



Development, Deterioration And Degradation Of The Trans-Himalayan Region Of Ladakh

¹Skalzung Dolma, ²Ashwani Kumar

¹Ph.D Research Scholar, ²Assistant Professor

¹Department of History

¹Central University of Punjab, Bathinda

Abstract: The concepts of economic growth and development are often used interchangeably, despite their distinct implications. Many emerging and underdeveloped nations adopt policies that exert immense pressure on both socio-cultural structures and the environment due to a lack of clarity on what constitutes true development. The trans-Himalayan region of Ladakh has experienced similar challenges, particularly after 1974, when significant shifts in its socio-economic landscape began. The 2010 flash flood in Ladakh, which resulted in the loss of 234 lives and widespread destruction, serves as a stark reminder of the consequences of rapid and unchecked development. Historical events such as the establishment of the Indian Army, the Public Distribution System, and the rise of tourism have shaped Ladakh's trajectory, contributing both to its progress and its vulnerability. This study examines the distinction between growth and development in the context of Ladakh, questioning whether the region's post-1974 transformations can truly be considered development. Furthermore, it highlights the large-scale development measures undertaken after 2010, which may pose future environmental threats. The paper underscores the urgent need for sustainable development policies, particularly in fragile ecosystems like the Himalayan and Trans-Himalayan regions, where development strategies must balance progress with environmental preservation.

Keywords – Development, Ladakh, Degradation

1. INTRODUCTION

The term economic growth and development gained its prominence during the industrial revolution in European countries. Both terms were used simultaneously to refer to the gradual emergence (Arndt, 1981). Over the period of time, it was realized that the difference lies between Economic growth and Development. Amartya Sen (2014) differentiated the two terms and viewed growth is essentially a means rather than an end. According to Adam Smith (Smith 1961 pp 91) an economy was deemed to be developed when economic activity increased, but also when all facets of society were able to benefit from these increased economic activities' successes and endeavors. He contends that the ultimate goal of a progressive state should be freedom from an unsustainable economic life, unemployment, threats to the environment, and limited access to health, sanitation, or clean water.

The development concept now shifted its attention towards the need for minimum standards of nutrition, health and education (Philip, 2008). Henceforth, the contemporary economist's historian perceives that growth is not the same thing as development, rather economic growth is one aspect of the process of economic development. The definition of economic development broadened and it meant as the process of improving the quality of all human lives and capabilities by raising people's levels of living, sustenance, self-esteem and freedom.

Worldwide, countries are making an immense amount of effort to establish themselves as developed states. Ladakh, which is in the far north of the Indian subcontinent and was formerly cut off from the other Indian states until the first half of the 20th century, has experienced tremendous economic progress in recent years. The region earlier played an important part in trading as it was a major conduit and trading center for the traders of Central Asia, Tibet and China (Sheikh, 2010). It was only in late 20th century when the strategic importance of the region was realized by the Indian state and the borders with China and Pakistan were sealed.

1.1 Study Area

Ladakh was historically a trading route to Central Asia, serving as a gateway to those nations. Lehigh onwards, there has also been a route to Tibet, thus, remained open to traders for centuries. In accordance with Moorcroft (1837) and Cunningham (1970), Ladakh was originally a province of Tibet, and the Head Lama of Lhasa oversaw Ladakh's spiritual affairs. Political, religious, and commercial ties are excellent representations of Ladakh's connection pattern with its neighbouring states. Political ties encompassed Balti and Rudok, business and commercial ties were with Kashmir and Yarkand, and spiritual ties included Lhasa (Mann, 2002). Numerous caravans travelled from China, Tibet, Yarkand, and Kashmir to Leh with exotic goods like silk, brocade, carpets, felts, tea, poppies, and ivory before exchanging them with other traders and returning to their original destinations. It is apparent from Fa-hien's travelogue that there were two routes by which traders or visitors could reach Ladakh in those days: (Kaul, 1998)

