CHAPTER VII

Impact on Environment Due to the Population Growth

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CHAPTER VII

Impact on Environment Due to the Population Growth

7.1 Introduction

The Himalayan mountains have held a long history of appeal to the outside world, and rightfully so. From ancient times it has been revered for its snow-capped mountain peaks and the unfathomable depths of its ravines and valleys. Many of the rivers, such as the Ganga and Jamuna, are held sacred and have inspired myths and legends. The Himalayas have remained the centre for dispersing two great religions of the world – Hinduism and Buddhism. The exchanges between the peoples of the Himalayas, from China to Tibet, have produced wonderful cultures, rich art, science, and literature. The Himalayan Mountains seem like an endless opportunity for exploration – each range with its own characteristics which make one's heart burn with the passion of discovery. Unfortunately, the mix of nature and nature-lovers does not always result in nature preservation.

Mountains provide a substantial portion of the world's timber and minerals, and mountain peoples' environmental services are critical to the sustainability of their lowland 'plains'. They shelter over half of the world's biodiversity and nurture rich and varied cultures that have much to teach the rest of the world about sustainability and natural resource management (Bhargava, 2003).

Agricultural potential in mountains is limited by the small size of arable plots, climatic variability, and more difficult growing conditions, typically including shorter growing seasons due to altitude. These areas are unlikely to be as productive of basic food crops as lowland areas, contributing to higher levels of poverty in mountains (Bhargava, 2003).

The Himalayan mountain range in India is one of the most beautiful ecological wonders in the world. At the same time, it is one of the most threatened. Darjeeling has a wide and varied forest cover with a large variety of flora and fauna (Chakrabarti, 2007). Increasing numbers of mountaineers, trekkers, and nature-lovers have been making the annual pilgrimage to these mountains in such volume that the environment's natural equilibrium is in jeopardy. Roads have replaced trees, campsites

have replaced meadows – the sign of visitation is everywhere through a trail of non-recyclable rubbish. Wildlife has been squeezed into remote and often desolate areas to escape the influx of humans and to search for a better source of food within a disrupted food-chain ecosystem. National and local government need these foreign tourists in order to support the economy, however it is obvious that at the present rate of destruction, the longevity of the tourism sector will in itself be compromised.

7.2 Causes of Ecological Imbalance

Himalayan adaptations provide sustainable subsistence under difficult conditions, but cash wages in the region are low and there is little opportunity to break out of traditional occupations. The main development efforts have focused on industrialization, agriculture and tourism. Benefits have accrued mainly to the governments and well-funded businessmen from outside the area. Costs have been increasing pollution and marked decreases of forest, resulting in increased run off, siltation of rivers and probably landslides (Krech, McNeill and Merchant; 2004).

When man caused damage to the basic natural resources necessary for survival, i.e., water, soil, forests, the atmosphere, etc, then it is called Environmental Degradation (Chitkara, 1998). Some believe that economic forces are at the root of environmental degradation. Economic activity affects the environment in diverse ways. In producing and consuming goods and services, societies draw materials and energy from the environment, adversely affecting the diversity of flora and fauna inhabiting both land and water. Some of these modifications of our natural environment are intentional, such as those achieved through processes of agriculture, urbanization and the development of social infrastructure, such as roads, factories, dams and power plants. Other environmental impacts are incidental and most often unintentional by-products of economic activity. This includes discharge of waste from industry and domestic living and spill over effects of urbanization and population growth (Bhattacharya, 2006).

One effective and important way to control air pollution is raising of protective plantations or shelter belts for air purification. Plants absorb carbon dioxide and release oxygen during the process of photosynthesis. This oxygen is responsible for purifying the air. Besides certain plants absorb specific air pollutants viz.,

hydrogen floride, sulphur dioxide and nitrogen oxide. Least absorbed pollutant is carbon monoxide. In case of particulate pollutants such as sand, dust, pollen, smoke etc., surface of leaves, branches, stems act as a trap. Trees have more humidity around them and hence the suspended particle settles quickly on trees raised in the surroundings of the factories or long un-metalled roads (Mathur and Soni, 1990).

7.2.1 Natural Erosion

Within this diverse terrain, land resources are exposed to the hazards of erosion along the south and southeastern faces, being directly exposed to full force of southwestern monsoon. Steep gradients of the hill slope create ideal conditions for soil wash and rapid depletion of land resources. The southeastern face of the Singalila, the southern face of Ghum, the southeastern face of Senchal-Mahaldiram and the southern face of Kalimpong hill are there by exposed to the danger of soil erosion, and as such susceptible to the decay of land resources even with slight disturbance of the natural environment (Lama and Sarkar, 1986).

