factors that enhance the potential of floriculture as an important commercial proposition. The flowers commercially promoted in the State are Cymbidium orchid, rose, liliun, anthurium and alstroemeria. The total area covered for different floriculture programmes at present is 135 Ha consisting mostly of gladiolus, liliun and other traditional flowers. The total production of flowers during 2007-08 is 54,000 nos inclusive of both cut flowers and plant materials (mostly bulbs). Production of Cymbidium orchids, rose and liliun is expected to shoot up within the next one or two years with the coming up of more plantations and the production of flowers getting stabilized.

The Horticulture and Cash Crops Development Department has adopted a multi-pronged approach to bring about rapid and sustainable development of floriculture in the State. Elite planting materials imported from the Netherlands, Thailand, Korea and New Zealand are provided to farmers with technical know-how along with other inputs like fertilizers, compost materials and poly-greenhouse fitted with drip irrigation system. For transfer of technology, the technical officials of the department along with other resource personnel work round the clock.

The promising entrepreneurs are also sent in batches outside the State for wider exposure and training in floriculture.

Special strategies have been developed to bring about greater absorption of know-how into the departmental programmes. Cluster Area approach for creation of special zones and clubbing of units is the main focus of this new strategy and it has succeeded as it avoided any dilution in the programme. Model villages have been created with emphasis on the specialisation of a single species. Beneficiary identification is done through *gram sabhas* in due consultation with the Panchayats and Area representatives. This approach is expected to facilitate collective marketing of the produce in future.

4.5.4.2 Developments

The declaration of East district as an Agri Export Zone (AEZ) for floriculture by the Ministry of Commerce, Government of India, is a milestone to the development of floriculture in the State. For production of quality planting materials, the Department has established one tissue culture laboratory which is being strengthened, year after year, to make it more vibrant and capable to undertake the latest research work in this field. Four more tissue culture laboratories have been set up under the private sector with support from the Government of India. Cymbidium is the most important flower of the State. As its development is essential, a small Cymbidium Development Centre has been set up at Rumtek with a small tissue culture lab, a training hall, poly-greenhouses and a pre-hardening unit.

Linking production with marketing is essential to bring about an overall success in any venture. The wholesale-cum-retail outlet at Greater Kailash, New Delhi, will in future play a pivotal role in linking the floral producers with the Delhi market. An Integrated Pack House (IPH) at Rangpo is under establishment while another IPH at Melli has been proposed to be set up. In less than half a decade, the Horticulture and Cash Crops Development Department has been able to transform horticulture, which was initially subsistence farming, into a vibrant industry. Flowers unheard of a decade ago have become important base crops. Cymbidium orchid is regarded as the focus flower because this is the pride of Sikkim and is the foundation of the floriculture industry in the State.

To further strengthen the initiatives already being carried out and promote developmental interventions, the Department proposes to set up an Integrated **Floriculture Research and Development Centre** at Maniram, South Sikkim, which will basically fulfil the need for production of adequate planting materials of cymbidium, anthurium, gerbera and other high value flowers. The Centre will also undertake capacity building through intensive subject-specific training and skill development. In the future, more funds will be needed for development of this Centre into a nucleus with facilities for collection, grading and packaging of flowers for both the domestic market and export. A state-of-the-art tissue culture laboratory; training hall with ultra-modern training facilities for capacity building; pre-cooling and cold storage facilities; and an integrated consolidation centre for collection, grading, processing and packaging of flowers will be the main components of this Centre. In the first phase it is proposed to set up the tissue culture laboratory only. Since a cold room is an essential component in the value chain for flowers, it is proposed to set up one such unit at Biring –Salep, in the South District, which is emerging as an important cymbidium growing belt in Sikkim.

4.5.4.3 Tissue culture laboratory

The tissue culture laboratory will also have an ultra-modern hardening facility to undertake hardening of tissue cultured plantlets produced in the laboratory. The estimated outlay for the tissue culture laboratory is Rs. 251.53 lakh as given in Table 4.18 (a).