1. The western route through Kuyyar
2. The Southern route via Rudok.

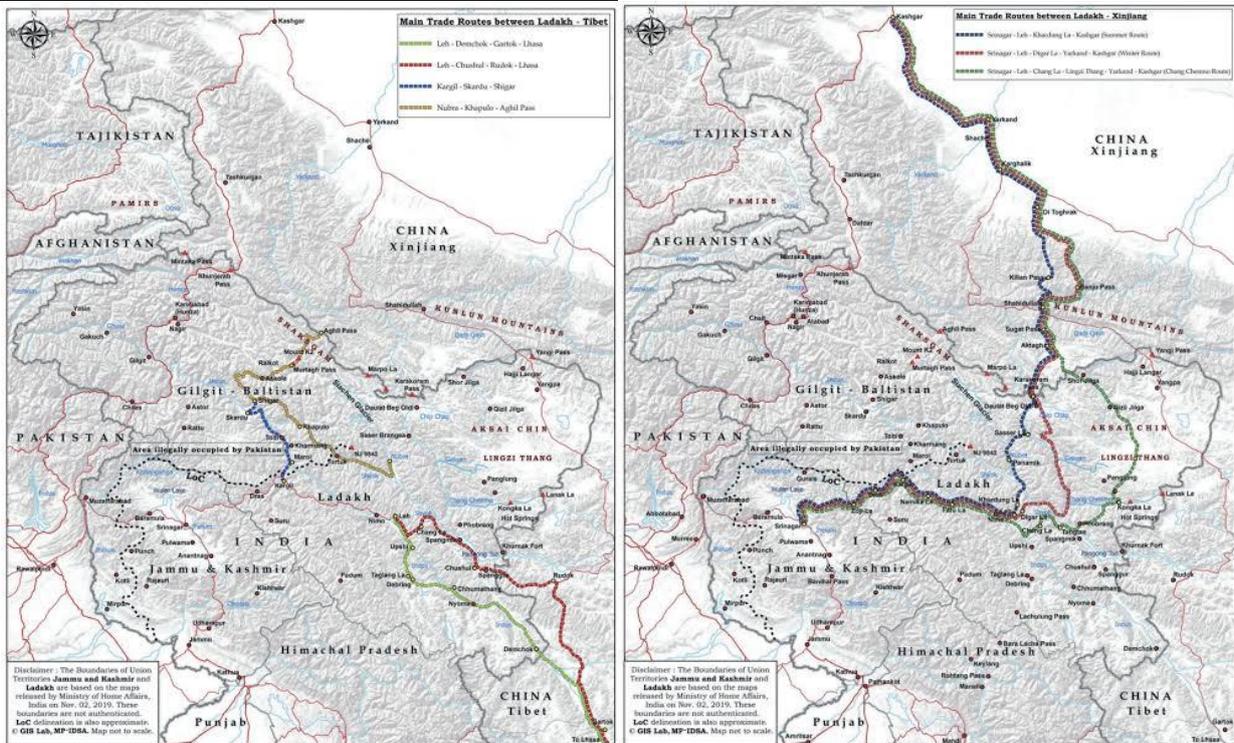


Figure 1: (a) Trade routes between Ladakh and Tibet, (b) Trade route between Ladakh and Xinjiang
Source: K Warikoo

Barley, flour, dried apricots, vegetables, and other items were carried to Leh bazar by Balti traders from Skardu and traded there for rice, sugar, spices, and other goods. Some of them even travelled to the Nubra Valley where they traded commodities like rice, tea, sugar, and spices for minerals like salt and borax (Fewkes, 2005). Butter, nettles (za-tsod) for cooking soup, and yeast (phabs) for producing *Chang* homemade beer were among the commodities brought back from Nubra. Wool for shawls was one of the most significant products traded in Ladakh; it was mostly obtained from Rudokh and Changthang and used in Kashmir. Another significant item in Ladakh's trade was tea, which was not only consumed in enormous quantities there but also exported there and to the Punjab and Kashmir in large quantities. Another product traded was salt, which was obtained from Changthan's lakes and springs and was used both for domestic consumption in Ladakh and for export to the hill states (Rizvi, 2001).