7.2.2 Deforestation

In 1835 Darjeeling was covered with forest, communication was poor and the population only about 100. The population thence forward increased rapidly, the main causes of which have been discussed already. Whatever the reasons, the local ecology was disturbed more and more by deforestation, construction of roads and railway and the increasing population itself. With the phenomenal increase of the population, which has taken place, and with the establishment of the tea industry, it was necessary to clear the land in order to support the people and to allow of the cultivation of the tea plant. The result has been that, within certain limits, the forests have yielded to the plough and settled cultivation, and that elsewhere they have been ruthlessly swept away by the planter (O'Malley, 1907). However, the British were not totally oblivious of the ecological disbalance and, in fact they did many things to maintain it. A mixed forest was encouraged by them and vehicles weighing more than one tonne were not allowed to ply on the hill roads. Thus the ecological niche was not allowed to be dismantled completely (Subba, 1985).

Shifting cultivation or Jhuming is practised extensively in the northeastern Himalayan zone. Under the original form, the fallow period allowed for natural regeneration of the fertility used to be minimum twenty years. However, today mainly due to population pressure it has been reduced to only two to three years. This practice that involves both misuse and mismanagement of the land is causing a serious degradation of both land and water through erosion and run off and thus be discouraged. This requires educating people about the suicidal harms that the Jhum is causing (Rawat, 1993).

It is mainly after independence that the ecological set up ruthlessly deteriorated. In the meantime the population also increased which led to further plundering of the forests (Subba, 1985). Demographic pressure leads to encroachment on forest and pasturelands, and puts immense burdens on forest reserves, which have to sustain both timber and fuel-wood requirements (Chakrabarti, 2007).

The wholesale clearance of forest is extremely dangerous in a land of steep valleys like Darjeeling. In fact, in large areas the slopes cannot maintain themselves unless they are protected by trees, shrubs and undergrowth. On steep slopes, if the foot of the hill once slips away, the slope becomes still steeper, and the hill does not lie at a natural angle of repose (O'Malley, 1907). Nature will then continue the wash-down from above until the natural angle is obtained. This process may last a century or more.

The immediate effect of pervasive poverty is the depletion of forest and forest resources. Survival needs of the impoverished rural communities often lead to human entry into forests, and illegal felling and timber-smuggling, resulting in rapid decline of forest cover which aggravates soil erosion and other environmental problems. Besides the rural need for fuel and fodder, wood-demands from urban areas and the plains have also been an important factor in the forest loss in the Himalayas. Along with all these factors, corruption and mismanagement of forests by the Forest Department can also be made responsible for the rapid loss of forest cover in the hills (Chakrabarti, 2007).

The destruction of forests has caused three-fold damages on the environment – soil erosion, changing weather conditions (rainfall, temperature, etc.) and loss of bio-

diversity. Over the years it has been found that the average rainfall in the hill has fallen while the mean temperature has gone up (Chakrabarti, 2007). Bio-diversity is being threatened due to biotic interference and changing weather conditions.

Soil erosion is a regular feature in the district, mainly due to deforestation, defective cultivation practices and the cropping pattern. In the hilly areas of the north, erosion occurs mainly in the form of landslides. No year passes without landslides occurring to a greater or smaller extent in these hills. They would have been far more numerous and serious if the hills were completely laid bare of trees. The trees in the forest not only cover the soil and hold the force of the torrential rain but their roots bind the soil and keep it porous thus allowing the droppings from the crown slowly to percolate and feed the springs continuously. Where there are no trees, rainwater strikes the ground directly and quickly rushes down the slope. The soil gets hardened, the springs cannot be fed due to lack of seepage and consequently dry up as soon the rains are over. The woodcutter on the hill hardly realizes the effect of felling trees and laying bare the hill slopes. And the presence of large trees does not necessarily provide protection against erosion. Indeed a forest consisting of large trees only with no undergrowth and little soil may actually help erosion by guiding the rainfall along definite channels (Dash, 1947). It is an unfortunate fact that although the destruction of a forest and of the resultant soil covering can be brought about comparatively easily and quickly, the re-establishment of a forest on such eroded land and the formation of a depth of soil sufficient to give adequate protection must take many years to accomplish. The district of Darjeeling have 35.3 percent of degraded non-forest lands (West Bengal Human Development Report, 2004).

