

Original Research Article

## Occupational Changes in Union Territory of Ladakh: A Study of Leh District

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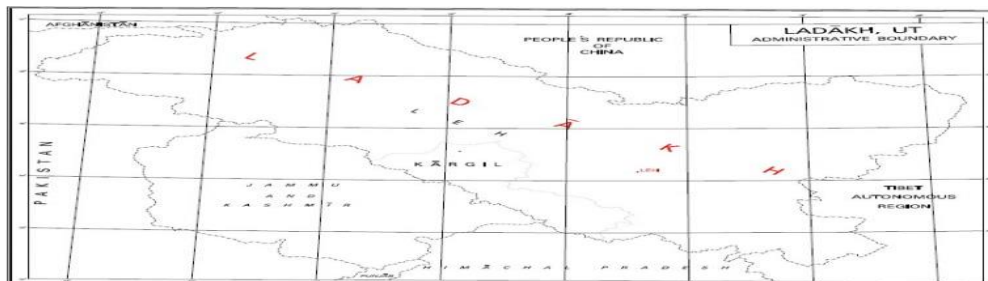
### ABSTRACT

This paper looks at occupational changes in Leh district over the last three decades. This includes the workforce engaged in agricultural sector and non-agriculture sector. The paper is completely based on secondary data, which is Census of India. The successive Census reports indicate a shift from the traditional sector i.e. agriculture to non-traditional sector i.e. service sector. This increase in non-traditional sector mostly consists of workforce in tourism, government servants, shopkeepers, military and para-military personnel etc.

### Introduction

Ladakh became a Union Territory on 31<sup>st</sup> October 2019, when the Government of India bifurcate the state of Jammu and Kashmir into two union territories, the Union Territory of Jammu & Kashmir and the Union Territory of Ladakh. Lying between 32° 15' N to 36° N Latilude and 75° 15' E to 80° E longitude, Ladakh is bounded in the north and east by China, in the North-West by Gilgit and Skardo (Pakistan) and Baramulla, Srinagar, Anantang, and Doda districts lie its west. The geographical area of Ladakh is approximately 95876 sq.km. (Singh H, 1992), which covers 70 percent of the total geographical area of the state of Jammu & Kashmir, and it is known to be the most elevated regions on planet earth.

Ladakh is not only a strategically important region, but also rich cultural heritage, home for many endanger species and biological reserves, and exotic natural beauty for travellers. Ladakh variously described by writers and travelers as broken moon-land, small Tibet, Maryul, roof of the world, the high-altitude cold desert, Ladakh is full of mountains. Ladakh indeed is unique, be it Leh (3522 mt), the highest airport in the world, Korzok (4600 mt) highest cultivated fields in the world (Chatterjee A, *et al*, 2002), Khardongla (5602 mt), the highest motorable road in the world and Siachen, the largest glacier in the world. Besides these, Ladakh is unique in many more respects including the Lamaistic Buddhist culture, highly fragile wildlife and environment. Since historical period, Leh was always capital of Ladakh, both as politically and economically.



Sources: <https://ladakh.nic.in>

Although Leh district is the second largest district in India in terms of geographical area, it has the lowest density of population across the entire country. The total geographical area of Leh district is approximately 45000 sq.km. (Economic Review, Leh District, 2009-10). The district is bordered by Pakistan occupied Kashmir in the North West, China in the north and east, Himachal Pradesh in the south and Kargil district in the west. Administratively, the district has been divided into eight Tehsils, six Sub Divisions, sixteen blocks namely and 112 inhabited and one un-inhabited villages (Economic Review, Leh District, 2014-15).

Leh district is largely barren, has a cold and arid climate. It is the land of greater contrast and extremes. The temperature goes down to (-) 35°C in winter while in summer it may be as high as 30°C (Economic Review, Leh District, 2014-15). July and August are hottest months having mean temperature of 19.4°C and 19°C respectively and January and February are the coldest month with mean temperature of -10.9°C and -8.5°C respectively (Singh H, 1992). As the district is located in the wind shadow area, the annual precipitation is very low and rarely exceeding 10 cm in most of part of the district. The most of the precipitation falls in the form of snow during winter months and summer is largely dry.