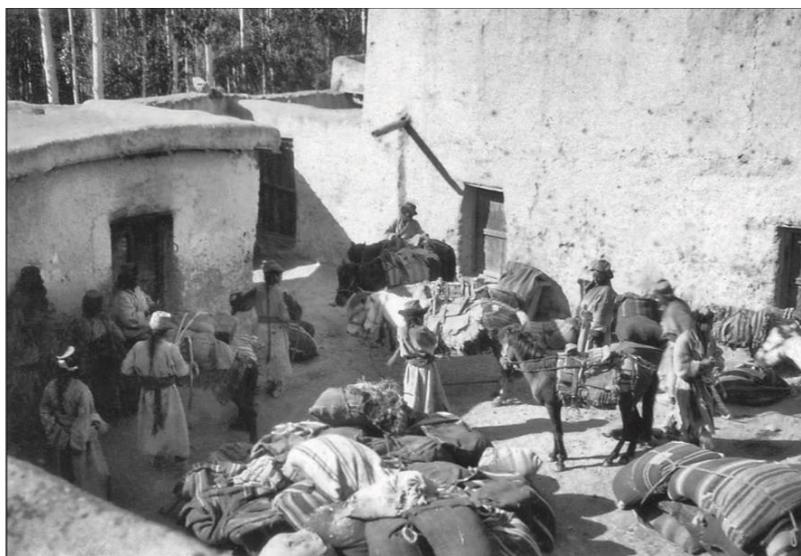


Figure 2: Saspul Sarai, important stopping place for caravans of Shamma traders, between Khaltsi and Leh
Source: The lost world of Ladakh, Rupert Wilmot 1931-1934

1.2 Growth and Development in the region:

The commercial exchange between Ladakh under colonial rule of Dogra and the adjoining regions persisted but with India's independence, all of this commercial activity was put to an end and the borders were sealed. The trade between Tibetan province was fully suspended in 1961, during the Indian-Chinese war. Following the formulation of policies and the deployment of the Indian army post 1960s in the area, a rapid process of development began. With the closure of borders, Ladakh's economy underwent a significant transition after the 1960s, moving away from trading and towards other sectors including labor and agriculture.

Ladakh witnessed territorial contraction, population growth, shock to its social structure and culture, intercommunal conflict, and suffering from the depletion of its natural resources. However, people have advanced in terms of communication, particularly in the areas of road, transport, and air, employment opportunities for the locals and social interaction with outsiders intensified (Michaud, 1996). An extensive military network, extremely high levels of mobility, equipment, and so forth, have all emerged. All of these increased limitations on natural resources and human population (Jorgyes, 2010).

Since 1974, the tourism industry's impact on Ladakh has received more attention. The region got freely accessible to world tourism and over the year, Ladakh is flooded with foreign and Indian tourists. Tourism encouraged extensive exposure of residents and their environment to visitors. Following Ladakh's opening in 1974 and the expansion of tourism, the social, economic, and political conditions of the inhabitants in the city and its environs are drastically changing (Mann, 2002). P. Namgyal, a politician, social critic, and scholar from Ladakh, claims that outside forces have caused traditional values to be abandoned and social vices are frequently an expression of a deep sense of insecurity and anxiety (Michaud, 1991). The impact of tourism is progressively becoming apparent in Korzok (eastern Ladakh), as seen by the deterioration of the pastures along the main route to Korzok over the past several years due to an increase in tourist traffic (Michaud, 1996).