Excessive cutting of fodder has not only seriously affected the natural recruitment of all forest species, but its continual operation has also reduced the soil cover to the minimum in several places (Mitra, 1954).

The town of Darjeeling and surrounding region continues to face deforestation due to increasing demand for fuel wood and timber. Local coniferous and oak forests yield valuable timber. Table – 7.1 represents the total forest cover as well as their classification in acres.

Table – 7.1: Classification of Forest Area (in Acres)

Year	Reserved Forests	Protected Forests	Total
1950-51	289212	543	312155
1954-55	288427	543	311901
1958-59	288319	3634	314909
1969-70	116168.29	1681.73	128097.8
1973-74	116255	1650	128263
1997-98	102807.33	40	103677.33
2000-01	102807.33	40	103677.33
2004-05	104373	1752.3	111885.17

Source: Ray B: Census 1961, West Bengal, District Census Handbook, Darjeeling, Bengal Government Press, 1967 and District Statistical Handbook 1973-74, 2002, 2005, Darjeeling, Bureau of Applied Economics and Statistics, Govt. of West Bengal

From the above-mentioned table – 7.1 we can see that between 1950 and 2005 Darjeeling's reserved forest area diminished by 184839 acres, protected forest area increased by 1209.3 acres and total forest area diminished by 200269.83 acres. These are shown in figures – 7.1, 7.2 and 7.3. The diminishing trend in forest areas is depicted in figure – 7.4.