The economy of Leh was traditionally based on agriculture. Agriculture activities are mainly composed of crop production, horticulture and animal husbandry. But over the year, like rest of world economy of Ladakh also being shifting from traditional agricultural sector to non-agricultural sector, mostly to tertiary sector. Despite the significant progress made in some sector like tourism, infrastructure, and the importance of agriculture in the economy of Ladakh still continues to be very critical. Agriculture not only provides food and raw materials, but is also a source of livelihood for large share of population.

### **Agrarian Set-up in Leh**

Agriculture in Leh district was a tradition from centuries, which shaped the culture and socio-economic life of the people. The agriculture always remained as primary source of livelihood for the people. Therefore, agriculture is and will be the central strategies for planning socio-economic development of the region. Rapid growth of agriculture is essential not only to achieve self-reliance at regional level but also for household food security and to bring equity in distribution of income and wealth. Agriculture in Leh district is broadly defined to cover all land-based activities, such as cropping, animal husbandry, horticulture, and forestry and their inter linkages as well as support systems. Agriculture farming is mainly confined to the lower part of Leh, the areas situated below 4500 meters above the mean sea level and correspond with the river valleys. Consequently, only 451.76 sq.km i.e.1.004 percent of total geographical area is inhabited and within this assessed area, only 24.04 percent of land is under cultivation (Statistical Hand Book, District Leh, 2009-2010). The main crops grown are barley, buck-wheat, wheat, peas, pulses, vegetable, and oilseed and less fertile land is used for raising fodder crop of Alfalfa and fruits (mainly confined to lower part). Since rainfall is very low, the entire crops are grown with irrigation. Because of short growing season, varying from March/April to September/October, most of the area is mono-cropped. Double cropping is practiced only in a few villages of Khaltsi-Dha belt in Khaltsi block and Bogdang-Turtuk belt in Nobra block (Singh H, 1995).

The farming activities Leh includes all land-based activities, such as cropping, horticulture, animal husbandry, forestry, and their inter linkages. It is the prime source of sustenance of the people of Leh district from centuries. Farming is also the prime user of the natural resource base and protection environment in these mountain areas. Diverse farming cultures of the Leh represent various specific biophysical conditions and socio-economic circumstances of mountain communities. However, there are four broadly classified farming systems in the Leh district. A brief description of each system is provided below.

### **Food grain Farming Systems**

Food grain, Crops dominated Farming System is also known as Mixed Crops Systems. Subsistent food crops such as barley, wheat, potato and millet dominate the system with a few heads of livestock integrated with crops production. Generally, flat valley and fertile riverbed fields are used for the cultivation of major food grain crops, such as barley (*Nas*), buck-wheat (*Bro*), wheat, peas, pulses, vegetable, oilseed, and less fertile land is used for raising fodder crop of Alfalfa (*Oal*). This is a common practice in almost entire the district except in some villages of Nyuma and Durbuk block.

### **Livestock Farming Systems**

Animal rearing is one of the important farming activities in the district. This includes 100 percent livestock farming nomads (*pastoralism*), and livestock production system complemented by subsistent food grain crops farming. Animal herds graze on high pastures and rangelands during the summer. During the harsh winter of feed scarcity, they are taken to foothills and mountain valleys and graze fallow fields. Crops residues, straws and stoves supplement the feed needs. The main animals of

economic importance are sheep, goats, oxen, cows, horses, ponies, yaks, ass, camel, dzo and dzomo (*dzo and dzomo are mixed breed of yak and cow*). Pastoral farming is commonly practiced in the Changthang plateau of Nyuma and Durbuk block. The complement livestock farming is common practice in entire district.

### **Horticultural Farming Systems**

This is also called niche-based farming of high value cash (HVC) crops. Various pocket areas of mountains have extremely favourable agro-climatic and soil conditions suitable to grow variety of fruits, vegetables, vegetable seeds, spices, and herbs and medicinal plants. Apricot is main fruit crop followed by apple and walnut. Beside these, grapes and pear, and mulberry are also grown. Prime area for the horticulture in Leh is Western part of the district (*Sham*), Bogdang-Turtuk belt in Nubra sub division and some villages in Leh block.