Due to the creation of new economic opportunities, the conventional social and environmental balance is being disturbed. Some development plans were poorly thought out, and others had negative repercussions. It primarily occurred because non-Ladakhi's were up the majority of those who planned and implemented policies. They did not comprehend the economy, environment, social structure, or culture of Ladakh adequately. The population were negatively impacted by the heavy subsidies placed on a variety of imports, including wheat, rice, sugar, etc. First, people started to feel reliant on the government. The sensation of self-help began to erode as a result of the growth of this tendency. As food grains were more readily available on the market and were far less expensive than the cost of production in Ladakh's agriculture, people began to distance themselves from the resources of the native land. Their interest in agriculture began to wane and other career aspirations emerged. Food grain cultivation was deemed to be unprofitable. There was an increase in the desire for cash. The capacity for labor and employment has significantly risen in the economic realm.

1.3 Deterioration and Degradation:

The region's environment and culture suffered as a result of the region's growing economy, abrupt climatic change, inconsistent pattern of rainfall and snowfall and unplanned development. The disaster of 2010 was a phenomenon that people had never experienced before due to the significant effects of growth and changes. On 5th and 6th August 2010, intense rain fell which lasted for a short time, and debris flows began flowing through Leh city center. The other neighbouring villages of Leh city also got destroyed by the flash flood caused due to the cloud burst. Hundreds of people were killed, houses were destroyed, and damaged the hospital, communication infrastructure, the bus station, and vital roads. Study conducted in Sabu catchment area witness that majority of the habitation was constructed on paleo flooding channels traditionally considered to be unsafe.

Paleo flooding channel (course of an ancient river) discovered in Sabu village shows massive events of flooding had happened in the past. However, this events in the past went unnoticed because habitants were less impacted moreover nobody occupied valley or channel areas which were traditionally considered unsafe. Therefore, loss of life was negligible (Ritesh, 2011). Water follows a certain path and if there is construction taking in that place then it is natural for water to wash that away causing destruction. The disaster of 2010 should be taken as an opportunity to build sustainable habitants in geologically sound locations. All channels or paleo channels should be properly identified, demarcated and protected. No habitation should be allowed in and around these channels. Stream channels should be widened.



Figure 4: 2010 Cloud burst affected areas
Source: Pragma.org, 2024

Apart from the impact of changes on environment which can be seen and felt, the impact on intangible cultural activities is also witnessed. Table 1 illustrates the responses of the people who were interviewed on the economic changes and its impact on society and community of the region. A total of 60 respondents were

interviewed considering the impact of economic advancement on intangible cultural and community relationships. The responses were recorded based on five-point Likert scale.

Five-point Likert scale category.

1	Strongly Agree	1.00-1.80
2	Agree	1.81-2.60
3	Neutral	2.61-3.40
4	Disagree	3.41-4.20
5	Strongly Disagree	4.21-5.00

The range of the above scale has been calculated using the below formulae:

<p>Range= 5-1=4, Interval=4/5= 0.80</p> <p>Strongly Agree Upper case =1, Lower case =1+0.80=1.80 Similarly, Agree Upper scale=1.81, Lower scale =1.80+0.80=2.60 So, on and so forth for other scales.</p>

The next step is to find the average of the responses for each question:

	Questions	Average
Q1.	Do you think that the importance of traditional rituals and cultural practices in Ladakh has declined due to economic advancement?	2.21
Q2.	Do you believe that impact of economic development has led to more health issues among the Ladakhi's community than earlier?	1.56
Q3.	Do you believe that the community ties and relationship of people in Ladakh have degraded due to modernisation?	1.65
Q4.	Do you think that the differences and disparities between the people living in rural and city life is growing?	1.88

2. Interpretation:

It has been observed with the help of the above observation that the average responses for the question on whether the importance of traditional rituals and cultural practices in Ladakh has declined due to economic advancement is 2.21% which lies in between the range from 1.81-2.60 which comes under the scale of Agree. Henceforth, most of the respondent agrees with the notion that economic advancement have deteriorated the rituals and cultural practices. Similarly, for question second the average responses scaling was 1.56% which lies in the scaling 1.00-1.80, i.e., majority of the respondents strongly agrees that issues in health are more at present time than it was earlier. On asked whether there is any negative impact on community ties and relationship due to modernization, major responses, i.e., the average of 1.65% which lies between 1.00-1.80 determined that they strongly agree with degradation of community ties due to modernization. Furthermore,

most of the respondents responded with average of 1.88 % which categorized that the respondents agreed that the differences and disparities between the people living in rural and city life is growing.

