

## URBANISATION, PROBLEMS OF MIGRATION AND ENVIRONMENTAL CHALLENGES IN UTTARAKHAND

*Pushpanjali Arya, Jagdish Chandra & Akanksha Arya*

*Associate Professor, R.S.R Government Degree College, Barkot (Uttarkashi), India*

*Assistant Professor, R.S.R Government Degree College, Barkot (Uttarkashi), Uttarakhand, India*

*Research Scholar, Govt. P.G. College Kotdwara, Uttarakhand, India*

**Received: 24 Jun 2020**

**Accepted: 01 Jul 2020**

**Published: 15 Jul 2020**

### **ABSTRACT**

*In the beginning of the human civilization the pattern of most of the human settlements was rural in nature. Most of the urban settlements have developed from the rural settlements. Prior to the Industrial Revolution the world's population resided in rural settlements, but the period that followed the Industrial Revolution witnessed rapid migration of rural population to the towns and cities. This trend led to the speedy increase in the population in the towns and cities. Besides, many urban settlements emerged as centers of trade and industrial activity, hence attracted people from other areas. People kept coming in large numbers in search of better employment opportunities and high incomes. The 19<sup>th</sup> Century was the century of Industrialization and Urbanization. The uncontrolled urbanization has led to the overcrowding in the urban areas leading to over consumption of natural resources, increase in pressure of population on land, decreasing land man ratio, disturbing the land use pattern of the region, increasing the problem of waste disposal, thus causing serious ecological and environmental crisis. Today the modern society must realize that luxury and comfort of urbanization cannot be achieved at the cost of environmental degradation. Environment conservation measures need to be implemented at the earliest. This paper seeks to study urbanization in Uttarakhand with special reference to Dehradun (U.K) and at the same time highlights environmental challenges of urbanization. We have to conserve the environment for the rich biological diversity, natural resources or aesthetic value and for man's very survival.*

**KEYWORDS:** *Civilization, Migration, Urbanization, Environment, Population, Uttarakhand*

### **INTRODUCTION**

In the beginning of the human civilization the pattern of most of the human settlements was rural in nature. Most of the urban settlements developed from the rural settlements. Prior to the Industrial revolution the world's population resided in rural areas, but the period after the Industrial revolution witnessed rapid migration of rural population to the towns and cities. The population in the towns and cities rapidly increased. Besides, many urban settlements emerged as centres of trade and industrial activity, hence attracted people from other areas. People kept coming in large numbers in search of better employment opportunities and high incomes. The 19th century was the century of Industrialization and Urbanization. All the countries of the world witnessed the process of urbanization with variation is the rate of urbanization. Being a global phenomenon and fast growing urban centers, the present era is sometimes referred to as "Age of Urbanization". After industrialization the world's second largest revolution in the recent times may be considered as

Urbanization. Urbanization in the recent times has become a matter of considerable interest and importance to the social scientists, demographers, economists, planners, policy makers, administrators and particular by the environmentalists. Urbanization is a natural consequence of economic development. Traditionally, it is characterized by the movement of an increasing population from rural areas to urban areas. The movement of the people from communities concerned chiefly with agriculture to the communities generally larger whose activities are primarily centered in government, trade, manufacturing or allied interest is urbanization. In fact, urbanization occurs when the rate of growth of urban population is greater than the rate of growth of rural population (non-urban) of the country. In general, urbanization represents a process of growth in which impetus is given to the development of cities. It is the outcome of various changes taking place in the society, particularly in the economic sphere. It is a process of redistribution from the rural to the urban communities from one region to another. Urbanization implies changes in the nature of people activities in the ratio between population engaged in agricultural activities and rest of the population.

### **Urbanization in India: A Brief History**

The most striking feature of India urbanization is its long tradition. True urban life found its full expression in India and it began first in the valley of Indus with its mature phase at the principal site of Mohenjo-Daro dated to 2500 BC. (Roa, 1995) The two cities Harappa and Mohenjo-Daro nearly 400 miles apart, acted as twin capitals of the Indus Empire (Bridget,). Both developed into the Metropolitan cities in the urban system of Indus civilization. "Both seem to have conformed to certain distinctive and evolved principals of urban planning " providing the first example of planned cities in the world (Wheeler, 1966). Urbanization is often used to denote the level of population concentration in an urban area. Neither the Muslims historians nor the European travelers visiting India at the time of different Muslim rulers mention that might lead us to believe that they were positively keen on urban development in the proper sense of the term. Inspire of that the urban development reached its flourishing stage and does not appear to have slackened at all throughout the entire stretch of the medieval and the later period. Great number of cities and towns spread over the vast canvas of the country made urbanization far more stable than it was in the earlier centuries. The opening of the 16<sup>th</sup> century had a deep impact on the later course of urbanization in the country. The rise of European settlement in India beginning in 1500AD, with the establishment of the first Portuguese factory at Calicut, as closely linked with the course of urbanization during the period. The European settlements added new dimensions to Indian urbanization, they brought with them different sense of urban life which found expressions buildings and other constructions. The urbanization process diffused to other parts of the country under the impact of varied forces operating during the ancient (from early times to 1206AD) medieval (1206AD to 1757AD) and modern (1757AD till date) periods of Indian history. India's urban pattern is a mosaic of segments belonging to the pre-colonial, colonial and post colonial period despite its long urban history spanning over nearly five millennia, India remains one of the less urbanized countries of the world. When it entered the 20th century, it was one-third urban; it was around one-sixth urban at the time of independence. Urbanization in India began to accelerate after independence after we adopted the mixed economy. The development of the private sector the urbanization is taking place a rapid rate/faster rate.

