CHAPTER-9
CONCLUSION

9.1 SUMMARY

The growth and development of tourism and its impact on the environment of Darjiling and Gangtok has been analysed in the previous chapters. Mainly the fragility of the environment and the unscientific development of the tourism has resulted into some effects while the degree of impact is varying between this two towns based on factor of infrastructure, perception about the mother environment, nature of tourist, govt. regulation etc.

9.2 MAJOR RESEARCH FINDINGS

The study contains the major research findings as follows:

9.2a. About physical environment of Darjiling and Gangtok town

(i) The entire Himalayan regions are prone to seismicity and vulnerability to landslides proved by recent earthquakes and the occurrences of landslides that have became common phenomena.

(ii) The physical features of this Himalayan realm, the Mt. Kanchejonga, Biodiversity social cultural heritage the people are the main resource of tourism industry.

(iii) The physical environment of both these towns are subjected to alteration or change because of urbanization or infrastructural development to promote tourism. Deforestation has been or common phenomena which aggravates the situation further.

9.2b. About the built-up environment of Darjiling and Gangtok towns

(i) Infrastructural carrying capacity

In case of Darjiling, the tremendous growth of population has taken places that are beyond its carrying capacity. In respect of water supply, sewerage, solid management it is evident. Tourism again here deteriorates the situation.
In case of Gangtok still it is within its carrying capacity but if the growth rate continues at the present rate then it might exceed its carrying capacity.

(ii) **Over construction** – It has become rampant for both towns. Certain rules and regulations are there but proper implementation is lacking. Hence people are taking advantage of this and the towns are converted into ‘concrete jungles’ – a subject of eye sore to the tourists.

(iii) **Water** pollution have also become common phenomena for both towns mainly because of the mixing of sewerage water with the drinking water whose degree in much higher is Gangtok. Improper water treatment and excessive demand beyond its carrying capacity is another reason.

(iv) **Air pollution** – Excessive traffic movement and resultant exhaust from the cars and dust, during the construction of buildings, hotels are causing air pollution to the hill station. In this regard proper vigilance for checking the air pollution has not been seen in Darjiling.

(v) **Traffic congestion** – Tremendous increase in vehicular population in both of these towns beyond its road's carrying capacity has lead to traffic congestion again which are causing air pollution. In peak tourist season with the increase of more vehicles the situation get further worsened.

(vi) **Improper solid waste management** are also causing a problem to this region, partial disposal of solid waste in chutes, partial disposal to jhoras (traditional source of water) etc are creating pollution in Darjiling. In Gangtok also land filling is practiced over a long time beside the river Rongkii chu where improper disposal have threatened environmental quality in downstream area.

9.2c. About the tourism activity in Darjiling and Gangtok

(i) Tourism in Darjiling and Gangtok has considered as main economic function.

(ii) In Darjiling, tourism is in the stage of stagnation while in case of Gangtok it is in the early stage of development.

(iii) Both in Darjiling and Gangtok nature based tourism has got prominence, in later phase religious tourism, adventure tourism has got prominence.

(iv) Mass tourism was the basic notion of tourism industry to achieve maximum profit and to cease development process. But realising its negative impact on
environment, Sikkim is trying to follow the principles of Eco-tourism and community based tourism.

(v) Both in Darjiling and Gangtok there is a huge flow of domestic tourists and also of foreign tourists but nowadays tourists are preferring Gangtok than Darjiling because of political instability, frequent bandh, the shortage in water supply etc.

(vi) Domestic tourists of both towns are mainly coming from West Bengal having very lower level of environmental consciousness, the only objective is recreation and sightseeing, even at the most possible low cost. But nowadays, Gangtok is getting a thin trickle of high spending tourists having quite a sound knowledge of environment, at least concern about its protection and conservation.

(vii) Foreign tourists behaviour is quite satisfactory because of having greater knowledge about the environment and conservation.

(viii) Large share of domestic tourists are interested to collect souvenir, rare species of flora which might endanger the species survival.

(ix) Foreign ownership (outside region) and employment of non-local labours are also detrimental to the economic benefit of both the regions.

(x) Over dependence on tourism activity and unplanned and ill managed extension of tourism in both towns may negatively effect the environment.