Table 4.18 (a): Estimate for Tissue culture laboratory

	Particulars	Estimated amt. (Rs. in Lakh)
A	Laboratory building complete:-	
a	Main Laboratory Building having a plinth area of 5000.00 sq. ft. (RCC framed structure with marble stone and vitrified tiles floor finish, brickwork in superstructure, aluminium framed glass doors and windows, wall care and enamel paintings on the walls and ceiling etc.) at Rs.1500 per sq. ft.	75.00
b	Sanitary installation and Internal and External Water Supply at 15% of A	11.25
c	Internal Electrification at 10% of A	7.50
d	External Electrification <i>i.e.</i> : 3 Phase Connection with provision of transformer and compound lighting and generator for Power backup (Lump Sum provision).	18.00
e	Approach Road and Parking Yard (L.S.).	10.00
f	Land Development and Protective Works.	15.00
g	Construction of Cold Storage Enclosures at Biring-Salep, South Sikkim (Estimate enclosed)	4.78
	Sub-Total A	141.53
B	Equipments	70.00
C	Air conditioning	15.00
D	Consumables per year	10.00
E	Consultancy/protocol	10.00
F	Contingencies	5.00
	Total (A to F)	251.53

4.5.4.4 Hardening Unit

The tissue culture laboratory will also have an ultra modern hardening facility to undertake hardening of tissue cultured plantlets produced in the laboratory. The estimate of pre-hardening and hardening unit having the area of 350 sq mts. and 5000 sq mts respectively is given in Table 4.18 (b).

Table 4.18 (b): Estimate for pre-hardening and hardening Units

<i>Pre hardening (350 sq mtr)</i>	
Automated unit	35.00
<i>Hardening unit (5000 sq mtr)</i>	
Polygreenhouse including tables & Drip/sprinkler system	75.00
Total	110.00

4.5.4.5 Cold room

Since cold room is an essential component in the value chain for flowers, the proposed unit to be set up at Biring – Salep (South Sikkim) will also cater to the needs of the growers based in Rabong surrounding, Damthang – Diu and the surrounding areas. The cold room will be established by a reputed company like Blue Star or Rinac or any other reputed company. And for this purpose the estimated outlay will be Rs.37. 78 lakh as given in Table 4.18 (c).

Table 4.18 (c): Estimate for establishment of Cold room

Particulars	
Land development	2.00
Enclosure Structure	4.78
Cost of Cooler, fitting, fixing (321” X 369” X 130.25”)	30.00
Contingencies	1.00
Total	37.78

4.5.4.6 Packinghouse Design and Infrastructure recommendations

The establishment of a Packing House for tomatoes, fruits, vegetables and flowers is considered in the state of Sikkim as no such Packing House is available. This is the prime need of the hour to facilitate marketing of the horticultural and floriculture produces. Individual operations will need to make adjustments and tailor the packinghouse according to their available capital, space limitations, crop selection, and anticipated export volume. Nevertheless, the general layout and flow of products through the different area should remain similar. The building should be of sound construction and completely covered. It should be separated from a dwelling house.

Once the product has been received and unloaded from the transport vehicle, it may be either temporarily held or immediately prepared for market. If held, the product should be put in a cool, shaded staging area or in a refrigerated storage area. The packinghouse should be designed to have ample space for staging or holding the product a peak harvest volume. In addition,

adequate space should be allocated for storage of empty cartons and their assemblage for packing. The assembly operation should be close to where the produce is packed.

Suggestions for appropriate infrastructure and recommendations for improving the efficiency of packinghouse operations are listed below. At some of the packinghouse site the recommendations will be relatively easy and quick to implement, whereas they may be difficult or impractical to do at other sites.

