

IMPACT OF UNPLANNED DEVELOPMENT IN LEH

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ABSTRACT

This paper is an attempt to study the impact of unplanned development in Leh town of Ladakh region of J&K state. Unplanned Development often leads to a chain of events affecting people, economies and the whole ecosystem. The relationship between all living organisms and their systems is a delicate balance. When it is disrupted it can cause havoc, leading to serious and sometimes permanent damage. Such rapid and unplanned development has resulted in environmental and social degradation of Leh town. It has widened the gap between demand and supply of infrastructural services and sewerage thus depleting the precious environmental resource base of Leh town. The result is the growing trend in deterioration of air and water quality, generation of wastes, congestion, undesirable land use changes, extinction of endangered species and social evils.

Keywords- Development, Tourism, Impact, Environmental Degradation, Social Degradation, Pollution

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Introduction

Environmental degradation is a result of the dynamic interplay of socio-economic, institutional and technological activities. Environmental changes may be driven by many factors including economic growth, population growth, urbanization, intensification of agriculture, rising energy use and transportation. As one of the more inaccessible parts of the Himalayas, Ladakh was a remote, resource-poor region that witnessed little change in the technological level over the centuries. The high-altitude harsh natural environment, characterized by arid and cold climatic conditions, topography with steep glaciated slopes, and lacking in forests and mineral resources, had created conditions of environmental encapsulation with little capacity to increase the potential of productivity levels at the operative non-mechanical level of technology (Chatterji, 1987). Our survival and sustenance depend on resources withdraw, processing and use of the product have all to be synchronized with the ecological cycles in any plan of development and sustainable development should be opted for. "Sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own. (WCED, 1987)

Study area- Situated between 32 to 36 degree North latitude and 75 to 80 degree east longitude at an altitude ranging from 2900m to 5900m above sea level. Leh District of the Ladakh region is the largest district in the country in terms of area. It is one of the coldest and the highest elevated region of the world. The district is located in the eastern portion of the Ladakh region of the Jammu and Kashmir State, bordered by Chinese in the north and east and Lahul Spiti area of Himachal Pradesh in the south, along with the other districts of the Ladakh region i.e Kargil. The district Leh forms the northern tip of the Indian Subcontinent. The whole of the district is mountainous with some valleys in between. The mountain ranges are as follows- Karakoram Range, Ladakh Range and the Zaskar Range. Leh town is located north of river Indus. Tourism is concentrated in the predominantly Buddhist settlements of the Indus Valley, of which the ancient capital and trading center of Leh is the hub.

Data Use

- i) Tourism Department, Leh
- ii) Chief Judicial Magistrate, Leh
- iii) Assistant Labor Commissioner, Leh
- iv) Vital Statistics Unit DES

A Brief History of Development of Leh Town

Ladakh district of J&K was a remote and an unexplored region in the 1960s and a restricted area for the rest of the world. But with the opening up of this area for the tourists in 1974 brought changes at a slow pace in the beginning, and now after 38 years it has traversed a complete change over in all the socio-economic system of the society. A big credit goes to the tourism industry. Locals coming in contact with the foreigners have somehow made them aware with the development activities taking place elsewhere in the world. Leh district has tried to keep a pace in development with the rest of the world. Tourism has won a wide recognition as an important industry in Leh district in view of its potential for creation of employment opportunities and generation of income on a large scale. The industry has a direct bearing on the socio-economic scene of the district. Tourism industry provides employment to a large number of people engaged in the related sectors like transport, hotels and catering service, cottage industry etc. Since 2000, domestic (Indian) tourists have started visiting Ladakh, with a dramatic increase in 2010 after the movie 3 Idiots. During 2010, tourism department has registered 77800 tourists, of which 55685 are Indian and 22115 are foreigners, which is expected to increase. In the district Leh 149 and 386 numbers of hostels and guest house of various classes are registered with tourism department till March 2011. Tourism has many positive impacts on the society which are as follows- generating income and employment, source of foreign exchange earnings, preservation of National Heritage and Environment, developing infrastructure, promoting peace and stability & contributions to Government Revenues. The last 15 years have seen a vigorous program of development in Ladakh, which has brought changes in education, health care, agriculture, energy, and transportation.