In spite of all these negative impacts, the role of tourism as a major economic function for both the region cannot be denied. So now there is a necessity to regulate the development of tourism in a manner which is compatible with the environmental conservation and restoration. Here comes the importance of the principles of sustainable development. Sustainable tourism implies a balance between tourism and other existing multisectoral activities. The crucial question in this regard is that whether tourism sustainability at least within the narrow confines of some alternative tourism form that are practicing for the long period, could be a reality? Whose adaptation in the region might change the situation in favour of the development of the whole hill region?

The answer to the question is unanimously positive. Tourism sustainability here in this region can be a reality if adapted in a proper way because it is the by-product of a multitude of factor that contribute to the successful present integration.
In these circumstances it is to be suggested that again if the whole developmental process takes place without any Environmental Impact Assessment, without any proper perspective planning and the strict enforcement of rules and regulation then the same picture like present day Darjiling will be repeated in near future. Development of satellite town is advisable only in Khasmahal (non-forest land). Again to avoid massive alteration of the virgin land by development of satellite township to accommodate this huge tourists another proposal can be given which adhere to the development of Canvas Township consisting of large Swiss cottage or tents in the open environment.

(b) Development of alternative tourist spots or popularisation of other tourist spots might help in the decentralisation of tourism activity. Form the previous analysis it is clear that the tourists, specially the domestic tourists have restricted their movement within a very narrow area of the town. Only sight seeing and then sitting in Malls or walking along M.G. Marg or shopping are the only activities they normally perform. This movement within the narrow circle creates tremendous pressure on environment. So to relieve pressure, development of alternative tourist spots other than Darjiling is needed. There are may beautiful places in and around Darjiling like, Peshok, Jorepokhari, Delo, Chitray, Relli, Kaffer, Dalim, Lave, Rohini etc. and DGHC has already built up lodges in all other places. So proper marketing through advertisement is needed.

In case of Gangtok, an effort has been seen to decongest the town by proper marketing of other tourists spot in South, North and West Sikkim. Nowadays Nomeli, Ravangla, Pelling, Yumthang all have became a famous tourist spots.

(ii) Re-orientation of the existing tourism policy

From the initial stage of development, stress was given on mass-tourism to achieve success in short run. As a result of which on the one hand it ushered in economic prosperity in the region while on the other hand it has caused remarkable damage to the environment, both in Darjiling and Gangtok. So this is the time to shift or re-orient to the policy towards Eco-tourism, which emphasise on the protection of Environment. For the last few years Eco-tourism and conservation society of Sikkim (ECOSS) has been working hard to promote the concept of Eco-tourism through sustainable development in Sikkim as well as in the entire Himalayan region. Instead
of Mass-Tourism, mainly adventure tourism, village tourism or the community based tourism are being promoted by the government. In Darjiling, DGHC is making effort to popularise adventure tourism in areas of Sandakphu-Phalut. One notable point in this connection which is worthy of mentioning here is that the construction of trekkers hut and other structures should be banned in this area to protect the forest cover. Only tented accommodation can be permitted.

(b) Community or village tourism - is another form of Eco-tourism can be very effective in the protection and conservation of environment and biodiversity through the community participation and involvement of local people through proper training. In Sikkim, the Sikkim Industrial Development and Investment Corporation Ltd. (SIDICO) is working with Voluntary Health Association of Sikkim (VHAS) in two modern village, namely Rong (south Sikkim) and Lapdong (west Sikkim). This road of effort is also advisable in Darjiling. To revive the growth and to reorient from stagnation stage to rejuvenation stage community participation is highly solicitated. In remote areas of Sandakhphu,Phalut, Lava,Lolegoan, Delo, promotion of tourism through the implementation of village tourism policy can be fruitful to sustain growth.

(c) Religious tourism may be another form to heal the destructive effect of mass tourism. There is a great potential of religious tourism through the opening of Nathula trade route in Sikkim. Even in addition the whole S.E. Asian Bhuddhist circle can foster growth of foreign tourism here.In Darjiling, similar effort can be taken to attract foreign tourists through the popularisation of its monasteries even in association with Sikkim.