- A. Water Source
- B. Electricity Source
- C. Lighting
- D. Drying
- E. Grading / Sorting

More information:

Depending on the crop or crops being handled and the market being served, some of the following operations will be undertaken:

- Reception: off-loading, checking, recording;
- Sorting;
- Special treatments, if required (cleaning or washing, fungicide spraying, selection, size-grading);
- Packing;
- Post-packing treatments, if required (fumigation, cooling, storage);
- Assembly and dispatch

Layout: The design will be influenced by the space available. In general, a single-level building with a receiving area at one end and a dispatching area at other will be the most convenient arrangement. This plan separates the reception area, which will be dirty, from the packing and dispatching activities, thus reducing the risk of contamination of sorted and packed produce. It should also avoid congestion and confusion between arriving and departing vehicles. The area of the packinghouse should be adequate for the easy movement of produce through three stages.

Reception: This area controls the receiving, sorting and cleaning of produce, including washing, when necessary. It is likely to be dirty with soil, dust and decaying plant materials. Ideally it should be separated (by doors, for example) from other activities in order to limit the contamination of cleaned, sorted and packed produce.

Preparation and packing: This section will include facilities for special treatments, including drying facilities for produce washed or treated or both. The main activity will be the packing of the cleaned produce, with selection and grading facilities, if needed. There should also be space for the storage and assembly of packing materials in dry conditions. The whole area should be protected from the weather, but with good ventilation and lighting. The selection, grading and packing areas should be kept clean and dry.

Dispatch: This activity should be located next to the packing operations but should be kept completely clear of permanent equipment. It must be large enough to provide temporary storage of packed produce and still permit unrestricted movement of workers and produce being shifted.

The estimated cost of packing house is indicated at Table 4.18 (d)

Table 4.18 (d): Estimate of Packinghouse to be established in Sikkim

Sl.No.	Description	Amount in lakhs
1	Complete pack house structure 600 sqm	34.40
2	Cooling room 40 sqm	12.90
3	Sorting and packing machine includes washing, Brushing, drying, waxing, grading, sizing etc	58.05
4	Technical support	5.00
5	Transportation	2.15
	Sub-Total: A	112.50
	Local investment plan:	
1	Packing house equipments	
	a. Wooden pallets (20 nos)	0.60
	b. Garbage bin (5 nos)	0.08
	c. Generator 40 KVA	4.00
	d. Small plastic crates	0.25
	e. Sintex drums (1000 lits capacity) 2 nos	0.04
	f. PVC pipe for cleaning	0.05
	g. Hand fork lift (3 nos)	0.62
	h. Miscellaneous tools	0.10
2	Furniture & fixtures	
	a. Divider for office space	0.50
	b. Office cabinets	0.20
	c. Chairs, benches & tables	0.27
	d. Toilet & cleaning structure built outside packinghouse	5.00
3	Civil work requirements – cement foundation filling labours	10.00
4	Drilling and water supply pump and electrification	5.00
5	Transport Kolkota to Sikkim including loading, unloading	1.00
6	Custom duty forwarding agent and port charges etc.	11.90
7	Contingencies 4%	1.59
	Sub-Total: B	41.19
	Total (A + B)	153.69

4.5.4.7 Break up of expenses of total cost of Project:

a. Tissue culture laboratory	Rs. 251.53 lakhs
b. Pre-hardening and hardening units	Rs. 110.00 lakhs
c. Cold room	Rs. 37.78 lakhs
d. Pack house	Rs. 153.69 lakhs
Total Project Cost	Rs. 553.00 lakhs

4.5.4.8 Summary

Both the tissue culture laboratory and the cold room facilities will provide employment benefit to local people. In addition to this, all the floriculture farmers of the State will be benefited from these facilities through access to planting materials generated, capacity development programmes and other such related activities.

This model farm will function as an Integrated Floriculture Development Centre and a four-acre land has already been chosen at Maniram, South Sikkim. This place has been chosen for the simple reason that average humidity prevalent round the year is much less as compared to the other three districts, which is advantageous in terms of the lower level of contamination of the flower cultures. Further, there was a long felt need to have one such unit to coordinate floriculture activities of the South and West districts.

The project will strengthen the technical capacity of the departmental manpower. It will bring about greater socio-economic improvement around the project areas and the State, in general.