Negative Impacts of Development in Leh

Loss of cultural heritage & values- India's Buddhist Ladakh region which have stood for centuries are regarded as some of the best remaining examples of urban Tibetan-style architecture. But conservationists are increasingly fretting about the survival of these medieval buildings in the Old Town which are now sadly dilapidated. The New York based World Monuments Fund in June 2011 put Leh's Old Town on a list of the world's 100 most endangered sites, citing a host of factors as cause for concern, including more rain from climate change in the usually arid region. Residents of Leh town are moving to modern ways of architecture. There are new buildings being built out of concrete and cement but previously it use to mud-brick

buildings. It is believed that properly maintained using traditional materials these buildings can last for centuries more. The manufacture of industrial building materials like cement, plastic pipes, paints, iron and tin is extremely energy intensive and polluting, whereas the traditional building materials of Ladakh – mud, wood and stone are low energy, non-polluting, and in harmony with the landscape because they are of the landscape. It is to emphasize the importance of the traditional architecture and building materials for conserving the environment both within and outside Ladakh.

Crimes- With development and modernization, social evils also co- exists. Crime and development go hand in hand. Ladakhi society known for its cultural values and humble people has been a thing of past ages. With modernization, social evils like murder, rape, kidnapping, dacoity, robbery, burglary, theft, riots etc. has become rampant. There was a time when Ladakh was the only district in India with zero crime rate but now it is getting a common thing. Social Degradation is seen in Ladakh.

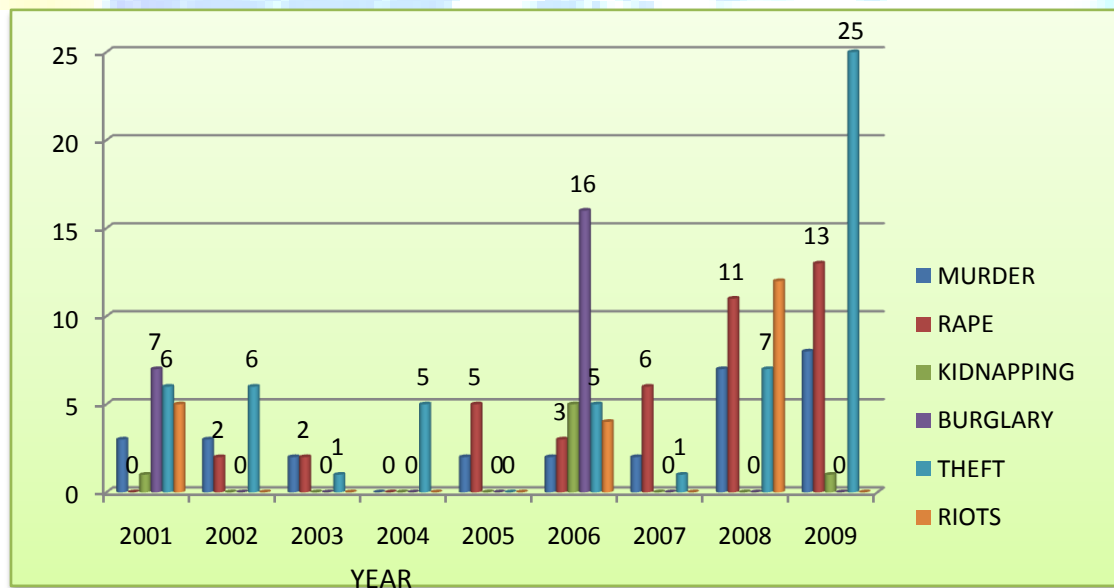


Fig.1 showing the crimes in Leh. (Source- Chief Judicial Magistrate Leh)

Agriculture in Leh Town

Agriculture is the backbone of the district economy as it engaged over 70% of the working force mostly as cultivators, agricultural laborers and livestock rearers, yet this sector has been affected by the service sector especially Tourism as it attracts the people constantly. The affect is not seen much in villages although a bit but Leh Town has been a victim of tourism industry. Leh

town serves as a fertile land for growing various crops like barley, wheat, fodder, pulses, cereals, mustard and vegetables of all kinds. People of Leh Town use to be self sufficient at times but now they mostly depend on rural areas of Ladakh for their food requirements. Some do have a small kitchen garden in front of their house. Large fields of the town have now been reduced to small kitchen gardens.