Figure – 7.1

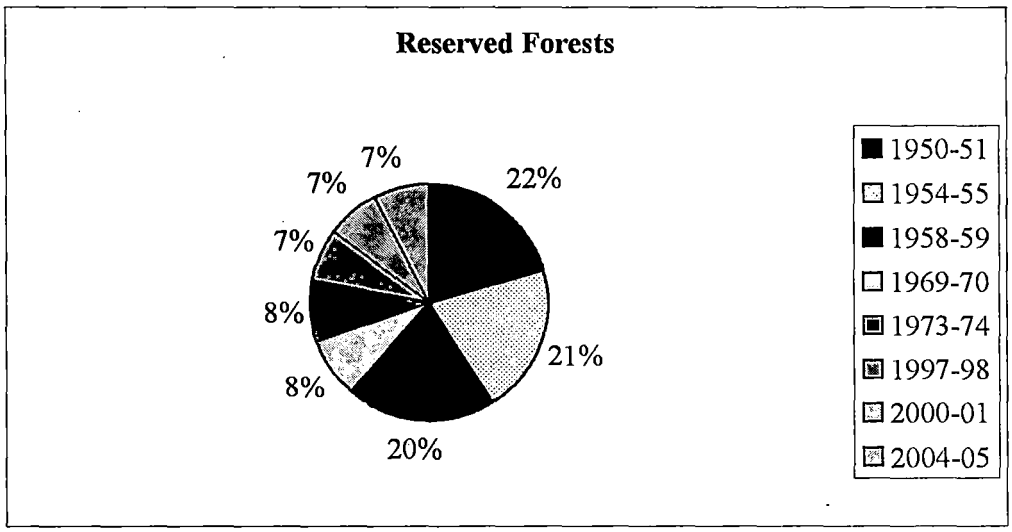


Figure – 7.2

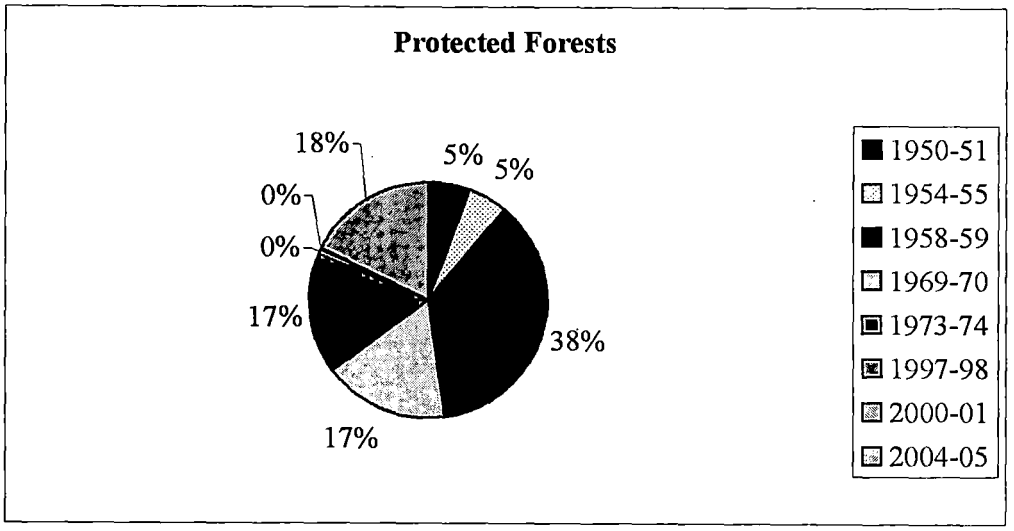


Figure – 7.3

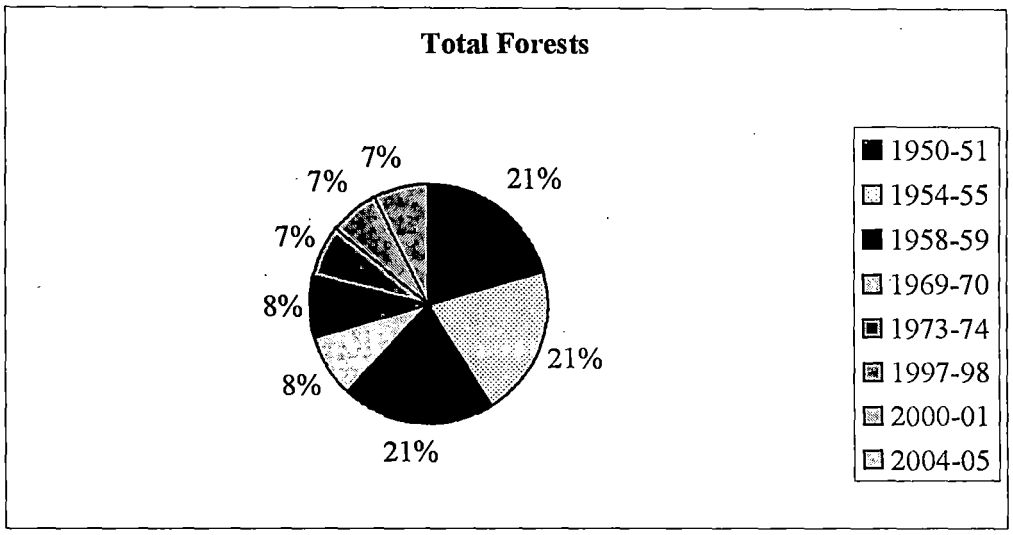


Figure – 7.4: Diminishing Trend of Forest Areas

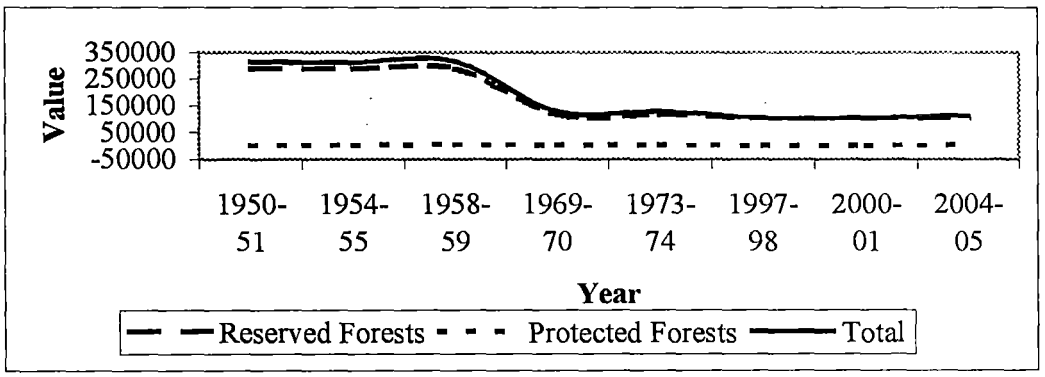


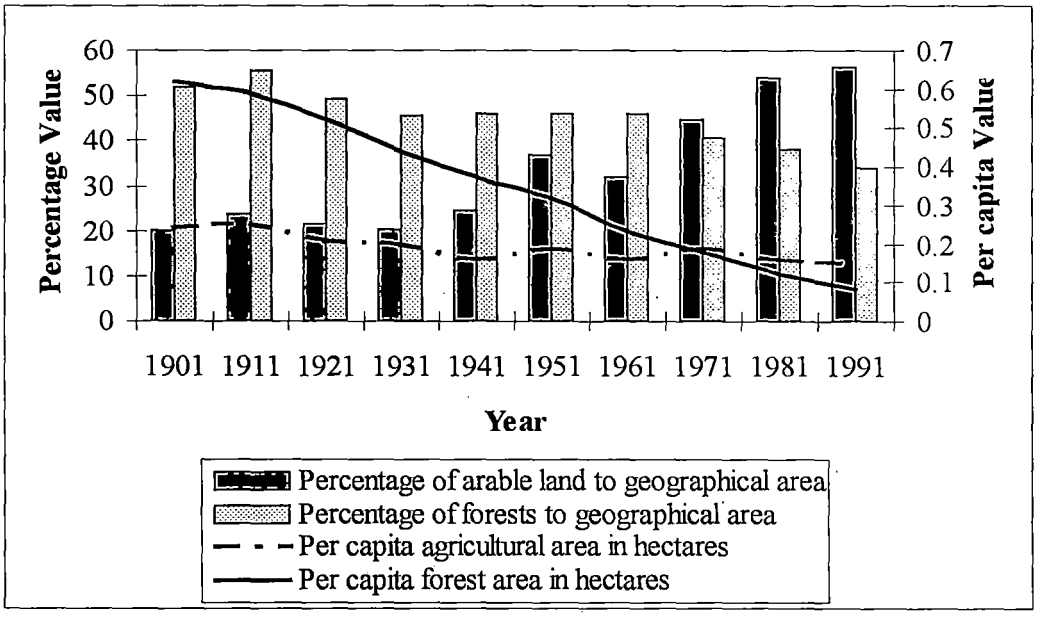
Table – 7.2: Land-use Statistics of Darjeeling District

Year	Percentage of arable land to geographical area	Area under forest	Percentage of forests to geographical area	Other lands and water bodies	Per capita agricultural area in hectares	Per capita forest area in hectares
1901	19.76	1554	51.54	865	0.24	0.62
1911	23.45	1554	55.55	754	0.25	0.59
1921	21.39	1481	49.14	889	0.21	0.52
1931	20.38	1427	45.46	1072	0.20	0.44
1941	24.50	1414	45.81	917	0.16	0.37
1951	36.67	1430	46.01	538	0.19	0.32
1961	31.92	1432	46.07	684	0.16	0.23
1971	44.51	1372	40.73	-	0.19	0.18
1981	53.61	1204	38.23	-	0.16	0.12
1991	56.41	1155	34.12	-	0.15	0.08

Source: Banerji, Amiya Kumar, et. al.: West Bengal District Gazetteers – Darjeeling, 1980 and Forest Directorate, Govt. of West Bengal

The land-use statistics of Darjeeling district has been represented in table – 7.2 while the trend of land-use of the same district has been shown in figure – 7.5. Between 1901 and 1931 Darjeeling's forest area diminished by 127 sq. km. or by 6.08 percent, whereas its arable land increased by 0.62 percent of its geographical area. Again between 1931 and 1961 Darjeeling's forest area diminished by 5 sq. km. or by 0.61 percent, whereas its arable land increased by 11.54 percent of its geographical area. And between 1961 and 1991 Darjeeling's forest area diminished by 277 sq. km. or by 11.95 percent, whereas its arable land increased by 24.49 percent of its geographical area. Due to a higher rate of population increase, the per capita agricultural and forest areas have shown a sharp decline.