On the basis of the above result and interpretation it can be concluded that the economic advancement have a negative impact on intangible activities such as culture, tradition, community ties and health. Due to economic advancement a region might prosper in monetary terms or in communication and infrastructure field which is entirely a growth phenomenon and not development. In order to have a developed state, one should admire and implement policy which is sustainable based which considers not just the economic growth but also takes into consideration the environment, health and cultural practices.

3. Sustainable Economic Development:

Change is inevitable and it always brings the risk of environmental damage, as it puts increased pressure on environmental resources. Environmental stress and uneven development can increase social tensions also (Amerta et al, 2018). Stiglitz (2006) discusses that the economic policies have put little attention on the consequences of the policies for natural resources and the environment. Therefore, the work *Our common future* and the work of Stiglitz, (2006) referred to a new approach in which all nations aim at a type of development that integrates production with resource conservation and enhancement. The objective of the research was to understand that the development should be sustainable and protect the environment, society and culture which can be achieved only through a better understanding of improving resource management and initiating economic policies which protect the environment and assure sustainable economic development. The objective of the policies should be to achieve rapid economic growth and improvement in individual welfare on a sustainable basis.

Shah (2014) in her research work gives a brief explanation of how globalization is affecting the local regions and their culture and society. The author explains it by the idea of top-down globalization and the bottom-up process of globalization, which is able to push back against this homogenization of western culture or globalization. Similar work on local knowledge and creative responses to inevitable economic development has been done by Clouse (2021), which focuses on climate change in Ladakh. The work is a compilation of measures adopted by the eco-sensitive region of Ladakh which is trying to strive through the development and modernization model.

Traditional ecological knowledge or the local responses to contemporary issues such as economic development are considered important to curb the challenges posed by uneven economic development. Traditional Ecological Knowledge (TEK) an important sustainable and cultural response attempts to rebuild indigenous nations based on local rather than governmental control of community development, which evolves from the cultural and practical knowledge foundations of the communities themselves.

Ladakh has enjoyed a stable economy based on self-reliance mainly through its subsistence agricultural economy, however, in recent years this stable economy has shifted to dependence on outside

forces mainly the presence of a large army and influx of foreign tourists. Jorgyas (2010) views that development is inevitable but that does not necessarily have to be the adaptation of western and modern culture. Development in Ladakh has led to significant challenges having adverse impacts on the local environment and tourism has an important role to play in the economic as well as social change of Ladakh. The work discusses the challenges posed by unplanned tourism and the importance and urgency to initiate sustainable community-based tourism projects (Anand et al.,2012). The development and the challenges of the economic development to the environment in rest of the world is specified to the growth of industries and technology, but if we take Ladakh into consideration, there the situation differs. Even though the challenges brought to the environment is because of industry but it is not based on heavy industries, rather most of the challenges inflicted upon Ladakh are because of the tourism industry.

Cyr (2018) opines that tourism, interconnectivity, and development have had immense consequences on Ladakh's environment and society. Dhar, et.al., (2019) examine the role of tourism in the alleviation of poverty and socio-economic development in the Leh district. It is viewed that tourism activities were very slow but due to government efforts and dissemination of information about the tourism resources of Ladakh, tourism activities have increased to a large extent. Dame (2019) & Michaud (1996) mention that the urban growth in Leh is driven by administrative and infrastructural development, a booming tourism sector and the region's geopolitical significance. The work viewed that tourism offered an economic alternative to the loss of the caravan trade, and has an important impact on the Ladakhi society. Keeping in view the largely uncontrolled urban growth in the climate-sensitive environment the work suggests the need for effective resource management and sustainable development.