Keeping all these aspects in view, to give a further boost to horticulture/floriculture in the State, the Finance Commission is requested to provide a lump sum grant of Rs.12.07 crores for Rejuvenation of Cardamom, Mandarin orange, Lachen/Lachung apple and establishment of Integrated Floriculture Research and Development Centre.

CHAPTER 5

5. CONCLUSIONS AND SUMMARY OF DEMANDS FOR UP-GRADATIONS, SPECIAL PROBLEMS AND SPECIFIC NEEDS

5.1 Introduction

With a view to removing the inter-regional imbalances and disparities in provision of services by the States, it is important that the requisite funds are made available to the States to enable them to provide a reasonable standard of social, economic and administrative services to the people in the State. In this context, the Finance Commission is empowered constitutionally to recommend transfer of resources in the form of upgradation grants out of the Consolidated Fund of India. Similarly, special problem grants can be given to individual States to enable them to overcome certain special problems on account of their peculiar circumstances or any other matter of national importance.

Although, the Terms of Reference of the Thirteenth Finance Commission does not directly call for making recommendation for such a grant but Para 4(ii) provides that the recommendation should be based on the principles which govern the grants-in-aid of the revenues of the States out of the Consolidated Fund of India. These sums are to be paid to the States which are in need of assistance by way of grants-in aid, under Article 275 of the Constitution, for purposes other than those specified in the provisions of Clause (I) of that Article.

Keeping this in view, the Government of Sikkim is submitting proposals to the Commission requesting necessary grants for the up-gradation of services of public goods like general administration, law and order, and other critical areas facing fiscal deficiencies where improvements are necessary to maintain a certain level of standard of living. These proposals mainly relate to **general administrative services** (*viz.* police administration, department of personnel and administrative reforms, human resource development, public works, and capacity building for fiscal services); **social and cultural services** (*viz.* education, health, public health engineering services including water supply, and cultural affairs and heritage activities); and **economic services** (*viz.* forest, wild life and environment; tourism, roads and bridges, agriculture, horticulture, animal husbandry, veterinary, and rural management).

5.2 Up-gradation of General Administrative Services

Provision of good administration is a public good. It benefits all the citizens of the State. In Sikkim, while the efforts of the State have been to provide administrative services parallel to the services provided by the other States, the issues of capacity building and infrastructural deficiencies have created problems. Some of the services that urgently need financial support from the Thirteenth Finance Commission through up-gradation grants are given below:

Police Administration

One of the important services that need up-gradation relates to police administration. Financial support is needed for further up-gradation which includes strengthening the police force, **providing more** housing facilities for the police, setting up of a national police mission, deployment of additional policemen for the eight-hour shift, intelligence and security.

Human Resource Development Department

Transition from the erstwhile kingdom to a special State under the Union of India has brought about tremendous progress in the field of education in Sikkim. However, there are still many challenges and obstacles to overcome. In spite of the top priority given to education by the State, for the spread and development of education, it is important to have requisite infrastructure both in the rural and urban areas. Especially in the areas of (a) the Establishment of District Institute of Education and Training (DIET), (b) Infrastructure Development for Replacement of Old Schools, (c) Up-gradation and Improvement of Playfields, and (d) an Increase in the Number of Colleges

Public Works Department

To enable the administrative departments to project a humane approach combined with efficiency requires the setting up of proper and well-planned administrative buildings. This work is generally undertaken by the Public Works Department in the State. It is envisaged that this department should undertake the construction of the Secretariat building at Raj Bhawan and also the construction of the Secretariat Annex Building at Tashiling Complex, both to be located at Gangtok.

Up-gradation and Special Problem Grant under Urban Development

Sikkim being a developing State needs more attention from the Center in terms of creating new physical infrastructure and its maintenance for urban development. The specific areas of prime importance in urban development are (a) building and maintaining the drainage system, (b) construction of toilets, (c) hat sheds, (d) maintenance of capital assets, (e) garbage disposal, (f) computerization, (g) Public Awareness Campaign, (h) implementation of the 74th Constitutional Amendment Act (Urban Local Bodies), (i) multi-storey parking plazas at Mangan, Gyalshing and Namchi, (j) development of Sokeythang with the setting up of a Library, Habitat Centre, Community Center, State Children's Park, State Unity Centre etc.