(d) Much more stress on Duars tourism and tea tourism is suggested to relieve the pressure on Darjiling. From the time immemorial, Darjiling was the traditional haunt of average Bengali people to escape from the stifling summer of Bengal and the tradition has been continuing for long two centuries. But now there is the necessity to reorient the policy through the promotion of Duars tourism through different wild life sanctuaries and protected forests which can be beneficial both for local development and the revival of Darjiling by way of reliving the pressure. Even the Tea Industries of Terai are dwindling now. Tea tourism can be promoted to revive all the tea industry, which are running under loss. The West Bengal State Government.
had planned to build 24 cottages each at two tea gardens – Hela & Murti that were selected as tea tourism spots. The West Bengal tourism Department will also undertake two tea estates belonging to the West Bengal Tea Development Corporation Limited - The 709-hectare Hilla estate and 683-hectare Mahua estate in the Dooars region. Even, the leisure division of City-based Bengal Ambuja Group is diversifying in to Tea-Tourism. The group plans to build a resort in North Bengal and is looking for land in the Darjiling District. In this respect, Harsh Neotia, Managing director of Bengal Ambuja group said that they want to build the resort for Tea-Tourism in partnership with tea companies so that they can provide activities ranging from tea factory visits, tea facial and spa activities, tea cuisine, tea tasting and plucking. But of the 86 operating gardens in the district of Darjiling, quite a few such as Glenbury, Gleburn and Makaibari have opted for tea-tourism. (The Telegraph, 16th October, 2006).

(iii) Proper zoning of attraction

Zoning is very effective to identify the area of attraction of the tourists based on which the present and future development plan can be implemented. In Sikkim, Tsango Lake is a very popular tourist spot around which traffic congestion, shopping centres, restaurants has grown up which indirectly decrease the appeal of natural beauty of the lake to the tourists. Similarly in Darjiling near Batasia Loop, seven small shops have been rented which obstruct the vision of the tourists. In this regard zoning of attraction is suggested to demarcate high visitation and core conservation area.

(iv) Expansion of infrastructural carrying capacities where feasible

Particularly in case of Darjiling it has already been established that whatever development has taken place, it is far beyond its carrying capacity. Even it is not able to satisfy its own need because all infrastructural facilities were meant by the British only for 20,000 population. But at present it has more than 1 lakh population of its own. So extension of carrying capacities is highly needed but that should be Eco-friendly. In below, some suggestions have been given to extent its urban infrastructure.
Water supply of Darjiling Municipality

(a) Treatment of catchment areas of urban drinking water supply.

(b) Ecological restoration of jhoras.

(c) Augmentation of existing storage capacity

(d) Encouragement and implementation of traditional rainwater harvesting methods in the area.

(e) Renovation and augmentation of the existing water infrastructure.

(f) Increase of water availability by the real execution of many water pumping project which are under the planning and inauguration stage for quite a long time, example, Balasan or Rambhi jhora project.

(g) Renovation and activation of water treatment plants.

(h) Encouraging people and tourists about the judicious use of water.

Water supply in Gangtok town

Presently Gangtok has not any water scarcity problem because of glacier fed rivulet which is the main source here. So keeping in view the huge flow of tourists and associated water demand some suggestion are given below:

(a) Augmentation of the water storage capacity.

(b) Augmentation of the water treatment capacity.

(c) Renovation of the existing water infrastructure.

(d) Revival of the traditional rainwater harvesting technique specially for the hotels, industrial sector.

(e) Encouragement for judicious use of water.

Sewerage system in Darjiling

(a) Enhancement of the existing network’s coverage.

(b) Augmentation of the old infrastructure by renovating the old sewer lines or establish new ones and also by constructing new septic tanks to ensure treatment of wastewater.

(c) Development of decentralised treatment system providing with individual septic tanks.

(d) Augmentation of sewerage treatment capacity at the plant by means of infrastructure at Adampool (Sikkim). In Darjiling renovation and re-activation of the old plant is highly solicited.
(e) Perspective planning for wastewater recycling for re-use in non-domestic purpose.