### **Urban Area in India**

In India, since 1961, a rigorous definition of urban area has been adopted; an urban area is defined as:

All statutory towns, i.e. all places within a municipality corporation, municipal boards, cantonment boards or notified town area committees etc

**All Other Places Which Satisfy the Following Criteria**

- A minimum population of 5000.
- At least 75 % of male working population engaged in non-agricultural pursuits and.
- A density of population of at least 400 persons per square kilometer.

This definition adopted on 1971, 1981,1991,2001,2011 comes was similar to that of 1961.

**Rural-Urban Distribution of Population Census of India 2011**

Government released census 2011 data related to rural- urban population of July 15, 2011. As per statistics, out of country's total population of 121 crore, the 83.3 crore population lives in rural areas and 37.7 crore population resides in urban areas, thus 68.84 % population is rural based and 31.16 % population of the country is urban based. As per 2001 census rural-urban distribution of population was 72.19 % and 27.81 % respectively. During the period 2001-2011, the level urbanization increased from 28.81 % to 31.16 %, while the proportion of the rural population declined from 72.19 % to 68.84 %. During the decade, 2001-2011, urban population size increased by 9.10 crore while the rural population went up by 9.05 crore. Urbanization in India has followed "Macro cephalic pattern," i.e. disproportionately high growth rates of population in mega cities. The cores of the big cities and the periphery exhibit greater differences in opulence and quality of life in the cities. Many cities have become unmanageable and ungovernable.

**India Urbanization "In Utter Need of Reforms: World Bank"**

Terming India's urbanization as "Messy and hidden" a World Bank report called for initiatives at the policy and institutional level to tap the economic potential it offers. The World Bank said there has been difficulty in dealing with the pressures that increased urban population puts on basic services, infrastructure, land, housing, and environment, fostering "Messy and Hidden" urbanization.

**Urbanization in Uttarakhand**

On 9th November 2000 the State of Uttarachal and the 27<sup>th</sup> State of India, was carved out of Uttar Pradesh and in 2007 the New State changed its name to Uttarakhand meaning "North Region", which is the traditional name of the area. Its Capital is Dehradun. Uttarakhand has two main divisions- Garhwal Division comprising of districts- Dehradun, Haridwar, Uttarkashi, Tehri Garhwal, Pauri Garhwal, Chamoli, Rudraprayag, and the Kumaon Division comprising of -Nainital, Almora, Pithoragarh, Udham Singh Nagar, Bageshwar, Champawat. Uttarakhand has a total geographic area of 53483sq. km. of which 86 % is mountainous and 65 % is covered by forest, with density of population 189 sq. km. (2011 census). Chorologically, speaking, Dehradun, Tehri, Pauri, Nainital are the oldest districts which were in existence even when the British took over part of Garhwal after the Treaty of Singular in 1815. In Uttarakhand the total number of towns/urban agglomeration are 86 (Municipal Corporation 01, Nagar Palika Parishad 31, Nagar Panchayat 31, Cantonment Boards 09, Industrial Townships 02, Census Towns 12 ). These towns were originally rural settlements and got converted into towns in later stages. Uttarakhand is popularly known as 'Dev Bhoomi' (The Lands of Gods) and is the heart of famous pilgrim places like Badrinath, Kedarnath, Gangotri, Yumunotri, Hemkund Sabih, Rishikesh, Hardwar and the others.

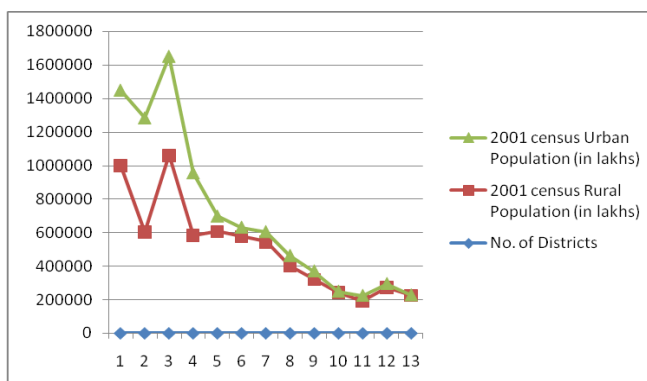
Table 1 shows the towns became the stoppage centers of pilgrims coming from different parts of the country during yatra season. Later the trade and commerce in the area developed these places into small towns, small to medium