Capacity Building for Administrative and Fiscal Reforms

Imparting training, transfer of knowledge, and developing capacities of the unemployed youth meets the needs of the State for trained manpower. Capacity building for fiscal reforms is an area that requires considerable efforts. The State Government has prioritized some areas of reforms on the basis of the expert opinion sought by the State Government². The other activities that need special emphasis include: (a) Staff training for better expenditure management, (b) E-Governance, and (c) the computerisation of entire Commercial Tax Division of the Department specially for successful implementation of VAT. One of the most important aspects of tax administration is the Management Information System (MIS). Computerisation of tax returns will help in the collection of data related to reforms in Other Taxes, *i.e.* land revenue, computerisation of property tax etc. Computerisation will also simplify the operation of registrations, annual fee collection and the updating of vehicle population data. To improve statistical infrastructure it is important to have (a) staff training in the basic tools of statistics and computers; (b) capacity building for poverty estimation, and (c) up-gradation of library facilities.

² This is based on the assessment made by the National Institute of Public Finance and Policy (NIPFP), New Delhi. The study has recommended several capacity building programmes to improve the fiscal scenario in the State. See for details NIPFP (2005), *Capacity Building for Fiscal Reforms in Sikkim*, New Delhi.

5.3 Up-gradation of Social and Cultural Services

Social and cultural services are an important component of the non-tax sources of revenue in many of the States. In Sikkim, however, this requires special attention given the large capital expenditure needed for the provision of these services. All these services related to conservation of heritage and culture of Sikkim specially relating to (a) Restoration/Preservation of Monasteries and Mandirs, (b) Documentation of the Intangible Heritage of the State, (c) Up-Gradation of Museums and Archives, (d) Preservation/Restoration of Traditional Houses, (e) Preservation/Restoration of Historical Buildings, (f) Preservation/Restoration of Chorten, Mendangs and Mani Lakhang, (g) Preservation of Devithans and Pilgrimage Centers, (h) Preservation of Sacred Caves, Water Bodies and Hermitage, (i) Revival of Traditional Arts and Crafts, and (j) Restoration/Preservation of various Ruins in the State are important. In addition, to create a proper health infrastructure, the State needs to provide tertiary care facilities in the State. The establishment of a modern hospital at Gangtok as mini AIMMS and health insurance to the people below the poverty line has been prioritized by the State Government. The Water Security and Public Health Engineering Department is required to take care of drinking water supply in all the Urban Towns of the State. The schemes for up-gradation of water supply at Namchi and Gyalshing, at the District Headquarters, put forth are vital for the augmentation of drinking water supply.

5.4 Up-gradation of Economic Services

The thumb-shaped Sikkim State is a land endowed with magnificent mountains, rich culture and pristine environment. It offers the magical feel of a Himalayan fairytale land with its amazing hidden valleys, snow-fed lakes and a mountain setting covered with flowers, forests and mystical monasteries. It is pristine, tranquil and peaceful. Being one of the 26 bio-diversity “hot spots” of the world, Sikkim is a veritable treasure house of some of the world’s most beautiful streams, lakes and waterfalls. Having realized that ‘**Tourism**’ is a major engine of economic growth, employment generator and poverty alleviator; the Government of Sikkim has given special recognition to tourism as the thrust sector for marketing of its beautiful products of nature. **Certain priority sectors which need grants from the Thirteenth Finance Commission to popularize nature- tourism are presented in the text of the Volume.** These include developing passenger ropeway from Dodak to Barsey Rhododendron Sanctuary, Nature Interpretation Centre, Eco-Lodge, Meditation Centre and Crafts Village, Promotion and Development of Village and Eco-tourism, Hydro-Tourism with River Course Development, Snow Tourism Infrastructure at Lachen Village, Wetland Tourism, Skywalk at Hill-top, and developing Darap Trekking Sites.