Diminishing Agricultural lands in Leh Town- In the past, when Leh was more dependent on farming, people cultivated land in the valley and lived on the hillside beneath Leh Palace. But in the last few decades tourism has boomed and more and more people are visiting Ladakh every year and the money it brought in allowed more people to move down to the modern part of town. They no longer need to do farming so they have sold the farmland or built it up. Many of the former farms are now hotels or large houses, and many of the traditional homes on the hillside are empty. With course of time whole Leh town will be commercial area with no agricultural fields left. And thus the dependency for food grains on others will increase and will question the food security of the area. Diminishing agricultural fields is quite evident from the decreasing percentage of cultivators and agricultural laborers and also with increasing number of hotels in Leh Town.

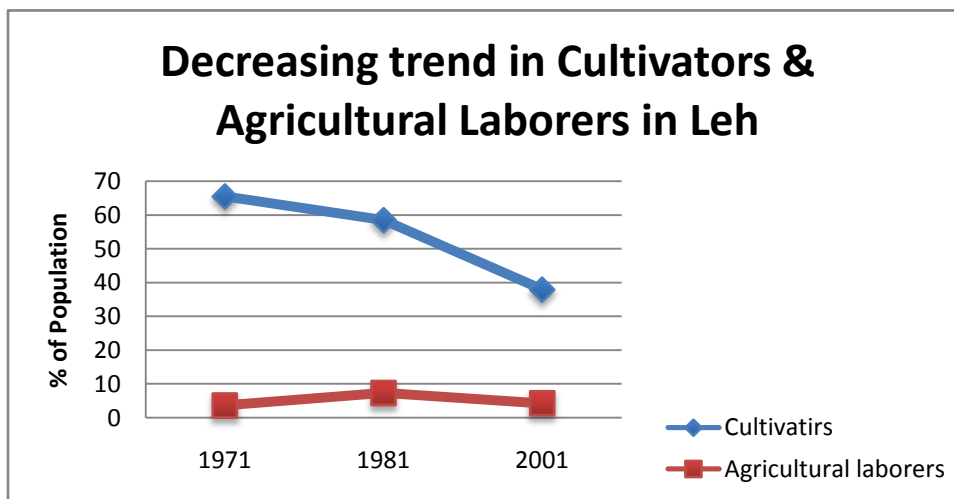


Fig.2. showing the decreasing cultivators & agricultural laborers.

(Source- Census Department)

With only 10 hotels and guest house in 1979, it has grown to 535 in 2011. In almost three decades it has increased in geometric progression. . Hotels and Guest House are categorized by the tourism department according to the quality of rooms and the services provided by them. A-

Class Hotels are four star hotels- which have shown a phenomenal increase in the last three decades from just 6 in 1991 to 65 in 2011. 8% increase has been registered with the A- class Hotels in Leh Town. The same thing is seen in the case of shops, commercial establishments, restaurants etc.