### **Forestry Farming System**

Forestry is another complemented farming system in Leh district. Forestry is main source of timber and firewood. Due to geographical constants, there are very limited areas under natural forest in Leh district. Therefore, areas under forest cover are mainly planted. The trees consist of willow, two varieties poplar, a kind of tamarisk, the pencil-cedar (*Shukpa*), elaeagnus (*Ser-shing*) (Cunningham A, 1970, pp.218-219) and sea buckthorn. The tamarisk, pencil-cedar and sea buckthorn are indigenous and others are planted. The willow and poplar are enormous economic and socio-culture importance in daily life of the people. This is a common practice in almost entire district except in some high-elevated villages of Nyuma and Durbuk block.

### **Objective of the Study**

The objective of this paper is to analyze the change in the livelihood pattern of Leh district. The specific objectives of the study are to

- 1) Examine any shift from agricultural occupation to non-agricultural occupation.
- 2) Find out the causes of occupational changes.

### **Methodology**

The study is entirely based on secondary data. Data are collected from Census of India, 1981, 2001 and 2011. Data on workforce are relating to Industrial Classification of Workforce, i.e. four-fold classification of workforce viz. 1. Cultivators. 2. Agricultural laborers, 3. Household Industry, 4. Other workers. However, there was nine-fold classification of workforce in 1991, but census was not held in Jammu & Kashmir in 1991. Therefore, the first two categories could be termed as agricultural sector and the subsequent two items could be called non-agricultural sectors. These four-fold classification of workforce is further classified into Main and Marginal Worker. But in Census of India 1981 does not gives these four-fold classification for marginal worker and therefore, study is based on main worker only.

The change in the occupational diversification was studied with the help of Compound growth rates and net percentage change. For the purpose of this analysis, I have grouped nine-fold classification into four categories viz. cultivators, agricultural workers, household industry and other workers. The first two categories could be termed as agricultural sector and the subsequent two items could be called non-agricultural sector.

### **Occupational Changes**

The census of India categorizes the Indian population into economically active population and economically non-active population. Economically active population is also known as workforce or labour force. Economically inactive population constitutes, children, students, household workers, old aged people, etc. Economic development of any region or country depends upon the size and the quality of the labour force. In the less developed countries like India, a majority of the workers are engaged in the primary sector. On the contrary, a majority of the workers in the developed country are employed in non-agricultural sectors viz. industrial and tertiary sectors.

Traditionally, agriculture was the major livelihood option for most of the households in Leh district. Successive Census reports indicate a shift from the traditional sector i.e. agriculture to non-traditional sector i.e. service sector. As evident from table 1, the workforce engaged in agricultural and non-agricultural sector almost reversed trends in occupation structure during these three decades. During 1981-2001, the workforce engaged in agriculture sector declined from 65.84 percent to 26.43 percent

and further decline to 20.60 percent in the year 2011. Similarly, the workforce engaged in non-agriculture sector increased from 34.16 percent to 73.57 percent during 1981-2001 and 79.40 percent in the year 2011. This is mainly due to the erosion of subsistence economy at the advent of conventional development in Ladakh (Norberg H. H, 1992).

**Table 1: Workforce engaged in Agriculture & Non-Agriculture Sector in Leh District (in percentage)**

Sector	1981	2001	2011
Agriculture	65.84	26.43	20.60
Non-Agriculture	34.16	73.57	79.40
Total	100	100	100

Sources: (1) Census of India 1981, Village & Town wise Primary Census Abstract, Leh (Ladakh) District

(2) Office of the Registrar General of India, Census of India 2001, Compact Disk.

(3) Census of India 2011, www.censusindia.gov.in

Table 2 gives the four-fold classification of occupation in Leh district. In 1981, 58.54 percent of workforce was engaged as Cultivator, which declined to 25.54 percent in 2001 and 20.60 percent in 2011. The workforce engaged as Agriculture Labour was 7.36 percent in 1981 and declined to 0.89 percent in 2001. However, during 2001-2011, there was marginal increase in Agriculture Labour to 1.04 percent. Similarly, the workforce engaged as Other Labour, which largely includes the service sector was sharply increased from 33.32 percent to 72.94 percent during 1981-2001 and further increased to 78.52 percent in the year 2011. Due to various constraints, Leh is not favorable for industrialization. Because of this, percentage share of workers engaged in household industry is always remaining below 1 percent. Therefore, the workforce engaged largely as Cultivator, shift to workforce engaged as Other Labour only.