Also, as one of the ToR of the Thirteenth Finance Commission is to take note of the environmental aspects while sanctioning grants, Sikkim gets a high claimant status for its proposed forest preservation measures. In addition, Agriculture/ Horticulture and Animal Husbandry are the main occupation of the people of the State.

To conclude, it is important to remove inter-regional imbalances and disparities in provision of services by the States. In this context, it is useful if the requisite funds are made available to the States to enable them to provide a reasonable standard of social, economic and administrative services to the people in the State. The Finance Commission is empowered constitutionally to recommend transfer of resources in the form of upgradation grants out of the Consolidated Fund

of India. Similarly, special problem grants can be given to individual States to enable them to overcome certain special problems on account of their peculiar circumstances or any other matter of national importance.

The proposals for up-gradation of administration and the special problems of Sikkim are presented in the preceding chapters and a summary of expenditure on each item presented in Table 5.1 gives a bird's eye view of the issues involved in this hilly State of India. These relate to up-gradation of services of public goods like general administration, law and order, and other critical areas facing fiscal deficiencies where improvements are necessary to maintain a certain level of standard of living. These proposals mainly relate to general administrative services, social and cultural services, and economic services. All these call for special grant for having equity in services to be provided by the State.

Table 5.1: Estimates of Grant Expenditure for Up-gradation of Administration, Special Problems and Specific Needs of Sikkim

		(Rs. in crores)
Sl. No.	Name of Department/Sector	Amount
1	<i>Up-gradation of Administration, Special Problems and Specific Needs of Sikkim</i>	
2	<i>Upgradation of General Administrative Services</i>	
2.1	<i>Police Administration</i>	<i>Not estimated</i>
2.2	<i>Human Resource Development Department</i>	550.00
2.2.1	<i>Establishment of District Institute of Education and Training (Diet)</i>	50.00
2.2.2	<i>Infrastructure Development for Replacement of Old Schools</i>	100.00
2.2.3	<i>Up gradation and Improvement of Playfield</i>	100.00
2.2.4	<i>Increase in the Number of Colleges</i>	300.00
2.3	<i>Public Works Department</i>	135.00
2.3.1	<i>Construction of Secretariat building at Raj Bhawan at Gangtok, East Sikkim</i>	15.00
2.3.2	<i>Construction of Secretariat Annexe Building at Tashiling Complex, Gangtok, East Sikkim</i>	120.00
2.4	<i>Up-gradation and Special Problem Grant under Urban Development</i>	128.90
2.4.1	<i>Drainage</i>	2.50
2.4.2	<i>Construction of Toilets</i>	1.25
2.4.3	<i>Hatsheds</i>	8.65
2.4.4	<i>Maintenance</i>	7.50
2.4.5	<i>Up-gradation of Towns</i>	5.00