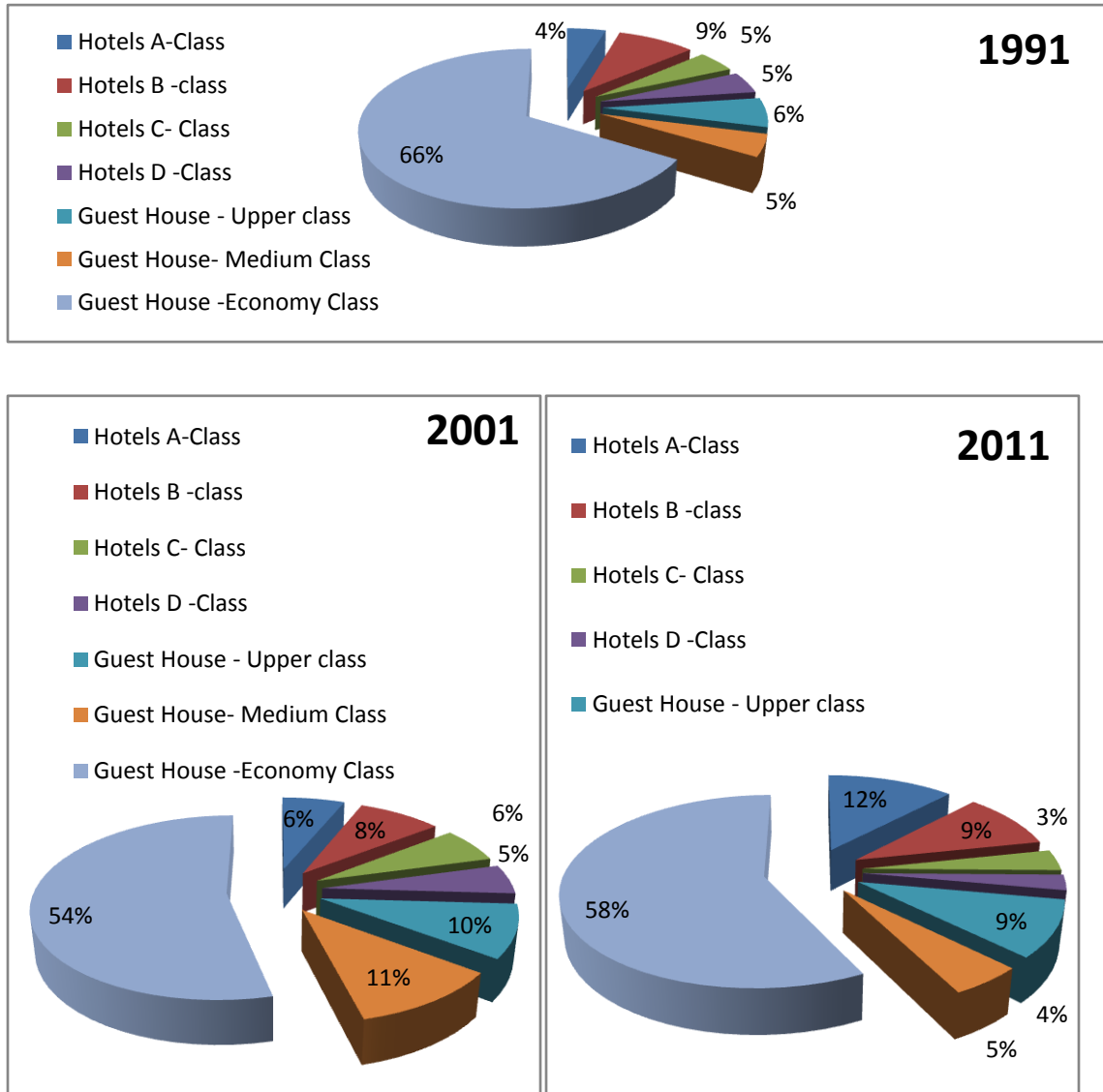


Fig. 3a, 3b & 3c shows the increase in Hotels & Guest House in Leh.

(Source- Tourism Department Leh)

Environmental Pollution- Worldwide the greatest effects on the health of individuals and populations result from environmental degradation and pollution. The two operate in consort. Until recently Ladakh had no pollution problems everything could be cycled back to the land. The large volume of wastes produced in the modern sector is polluting land and water and has

increased the incidence of disease sharply. For example, many hotels have faultily designed water-based sewage systems that contaminate local streams. The construction boom in Leh has not kept up with the rapid influx of people, forcing many temporary residents, drawn by the tourist economy, to live in rented rooms without access to water or basic sanitation facilities. Packaged drinking water is problematic for a number of reasons taking water from distant communities, using scarce fossil fuels unnecessarily and creating one of the biggest waste problems in Ladakh. The approximately 30-50,000 tourists in Ladakh each season are collectively generating huge quantities of plastic bottle waste. Here in Ladakh, no recycling facilities exist, and only a small amount is collected and sent out for recycling (which itself wastes energy and causes pollution elsewhere). In Leh, the bottles are either taken and dumped outside of town, or burned in the open, producing toxic byproducts such as chlorine gas and ash containing heavy metals. Corporate appropriation of the world's fresh-water supply represents one of the most serious contemporary threats to the local self-reliance of peoples across the planet. Additionally, transporting all those plastic bottles full of water over the Himalayas consumes enormous amounts of fuel and pollutes the atmosphere along the way. Finally, everyday, an average of ten trucks of garbage from Leh city alone is dumped in a nearby valley.

Water Pollution- With thousands of tourists visiting Leh town every year the quality of water has deteriorated at an alarming pace. Three decades back glacier melted streams were the best source of drinking water, but now it is not even fit for washing clothes. The streams can be seen filled with all sorts of garbage expect for clean water. Even in worst cases people are just flushing out their toilets outlets into the streams. The Ladakhi compost toilet is the traditional system that has served the people, land and agriculture well for centuries. Ladakhi toilets are based on the concept that human 'waste' is not waste at all, since it is recycled into compost for use on agricultural fields. No fresh water is consumed or polluted in the process, and only natural materials are used to mix with the feces and urine and let sit until the process of decomposition has yielded a rich fertilizer. If Ladakhi have stick to the traditional Ladakhi systems the water resources would not have been contaminated to such level. According to the CMO Leh, people dying in Leh town due to water born disease, heart related and respiratory disorder has increased tremendously. Western style flushes toilets that consume and pollute precious fresh water and in the process carry away and waste a valuable resource. Polluted stream water has made them to switch on to ground water for drinking purposes. Ground water is also renewed by water flowing

on the surface of the earth. So somehow or the other the ground water is also not perfectly good for drinking purposes.