**Table 2: Occupational Distribution for Main Worker in Leh District (in percentage)**

Occupation	1981	2001	2011
Cultivator	58.48	25.54	19.56
Agriculture Labour	7.36	0.89	1.04
Household Industry	0.84	0.64	0.88
Other Worker	33.32	72.94	78.52
Total	100	100	100

Sources: (1) Census of India 1981, Village & Town wise Primary Census Abstract, Leh (Ladakh) District

(2) Office of the Registrar General of India, Census of India 2001, Compact Disk.

(3) Census of India 2011, www.censusindia.gov.in

### Causes of Occupational Changes

The occupational changes in Leh district is mainly contributed by following factors; i) Development of Tourism Industry, ii) Urbanization, iii) Increase Government Job Opportunities and iv) Workforce engage in Retail Business, v) Recruitment in Army and Para-Military Force

### Development of Tourism Industry

Ladakh was closed for international visitors until 1974; even for non-Jammu and Kashmir Indian visitors had to take special permission from the Government of India and obviously permission used to give only selected people with strong reason. Consequently, Ladakh remained in relatively isolation from rest of the world for a long period. It was only in 1974 Ladakh thrown open to the tourist by the Government of India. Since then Ladakh has become an important destination for the tourists.

With the economic development of the society, improvement in living standard of the people, more and more people are taking to travel. Unlike before, now there is growing desire amongst the international tourists to visit the economically poor

but culturally rich regions of the world. Ladakh is good example of one such region, which is economically backward but culturally rich region and it, has become an important attraction for the tourists (Sood V.K, 1999).

Tourism as a service industry, it is generally argued that some of tourism activities are well-known labour-intensive. The jobs creation is one of the major impacts of tourism development particularly at a regional or local level. At the same time because of disparate nature of the tourism industry, directly and indirectly linked with other industries, it generates employment in three types of employment. They are:

- a) Direct employment, which includes the person who work in tourism enterprises such hotel, guesthouses, restaurants, travel agents etc.,
- b) Indirect employment, which includes jobs generated in the supplying sector such as agriculture, manufacturing, transport, handicrafts etc.,
- c) Induced employment, which includes additional persons supported by sending of income made by the direct and indirect employments.

### Rate of urbanization

The process of society's transformation from a predominantly rural to a predominantly urban population is known as 'urbanization'. It includes two things — an increase in the number of people living in urban settlements, and an increase in the percentage of the population engaged in non-agricultural activities, living in such places.

Table 3 reveals that rate of urbanization in Leh district. In the year 1981, 12.75 percent of total population of Leh district lived in urban areas and after two decades i.e. in 2001, share of urban population of Leh district increased to 24.43 percent, increased by 11.68 percentage points. In the year 2011, share of urban population in Leh district rose to 34.21 percent, increased to 9.78 percentage point. It is therefore, urbanization led to occupation change in Leh district as well.

**Table 3: Rate of Urbanization & Changes in Leh (in percentage)**

Year	Leh District
1981	12.75
2001	24.43
2011	34.21
<b>Net Change 1981-2001</b>	11.68
<b>Net Change 2001-2011</b>	9.78

Sources: (1) Primary Census Abstract of Leh, Census of India 1981.

(2) Primary Census Abstract of Jammu & Kashmir (Compact Disk), Census of India 2001.

### Increase Government Job opportunities

After Government of India constituted the Ladakh Autonomous Hill Development Council (LAHDC) Leh in the year 1995, the administration, planning, work execution is being maintained by local elected councilor. Since then, there has been relatively transparent developmental activities taking place and resulted many new job opportunities has been opened, especially in social sector like health and education. With the help of various government developmental schemes, the government job opportunities in Leh are witnessed to rise and as a result large number of educated youth has been absorbed in government services.