Michaud (1996) focuses on the account of social change in Ladakh with special attention paid to tourism which resulted in economic expansion in the economy. These changes have taken a heavy toll on the traditional values, environment and socio-psychological behavior of the local people as they have become more materialistic and the cooperative basis of the community has been gradually lost. Ashton's (2001) has assessed the community change in Ladakh. The combination of large numbers of tourists annually and the transition towards a monetary economy has resulted in significant socio-cultural changes in the region, including reduced community cohesion and the disintegration of (*res*) traditional reciprocal labor cooperation.

The rapid flourishing and developing economy of Ladakh resulted in various challenges faced by the environment as well the society and culture. In order to have balanced development, an ideology of sustainable development has been adopted (Cajete, 2020). Another important approach to sustainable economic development is mentioned in the work of Shah (2014). The study occurs in the trans-Himalayan region of Ladakh which due to the presence of many external forces like the army and tourism is witnessing many changes which is a case of the impact of the top-down globalization theory that Shah mentions, and in counter to this or to mitigate this process the author describes the case study she has done with an NGO named as SECMOL which entirely works for maintaining the traditional practices intact.

Clouse (2021) describes a series of nine climate-adaptive strategies currently employed in north India. These examples range from traditional design solutions to new prototypes. The examples included in the work for mitigating climate change include Artificial Glaciers, Ice Stupas, Snow Barrier Bands, Solar designs, Greenhouses, Reservoirs and Canals etc. The work is a compilation of measures adopted by the eco-sensitive region of Ladakh which is trying to strive through the development and modernization model. Pant, et.al., (2018) in their study document the indigenous knowledge of bio-resources management in Ladakh. They studied the various indigenous techniques for the storage, use and management of their local resources. Some of the indigenous practices for storage of cultivated crops (i.e., food grains, vegetables, and fruits), fuel, fodder and several other bioresources in nutshell are described in this work and it is viewed that these methods can be used in developing low-cost innovative methods of preservation to minimize post-harvest losses and increased the availability of vegetables during the winter months (Elliott, 2007). Indigenous knowledge and practices if not conserved properly will be seriously threatened under the pressure of modernization and especially on account of the apathy among the new generation.

4. Conclusion:

It becomes imperative for a layperson as well as the policy makers to have an understanding about the difference between growth and development. In this study an attempt has been made to clarify that the growth is mostly believed to be measured in economic or in monetary terms. It is mostly considered to be as a means rather than end in itself. Development on the other hand can be considered as the overall human development be it in terms of health, education, environment or traditions and culture. Regions growth in monetary terms but degrading in health and environment can in no way be considered to be as a developed region, which in otherwise is believed so. With the help of taking Ladakh as a study area, the authors have tried to explain that over the past few decades the region significantly grew in terms of monetary as new economic sectors such as tourism and other private sectors related job emerged.

However, if other parameters such as environment, health and culture is taken into consideration we find that enormous deterioration and degradation rather than development has happened. A major evidence or impact of such environmental disaster being the 2010 flash floods. Such changes are not just confined to region of Ladakh, but it can also be found in other Himalayan regions. The recent incident of cloud burst, flash floods, landslides and mud slides in the Himachal region is seen as an impact of climate change and enormous increase in anthropogenic activities. The impact of changes on environment to some extent is easily identifiable in the form of disasters, however, its impact on tradition and community relationship, which are sacred and precious to the Himalayan region is hard to recognize. The Himalayan and trans-Himalayan region are sensitive in terms of environment and culture and the changes in its environment and impact of outsiders have severely deteriorated and corrupted the nature as well as the human minds. Thus, it becomes prominent to understand and implement the broad concept of sustainable economic development which is the development of economy, environment as well as human, while considering the traditions as well as cultural activities.

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