Figure – 7.5: Trend of Land-use in Darjeeling District



7.2.3 Tourism

In India, the tradition of tourism is as old as its holy scriptures (Yadav, 2002). Tourism has far-reaching significance and implications of a socio-economic nature alongside the environmental ones. Tourism always has pre-eminent impact on the environment and ecology – positive and/or negative. Alternatively, tourism development often being a major cause of 'environmental deterioration' is also an effect of the 'environment conservation' (Kamra, 2001).

7.2.3.1 Environmental Problems

The huge influx of tourists has brought serious damages of the ecosystem of the Himalayan region, natural beauty and scenery. The network mechanism of road system, construction of lodges, cottages etc. has eroded many forest areas in Himalayas which result floods and droughts, flash floods, landslides, failure of hill slopes, climatic changes, soil erosion and sedimentation of lakes. Due to lack of electricity, people use diesel generator, which create air and noise pollution (Yadav, 2002).

Tourism poses problems in the mountains. There are too many people at a time/ place that it is hard to sustain the activity wholesomely, resulting in some injury

to the fragile environment. The concepts of threshold and carrying capacity may be an academic exercise in other resilient ecosystems; it is highly relevant to the holistic development of tourism in the mountain regions, particularly the high mountain regions with meagre capacity to absorb touristic activity (Singh, et. al., 1992).