This new opportunity is supported by increase in Literacy rate in Leh district. In the year 1981, the literacy rate in Leh was very low with 25.08 percent only. The female literacy rate was more severe condition with 12.09 percent in Leh district (as shown in table 4). However, literacy rates in urban areas were relatively better.

After two decades, i.e. in 2001, there was a significant increase in literacy rate in Leh districts. The literacy rate in Leh district increased to 58.24 percent and in the year 2011 literacy rate further increased to 80.48 percent with 33.16 percentage points and 22.24 percentage points respectively. Although there was a significant increase in female literacy rate, it is still low,

especially in the rural areas. It was also found that there is a wide gap between literacy rate in rural and urban areas of Leh districts (as shown in table 4).

This intermingled factor again led to shift in the occupation pattern towards service sector.

**Table 4: Literacy Rate & Changes in Leh (in percentage)**

Year	Leh District		
	Male	Female	Total
1981	36.59	12.09	25.08
2001	67.90	46.51	58.24
2011	89.39	64.52	80.48
<b>Net Change 1981-2001</b>	31.31	34.41	33.16
<b>Net Change 2001-2011</b>	21.49	18.01	22.24

Sources: (1) Primary Census Abstract of Leh, Census of India 1981.

(2) Primary Census Abstract of Jammu & Kashmir (Compact Disk), Census of India 2001

### Workforce Engage in Retail Business

Like a global phenomenon, the retail sector in Leh district is also an emerging market which is vibrant enough to attract a lot of employers and thus provide tremendous opportunities. With advent of tourism industry and urbanization in Leh, the number of shops in Leh district is increasing at very high rate. The table 5 shows that there were multiple times increase in the registered shops in Leh district over the years. In the year 1990-91 there were only 848 registered shops in Leh district and it is reached to 8114 shops in 2010-11. It's evident from the table 5 that rise in the number of registered shops led occupational change in Leh District.

**Table 5: Number of Registered Shop and Growth Rate**

Year	Number of Registered Shops	Growth Rate of Shop (in percentage)
1990-91	848	-
1995-96	1401	65.21
2000-01	2232	59.31
2005-06	2890	29.48
2010-11	8114	180.76

Sources: Statistical Hand Book, District Leh 2001-02, 2005-06, 2010-11

### Recruitment in Army and Para-Military Force

After Kargil war in the year 1999, the Government of India upgraded the Ladakh Scout as Ladakh Scout Regiment. Since then, the Indian Army recruited thousands of local youth in Ladakh Scout Regiment. Similarly, large number of local youth recruited in other Paramilitary forces like Jammu & Kashmir Police, Indo Tibet Border Police etc. However, the exact number of army and para-military personnel from Leh district is could not get due to security reason. This led to shortage of workforce in agriculture and rise of service sector.

### Conclusion

This study, although quantitative in terms of strict demographic analysis, presents more than a simple picture of changing occupational structure of Leh districts over the last three decades. Rather, it presents a detailed demographic picture of this Himalaya region. This paper presents more than a vague, broad-scale estimation of population change useful for policymaking and priorities of development strategies. In this regard, the following findings are drawn from this paper.

The successive Census reports indicate a shift from the traditional sector i.e. agriculture to non-traditional sector i.e. service sector. According to Census of India 2011, only 20.6 percent of main workers of Leh district were engaged in agriculture sector. Correspondingly, there was a sharp increase in non-agriculture sector. Due to the industrialization bottlenecks in

Ladakh, the main workers engaged in household industry more or less remain constant during 1981-2011. However, there was a sharp increase in main workers engaged as other workers during the same period. This increase in other workers mostly consists of workforce in tourism, government servants, retail businessperson, military and para-military personnel etc.

The analysis at a macro level is indicative of a transformatory process of urbanization and thereby, signifies that there is a trend indicating a shift from the traditional sector occupations and workforce participation to that of the non-traditional sector. This in itself speaks for the occupational mobility and also of the percolation of the knowledge empowerment.

Therefore, a broad conclusion that emerges from the analysis of occupation pattern is that the workforce has gradually shifted from the traditional to the non-traditional occupations. The larger macroeconomic implications, issues like as dimension of stability, inter-linkages and further policy suggestion is beyond scope of this paper.

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