Rural-Urban Migration and congestion in the town- In the last 15 to 20 years there's been very bad planning for Leh. Everything has gone on in a very haphazard manner. Migration is the movement of people from one geographical location to another, involving permanent or temporary settlement. The region where people are leaving is referred to as the source region whereas the region to which people are entering is known as destination region. While rural-urban migration is the movement of people from rural areas (villages) to urban centers (cities). One noticeable aspect in the society today is the rate at which people migrate from the rural to the urban centers. While the urban centers are increasing in population, the rural areas are decreasing in population. The migration literature has come to regard rural-urban migration as “the major contributing factor to the ubiquitous phenomenon of urban surplus labor and as a force which continues to exacerbate already serious urban unemployment problems” (Todaro, 1976). People from rural Ladakh migrate to Leh town in search of labor, tourism related jobs, better education facilities etc. And with course of time they do have enough money to get settled in the uphill barren lands of Leh town which are sold at a lesser rate. These are the areas which are not preferable by the original residents of Leh town. These are also the disaster prone areas of Leh town which include Skampari, Manesting (where the cloudburst incident occurred). Majority of the houses built in these areas are not the original residents of Leh town. Besides that due to the opening of two National Highways both Zojila and Rhotang pass and an airport in Leh increases the flow of military personnel, merchants and laborers from India and Nepal. Continuing the trend of migration into Leh, a substantial number of Tibetan refugees settled here in the 1960s. While some of the effects of rural-urban migration are; rural-urban migration brings pressure on urban housing and the environment, it also lessens the quality of life, overpopulation encourages crime rate in the society and rural-urban migration slows down the pace of development of the rural areas.

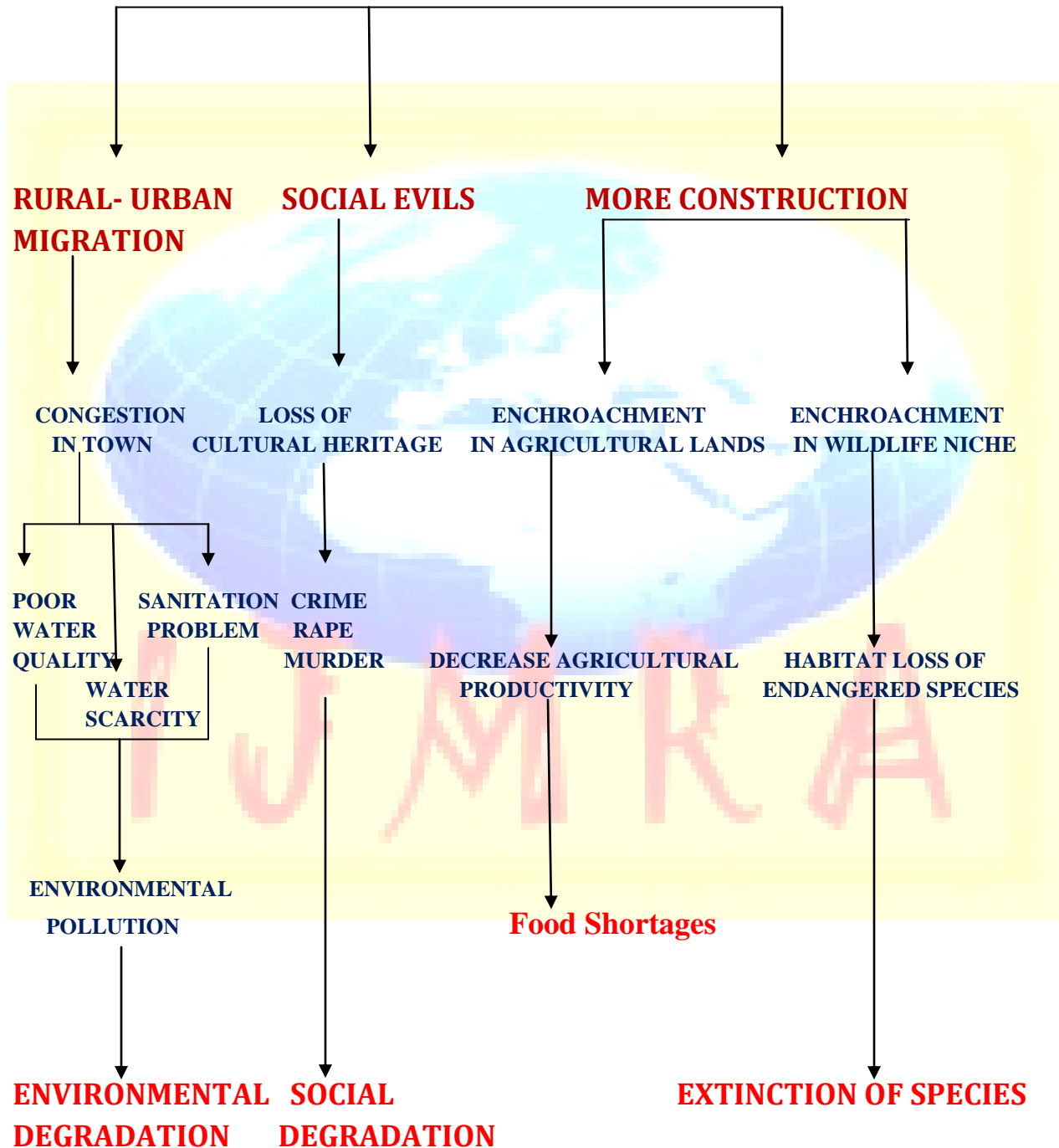
Habitat loss and Extinction of flora and fauna- development can have serious effect on the survival of some species that live and depend on the areas. All systems are delicately balanced and interrelated. Therefore, disrupted food chains and other systems will face serious impacts, affecting species. Biodiversity is lost with the building of new projects at niches of other wildlife. Habitats are drastically reduced with the clearing of forest, endangering many species