The Himalayas offer wonderful opportunities for those who strive on conquering new heights. This spirit of conquest and adventure has been turned into a routine sport by the organizing of increased numbers of mountain expeditions. However, these mountaineers rarely venture up the peaks by the few; rather, they enlist large numbers of local porters to carry week's worth of supplies and provisions. In turn, these porters enlist their local goats, sheep, and donkeys to carry the bulk of these supplies, which results in the small original mountaineering party turning into a massive entourage of man and animal. To keep warm, the mountaineers depend on burning firewood, which results in the areas surrounding the mountain trails being barren of trees and timber. While the porters are busy chopping down trees and brush, their domestic animals are busy overgrazing on vegetation. These actions often lead to soil erosion and potentially lead to landslides. The average Himalayan mountaineer is said to stay on the peaks 20-30 days, and when he descends from the mountains he is often without the non-degradable provisions that he had originally started out with. Besides carrying canned goods, mountaineers often travel with and leave behind gas cylinders, carbon tetrachloride bottles, and first aid medicines.

Although the potential for a faster rate of destruction of the Himalayan Mountains is directly correlated to the amount of tourists trekking there, overall, the nation is still actively promoting the expansion of the tourism industry due to the developmental benefits of hard currency. The government has liberalized foreign investment regulations in the hotel and airline sector to stimulate the sector's growth. The government's awareness of the environmental impacts of tourism is filtered, and often obscured by the burden of developing the nation.

Tourism, especially mass tourism results in adverse impacts, leading to environmental stress. The first major source of environmental stress is the permanent restructuring of the environment brought about by a variety of major construction activities. Intense building activity leads to the creation of urban areas. The second

area of environmental stress results from the generation of increased waste residuals. Tourism activities also result in soil erosion, change in plant cover and species diversity. The fourth area comprises seasonal population increases resulting in physical congestion and an increased demand for natural resources. These negative impacts often result in a decline of tourist numbers, which in turn results in adverse economic impacts with a substantial decline in income and employment. Hence there is a need to sustain tourism activities through proper planning intervention (Mashqura and Lepcha, 2004).

The rapid increase in tourist population has also resulted in the creation of high-density urban areas lacking in aesthetic value. These high-rise buildings obstruct views, the raw materials for scenic tourism. In addition, the increase in the built up space to provide for tourist amenities has taken place at the expense of forested areas. The rapid increase in urban and tourist population and the associated building activities results in landslides nearly every year (Mashqura and Lepcha, 2004).

Bureaucratic resource managers grew euphoric on tourists' boom, fatally ignoring the boomerang-behaviour of tourism, particularly when 'problem of peaking' creates environmental pollution besides crisis in resource supply. The supply being more or less the same, demand motivations had almost reversed. Overcrowding, congestion, taffic snarls and environmental pollution hastened capacity strains on the ecosystem that had to bear the burden of fast growing resident population (Rawat, 1993).

7.2.3.2 Plant Destruction

Another problem associated with tourist activity is the collection of flowers and plants by tourists. It is hard to blame the tourists, because many visitors are so intrigued with the vast array of beautiful species that they pluck as many as possible out of fascination or for scientific collection and study (Singh, 1989).

7.2.3.3 Economical Impact

The positive impacts of economic significance are that the revenues earned through the multiplier effects of the tourist trade have a direct effect on the regional economy of the Himalayan region. There are links between the trades directly involved in the tourism and those trade and industries, which supply the tourist trade with goods and services. It has brought infrastructure improvements in the form of electricity, water supply, drainage, sewage transport network, road construction; tourist based industries etc. and thus helped regional development. The multiplier effect of the growing trade and tourist expenditure has stimulated the economic activities and their diversification in the remote areas. The tourist industry being a labour intensive service industry is a valuable generator of employment, hence it is a great encouragement to economic growth and development in the Himalayan region (Yadav, 2002).

7.2.4 Road Construction

Considered the youngest mountain ranges in the world, the Himalayas have only become accessible due to rapid construction of rural roads. Increased tourism in the Himalayan Mountains has led to rapid road construction to the villages closest to the major attraction sites. This will bring many benefits to the people of these towns and villages, due to their increased access to and with the more developed cities. However, the building of roads often involves the felling of a great number of trees, which are vital to the soil integrity of most hilltops and mountain ranges. Landslides will have the potential to occur more frequently. If roads are constructed to these rural towns without a proportional amount of infrastructure development, it will result in environmental and commodity resources scarcity, as more people are competing for the same quantities of basic supplies. More roads must be accompanied by greater village and town infrastructure so that basic resources such as clean water, milk, food, and firewood are not overused and depleted.