Solid waste, management system in Darjiling and Gangtok
(a) Augmentation of the storage capacity of solid waste at source.
(b) Segregation of recyclable waste and toxic water.
(c) Processing of organic waste by microbial composting or vermi composting.
(d) Prioritisation of bio-gas production form solid waste.
(e) Proper scientific disposal of toxic waste.
(f) Thinking on the efficacy of plastic pelletisation plant at both Gangtok and Darjiling towns through environmental impact assessment.
(g) Augmentation and up-gradation of solid waste collection system.
(h) Separate collection of bio-medical waste and scientific disposal.

Urban transport system in Darjiling and Gangtok
(a) Development and implementation of urban transport policy in both towns.
(b) Promotion of public transport facilities for travelling in and around tourist spots.
(c) Proper attention should be given to pedestrian facilities.
(d) Extension of parking facilities.
(e) Up-gradation of the condition of existing roads.
(f) Adaptation of the policy of alternative fuel and technology to avoid pollution.
(g) Beautification of roads and tourist spots. During the course of survey about 80% of the tourist comments on this aspect.

(v) Judicious use of resource and its management
There is the need to raise the consciousness among the people and tourists about judicious use of resource, and its management. In this respect a master plan has to be prepared for further extension activities.

(vi) Conservation of Biodiversity – should be given Priority. In Sikkim lots of attempts has been observed in form of conservation of biodiversity. several NGOs like ECOS are working on this aspect, even the Department of Tourism are also akin to protect this biodiversity hot-spot of the country. In Darjiling much more attention
in this regard is needed. With the urban sprawling forest area has been continuously decreasing, the coverage of Cryptomaria japonica (Dhupi tree) within the town has decreased drastically because of indiscriminate felling. Even in remote areas like Sandakhphu, halut felling in earlier phase has taken randomly to build trekkers hut or to supply fuel to the trekkers. Rhododendron and other exotic species are being ruthlessly felled for this purpose. So to protect the biodiversity of that area Department of Tourism should provide kerosene and LPG to the trekkers for cooking and heating. The tourists will also be encouraged to use a tent other than trekkers hut.

In some areas through joint forest management, FOSEP is trying to protect the biodiversity but mass consciousness in this respect is needed and that can only be possible by the wholehearted participation of all sectors of tourism.

(vii) Involvement of local people through proper training

One of the basic aim of sustainable tourism is to foster the development by the community participation and this issue has become a focal theme of the sustainable development whose reflection can be seen in the several world declaration, seminars, workshops related to tourism.

Involvement of local people would not only provide benefit to the society but on the other hand it protects the environment – a kind of symbiosis has seen in case of Nepal’s Annapurna region. The king Mahendra Trust for Nature Conservation, an NGO has been entrusted with the task of managing the area. Their work in the Annapurna Conservation Area project is based on involving local people in planning and development activity in the region.

So here suggestion are put forward in favour of much more involvement of local people in the tourism sector staring from policy formulation to management. Even women participation in this respect is highly solicited. Their efficacy in protecting the biodiversity has been proved in the Chipko movement.

(viii) Seasonality character should get abolished through proper tourism management, marketing and promotion

In Wn. Himalayan region year round tourism activity has been under operation while only in the En. Himalayan region seasonality is highly dominating which coincide with the stress period. So marketing of off-season tourism through some
attractive rate of discount can be arranged to attract tourists. As both areas are favourable for honey mooners, a special package for them should make to attract tourists to the region. Even active publicity, year round information should be given through media based on different travel programmes like ‘Namaste India’, ‘Athiti Dev Bhava’, etc to broadcast programme on this region.

(ix) Pricing strategies of tourism should re-orient keeping in view the negative impact of tourists here in the region. Environmental impact minimisation strategies aim at reducing the impact of tourism on environment and increase per capita resource while providing the supply. So this is the time to shift towards “quality tourism” rather than ‘quantity tourism’ or the budgetory tourism. Therefore high spending tourism should be encouraged in the region and necessary infrastructure will be built to provide service to them.

Normally it is advised to adhere to the principles of “quality tourism’ for high spending tourists, it is also recommended that an entry free should charge levee on the tourists to divert the flow and it should be different for Indian and foreign tourists.

During the course of survey, the tourists (both domestic and foreign) have been asked about their willingness to pay some tole tax for further development of the region. About 100% of them are in favour of paying tole tax within a range of Rs.5-15. But the tax have to be collected through some impartial bodies whose sole aim will be to spend the money for the real development of the region otherwise the very aim behind imposing the tax will not be fulfilled. Apart from this about 90% of them are willing to pay for conservation and maintenance of the tourist spots which they have visited and this may be done through increasing or imposing the entree fees.