especially snow leopards, Tibetan ibex, Ural, yaks etc which are native to Ladakh region. The Ladakh Ural (*Ovis vignei vignei*) is a highly endangered animal (IUCN Red List 2000) listed in the Indian Wildlife Protection Act 1972. Although the species had in the past, been able to coexist with the predominantly Buddhist society of Ladakh, the recent increase in the population of both humans and their livestock has placed immense pressures on its habitat (Shackleton 1997, Chundawat and Qureshi 1999, Raghavan and Bhatnagar 2003). This is especially important considering that the Ladakh Ural habitat coincides with the areas of maximum human activity in terms of settlements, agriculture, pastoralism and development, in Ladakh (Fox et al. 1991, Chundawat and Qureshi 1999, Raghavan and Bhatnagar 2003). Increased developmental activities such as construction of roads, dams, and military bases in these areas have also increased the access to their habitat. This has consequently made the species more vulnerable to the threats of poaching and habitat destruction (Fox et al. 1991, Chundawat and Qureshi 1999, Raghavan and Bhatnagar 2002). Probably animal will not be capable of adapting quickly enough to the changing environment. This will lead to a loss of important native species. In describing the impacts of urban sprawl, Burchell et al. (2005) pointed out that “[each year, development disrupts wildlife habitat by claiming millions of acres of wetlands and forests. This loss often results in habitat fragmentation, in which animals are forced to live in smaller areas isolated from other members of their own species and sometimes unable to forage or migrate effectively. Habitat destruction is the main factor threatening 80 percent or more of the species listed under the Endangered Species Act.”

Conclusion & Suggestions- Actions should be planned ecologically for the sustenance of the environment and development. Planning concept has almost been missing in Leh town. A proper town planning Department should be established. Despite that strict Housing and Migration Laws should be put into action. It is recommended that the Government should strive to provide social amenities and facilities in the rural areas and also provide jobs for the citizens in the rural areas to slow down the pace of rural-urban migration. It is essential to make the public aware of the formidable consequences of the disturbing the niche of wildlife, if not retorted and reformative measures not under taken it would result in the extinction of wildlife. We are facing various environmental challenges. It is essential to get us acquainted with these challenges so that their acts may be eco-friendly and sustainable development should be opted for. The concept precisely emphasizes upon using the earth resources judiciously and compensating for it in some

sense e.g. if cut few trees to support our lives, we should also implant some new ones at some site. This would result in maintaining the earth's fine balance between resource consumption and resource generation.

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