Sl. No.	Name of Department/Sector	Amount
2.4.6	<i>Garbage Disposal</i>	2.50
2.4.7	<i>Computerisation</i>	1.00
2.4.8	<i>Public Awareness Campaign</i>	0.50
2.4.9	<i>Multi-storey Parking Plazas at Mangan, Gyalshing and Namchi</i>	42.60
2.4.10	<i>Development of Sokeythang to create- Library, Habitat Centre Community Center , State Children Park etc.</i>	57.40
2.5	<i>Capacity Building for Administration and Fiscal Reforms</i>	17.00
2.5.1	<i>Establishment of State Capacity Building Institute</i>	10.00
2.5.2	<i>Staff Training for Better Expenditure Management</i>	Not estimated
2.5.3	<i>E-Governance</i>	7.00
2.5.4	<i>Improving Statistical Infrastructure</i>	Not estimated
3	<i>Up-gradation of Social and Cultural Services</i>	
3.1	<i>Conservation of Heritage and Culture of Sikkim</i>	8.60
3.1.1	<i>Restoration/Preservation of Monasteries and Mandirs</i>	2.50
3.1.2	<i>Documentation of the Intangible Heritage of the State</i>	0.50
3.1.3	<i>Up-Gradation of Museum</i>	0.50
3.1.4	<i>Up- Gradation of Archives</i>	1.00
3.1.5	<i>Preservation/Restoration of Tradition Houses</i>	0.80
3.1.6	<i>Preservation/Restoration of Historical Buildings</i>	1.00
3.1.7	<i>Preservation/Restoration of Chorten, Mendangs and Mani Lakhang</i>	0.40
3.1.8	<i>Preservation of Devithans And Pilgrimage Centers</i>	0.60
3.1.9	<i>Preservation of Sacred Caves, Water Bodies and Hermitages:</i>	0.50
3.1.10	<i>Revival of Traditional Arts and Crafts</i>	0.30
3.1.11	<i>Restoration/Preservation of Various Ruins in the State</i>	0.50
3.2	<i>Health Care, Human Service and Family Welfare Department</i>	218.31
3.2.1	<i>Upgradation of the Sir Thutob Namgyal Memorial Hospital into a 500-Bed Multi- specialty Hospital</i>	203.31
3.2.2	<i>Health Insurance Scheme for BPL Families of Sikkim.</i>	15.00
3.3	<i>Water Security and Public Health Engineering Department</i>	20.82
3.3.1.	<i>Up-Gradation of Namchi Water Supply scheme</i>	17.42
3.3.2	<i>Over-hauling of Lower Changay Source for Gyalshing Water Supply</i>	1.18
3.3.3.	<i>Overhauling of Rabdentse Water Supply Scheme, Gyalshing</i>	2.22

Sl. No.	Name of Department/Sector	Amount
4	<i>Up-gradation of Economic Services</i>	
4.1	<i>Promotion of Tourism</i>	560.90
4.1.1	<i>Passenger ropeway from Dodak to Barsey Rhododendron sanctuary in West Sikkim</i>	18.00
4.1.2	<i>Nature interpretation centre, Eco-lodge, meditation centre and crafts village at Cho-Dzo, Ravangla</i>	4.90
4.1.3	<i>Eco-tourism: Village or Rural Tourism</i>	100.00
4.1.4	<i>Creation of hydro-tourism with river course development project the on along Tista and Rangit rivers</i>	200.00
4.1.5	<i>Complete tourism infrastructure at Lachen village (Snow Tourism)</i>	20.00
4.1.6.	<i>Development of Guru-Dongmar wetland tourism as an international tourist destination.</i>	10.00
4.1.7	<i>Development of Neh, South District, as a tourist destination.</i>	5.00
4.1.8	<i>Construction of Skywalk at Bhaley Dhunga Yangyang</i>	200.00
4.1.9	<i>Construction of Village tourism at Darap, West Sikkim</i>	3.00
4.2	<i>Forest, Environment and Wildlife Management Department</i>	15.50
4.2.1	<i>Conservation Oriented Forest Policy</i>	5.50
4.2.2	<i>Establishment Of Institute For Protection Of Environment (Water Bodies, Glacier, Melting Snow, Research And Skill Upgradation Training Centre</i>	10.00
4.3	<i>Rural Management and Development Department.</i>	50.05
4.3.1.	<i>Circular Road Around Chardham at Solophok, Namchi In South Sikkim.</i>	15.00
4.3.2.	<i>Repair/ Renovation of 71 Suspension Foot Bridges under North District</i>	35.05
4.4	<i>Animal Husbandry, Livestock & Veterinary Services</i>	10.14
4.4.1	<i>Construction of most hygienic slaughter house at Gyalshing</i>	4.36
4.4.2	<i>Construction of most hygienic slaughter house at Namchi</i>	5.78
4.5	<i>Agriculture/ Horticulture</i>	12.07
4.5.1	<i>Rejuvenation of Cardamom</i>	2.33
4.5.2	<i>Rejuvenation of Mandarin Orange</i>	1.72
4.5.3	<i>Rejuvenation of Lachen/ Lachung Apple</i>	2.49
4.5.4	<i>Establishment of Floriculture Research Study Centre including Tissue Culture, Marketing, Cold Storage, Pre-Hardening & Hardening</i>	5.53