(x) Formulation and Implementation of stringent rules and regulation

There are several legal instruments by which the unplanned tourist activity can be controlled whose formulation and implementation to some extent can restrict the sprawling of unplanned tourism as for example:

(i) Ban of vertical expansion or restricting the height of the building based on the local environmental condition.
   a. Use of local architectural style and building materials.
   b. Discourage the R.C.C. construction in the hills. Compulsion for soil testing or measurement of rock bearing capacity.
c. Parking area provision.
d. Set back from the road.
e. Earthquake safety measure.
f. Establishment of many proper functioning "Environmental Quality monitoring cell".
g. Compulsion for rainwater harvesting for every hotel.
h. Zoning of attraction and restrict the movement of the tourists in sensitive bio-resource area.
i. Financial penalty for littering in the open space specially in Darjiling.
j. Compulsory Environmental Impact Assessment (EIA) for tourists projects.
   Presently there is the compulsion for EIA for the projects having more than 50 crore as budget but keeping in view the great impact that tourism brings in the fragile mountain ecosystem of the Himalaya, it is recommended that the rule should be amended in such a manner that every tourist project will have to take environmental clearance through performing EIA. They should also take clearance from the forest department.

(xi) Awareness generation campaigning

Successful implementation of the above said rules and regulation depends on the environmental awareness of the local people as well of the tourists. It is recommended that environmental education should be a part of the curriculum in school level and every people linked with the tourism should be educated and trained through establishing the Environmental Conservation Institute. Even through proper campaigning the tourists should be advised what they have to do in the region.

Apart from tourism, concern should be there for disaster management which is knocking in the door. In this respect it is suggested to prepare a master plan of the whole management programme and real execution through all level participation.

(xii) Role of NGO's

NGO's all over the world have been in the forefront in raising local awareness regarding the need for environmental conservation. Here also, in this region several NGO are working like, ECOSS in Sikkim which is working on the protection of biodiversity and campaigning on environmental awareness. In Darjiling NGO like
ATREE, FOSEP, Darjiling Earth Group, RCDC, altogether in and around 20 NGOs are operating in this field. But the necessity is to work in association in a comprehensive way and in this respect it is to be mentioned that the environmental importance of tourism in urban areas to be studied by these NGO’s and in this respect a whole hearted participation of all sectors irrespective of govt. or private is needed.

(xiii) Funding and collaboration with foreign agencies – many countries are also encouraged for the planning and execution of eco-tourism plans through foreign funding. Several foreign agencies like AUSAID, CIDA (Canadian International Development Agency), DANIDA (Danish International Development Agency), CFD (La CAISSE FRANCAISE DE Dev.), JICA (Japan International Cooperation Agency), CDC (Commonwealth Development Corporation) are providing funds for projects related to tourism.

Even collaboration with foreign countries like Switzerland, Netherlands, whose potency for tourism management is beyond the question, can be fruitful for the region. Sikkim govt. has already taken up some programme like “Look west” policy and has travelled 6 European countries – Switzerland, Germany, Italy, England, France and Netherlands and already signed MoU with Switzerland. The aim behind this travel was to promote Sikkim as a brand name and on the eco-tourism destination of the India. The State also seeks investment from France and Europe through the advertisement of the promotion of conducive investment policies of the State, comprehensive and legal framework, environmental condition and fiscal incentives. In this respect Darjiling is lagging far behind but as an international repute for “Queen of hill station” or having “world heritage toy train”, it is not too tough to get foreign investment in this sector. In this respect policy formulation is of utmost importance.

In view of the economic importance of tourism it can not be suggest to abolish this industry from both towns to protect the environment. But it needs a comprehensive planning to develop its full potential through the adaptation of sustainable ecotourism principles involving local people, tourists, town planners, tour operators, stake holders, hoteliers and government officials.

Here the researcher has tried to find out some of the problems caused by tourism activity in these areas and also tried to find out some solution but to make it much more fruitful, all round participation and more vigorous researches from different perspectives are highly solicited.