7.2.4.1 Ecological Impacts

The road construction activities are not only boon to the hill people but they disturb the hill ecology and environments unless precautions are taken to ensure that these facilities are created without damage to hillsides, slopes, forests fields, grasslands and human settlement. Unplanned and unscientific construction of roads leads to destruction of local fauna and flora and damage to soil and water regimes (Yadav, 2002).

7.2.4.2 Geological Disturbance

The road construction activity in hills, particularly operations of blasting which create geological disturbance in the hill side, as the blasting operation sets in dynamic forces causing activation of slip zones, cracks, fissures, resulting in creep and subsidence in land mass. Due to this disturbing effect, activation of large landslides has been seen in the entire Himalayan region, where roads were earlier constructed. These result in exposure of the rock fissures and faults which were earlier covered, after this exposure, the water seepage increases and creates further, instability in the hill mass (Yadav, 2002).

7.2.4.3 Interruption in the Natural Drainage System

The run off from the hill slope is uniformly disturbed cover to entire hill slope but it gets concentrated at the points where cross drainage works are provided in the road. The cross drainage works are often located without considering the adverse soil erosion, likely to be caused by the flow on the loose or soft hillside on the slope below the road alignment. The debris from the hillside cutting and land slides some times block certain channels and streams resulting in further problem (Yadav, 2002).

7.2.4.4 Siltation of Lakes and Rivers

The debris from the hill cutting goes down the hill slopes along with run off water and eventually in the rivers. When the rivers reach the foothills, the velocity of water is reduced and the water cannot carry the same silt load, which gets deposited. This silting results in a loss of capacity of reservoirs constructed at foothills for irrigation and power generation. Down below in the plain, the velocity goes down

further resulting in rise in riverbeds, which results in higher flood levels and consequent problem (Yadav, 2002).

7.2.4.5 Loss of Forestry and Vegetation

The pre-requisite of any road construction activity in the felling of trees standing on the alignment of roads. In some cases trees were axed down not only in the portion in which hill cutting is to be done but in the entire road side land, besides this large number of trees get uprooted either by felling of debris on the hill side below the road alignment or by land slides occurring after the hill cutting. The vegetation covering the hill slopes also gets eroded in the process which leads to further soil erosion as well as increased in run off from the hill slopes (Yadav, 2002).

7.2.4.6 Loss of Natural Sources of Water and Springs

The hill cutting for any road exposes hill side which lead to greater evaporation of water from hill mass and the debris of construction, some times blocks the natural springs existing immediately below the road alignment (Yadav, 2002).

7.2.5 Urbanization

The genesis of the problem in the area can be traced to the haphazard growth and uncontrolled granting of land use rights by the British. Expansion of construction activities along the steeper slopes (slope greater than the one suited to urban use) has exceeded the carrying capacity of the land. The term 'carrying capacity' refers to the number of people the earth can support. Logically, population growth must stop at some point, or the earth would become overcrowded and its resources eventually would be depleted. Hence, the frequency and intensity of landslides has increased. Besides, an expansion of the built up area at the expense of forested or open areas has resulted in an increased run off accompanied by a reduction in spring discharge. Lower rate of infiltration has resulted in the lowering of the ground water table and hence a reduction in the discharge or yield of springs. This has adversely affected the water supply in the town since the natural springs form the source of water supply to the town (Mashqura and Lepcha, 2004). Population in the town now exceeds one lakh and its pressures already exceed urban carrying capacity. For water supply, the town

depends almost entirely on the Senchal lakes, which lack the capacity to provide even the volumetric water requirements of the local population. Urban development of the pattern followed by Darjeeling town in recent years can hardly be sustainable from the standpoint of the local people (Chakrabarti, 2007).

7.2.6 Chemical Pollution

Agriculture and tea are the two important sources of livelihood of the local people. These two sectors however pose a serious threat to sustainable development in hill areas. The high use of pesticides in tea industry has a direct impact on other flora and fauna, and affects the local eco-system adversely. In the same way, the use of chemical fertilizers and pesticides in agricultural and horticultural fields destroys the microorganisms in soil and has had a negative impact on environment. Chemical pollution is therefore an important factor leading to environmental degradation in Darjeeling Himalaya (Chakrabarti, 2007).

7.2.7 Automobile Emission

Due to tourist influx, it has been found that automobile emission is higher in mountain communities due to high altitude and slower speed. Air quantities have been found ten times more fragile. High rate of automobile emission from different types of vehicles during peak flow of tourists have degraded the air quality, which is one of the major environmental impact (Yadav, 2002).

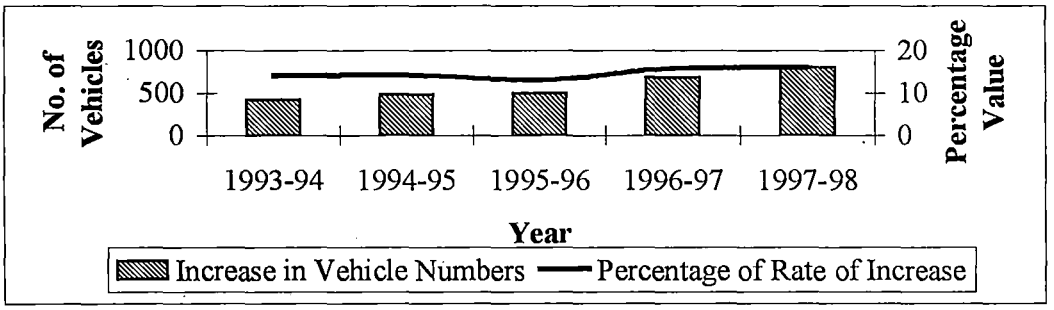
Darjeeling has witnessed a sudden growth in the number of Taxis/ Vehicles, which is now posing a major threat to the health and environment of the people in terms of vehicular pollution and accidents on roads. The growth of motor vehicles has been shown in table – 7.3 and in figure – 7.6.

Table – 7.3: Growth Trend in Motor Vehicle Registrations in the Darjeeling Hills

Year	Increase in Vehicle Numbers	Percentage of Rate of Increase
1993-94	415	14.00
1994-95	480	14.20
1995-96	500	13.00
1996-97	680	15.60
1997-98	800	15.90

Source: RTO, Darjeeling Administration

Figure – 7.6: Growth Trend in Motor Vehicle Registrations in the Darjeeling Hills



7.3 Conclusions

Uses of lands and resources are being modified in the expectation of continued population growth, industrial expansion, and accelerating technological change. Yet it is possible that, in the future, uses of lands and resources will take place in times of population stability, little industrial expansion, and a technology directed toward reorganization and a rearrangement of activities to achieve a better environmental relationship. Even though certain countries of the world have already reached some degree of population stability – e.g., Ireland, Hungary, France, Sweden, Switzerland, and Japan – industrial expansion and rapid technological change continue in these countries, in part because of the demands made by other expanding nations. The existing expansionist phase of technological civilization cannot, however, be expected to continue indefinitely. The ecological limitations on growth in a limited space with

limited resources lead to predictions of an inevitable end to this expansion, even if mankind fails to voluntarily limit its own growth.

Sustainability should be the cornerstone of the development of the tourism industry since the natural environment constitutes most of its primary resource base. Moreover, with growing anxiety over environmental deterioration on the part of tourists and residents, firms and governments are under increasing pressure not only to endorse sustainability principles but also to encourage positive action to bring it about (Sinclair and Stabler, 1998).

So Darjeeling, which is known as the "Queen of the Hills", is now or can be no longer said to be the queen of the hills. Rapid urban growth and the ever-growing resident and tourist population put tremendous pressure on the fragile ecosystem of the Darjeeling Hill Areas. During the British days, only single or double storied houses of light construction were allowed to be constructed to admirably suit the low load bearing capacity of the soils here. With rapid urbanization and demand for constructions created by tourism and a total lack of control by the municipalities, we have now ended up with concrete monsters of buildings, many, of which are continuing to grow vertically to six storeys or more. To have one such building located on a wide expense of land is one thing, but to have a continuous stretch of such tall buildings, one on top of the other spells disaster.

Although it is true that the construction of high rise buildings and illegal buildings should be stopped or controlled through proper implementation of rules and regulations the root of the problems that Darjeeling is now facing is because of the great divide in the rural and urban break up. For this we have to look at the land use pattern in Darjeeling where 58 percent of the land has been taken up by forests, tea and cinchona and the remaining 42 percent has been left for the use of the people. So one can see clearly that there is hardly any place or space left for growth.

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