towns, and converted them into mega cities in later stages. Uttarakhand is primarily rural in nature but there has been an increasing trend of urbanization in the State. Uttarakhand is presently facing rapid pace of urbanization especially in the popular districts like Dehradun, Nainital, Haridwar, Udham Singh Nagar. As per 2011 census the total population of the State of Uttarakhand is 10,086,292 of which 7,036,954 is rural population and 3,049,338 is urban population (including cantonments and census towns). As per 2001 census the total population of the State of Uttarakhand was 8,489,349 of which 6,310,275 was rural population and 2,179,074 was urban population (including cantonments and census towns). The urban population in the last 10 years has increased by 30.23 %. The overall urbanization rate which is around 30.2 % of Uttarakhand is comparable with the national average of 31.2 %. Urban population of the state is mainly concentrated in bigger cities like Dehradun, Haridwar, Udham Singh Nagar, Nainital. Most of the urban settlements in Uttarakhand have developed in an unsustainable, unplanned manner causing immense pressure on the urban infrastructure and services resulting in degradation of urban environment and natural resources.

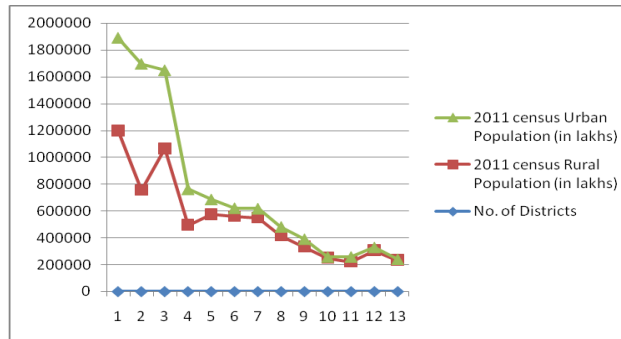
Figure 2 shows Districts numbers is 1. Haridwar, 2 Dehradun 3. Udham Singh Nagar, 4. Nainital, 5 Pauri Garhwal, 6. Almora, 7. Tehri Garhwal, 8. Pithoragarh, 9. Chamoli, 10. Bageshwar, 11. Champawat, 12. Uttarkashi, 13. Rudryaprayag.)

**Table 1: District-Wise Population of Uttarakhand in 2001 And 2011 Census**

S.No	Districts	2001 Census			2011 Census		
		Total Population (in Lakhs)	Rural Population (in Lakhs)	Urban Population (in Lakhs)	Total Population (in Lakhs)	Rural Population (in Lakhs)	Urban Population (in Lakhs)
1.	Haridwar	1447187	1000912	446275	1890422	1197328	693094
2.	Dehradun	1282143	603401	678742	1696694	754753	941941
3.	Udham Singh Nagar	1235614	1062142	586760	1648902	1062142	586760
4.	Nainital	954605	582871	371734	762909	493859	269050
5.	Pauri Garhwal	697078	607203	89875	687271	574568	112703
6.	Almora	630567	576062	54505	622506	560192	62314
7.	Tehri Garhwal	604747	544901	59846	618931	548792	70139
8.	Pithoragarh	462289	402456	59833	483439	413834	69605
9.	Chamoli	370359	319656	50703	391605	332209	59396
10.	Bageshwar	249462	241659	7803	259898	250819	9079
11.	Champawat	224542	190764	33778	259648	221305	38343
12.	Uttarkashi	295013	272095	22918	330086	305781	24305
13.	Rudryaprayag	227439	224707	2732	242285	232360	9925
<b>Total and Percentage</b>		<b>8489349</b>	<b>6310275</b> (74.36 %)	<b>2179074</b> (25.7 %)	<b>10086292</b>	<b>7036954</b> (69.77 %)	<b>3049338</b> (30.23 %)



**Figure 1: Digram of Rural And Urban Population of 13 Districts of Uttarakhand as Per Census 2001.**



**Figure 2: Digram Of Rural And Urban Population Of 13 Districts Of Uttarakhand As Per Census 2011.**

### Environment and Urbanization

Chesunclam, francs (1984) "Urbanization in Developing Countries," Himalaya Publishing House, Born bay. Analyzed the urbanization process on developing countries, According to him, urban population has increased at a higher rate than the rural population. He also discussed the implications of urbanization on sub-urban areas. He pointed out that if urban explosion is not checked effectively rural characteristics will be completely vanished in the 21st century.

### Environmental Challenges of Urbanization

Urbanization and developmental activities have made a profound impact on the environment of the cities of Uttarakhand. Environmental problems are more pronounced in these growing cities than in rural areas. Today urban settlements of Uttarakhand are a collection of competing individual's. Thus urbanization is causing serious ecological and environmental problems in the state.

### Increasing Environmental Pollution

Vehicular and industrial emissions are the major sources of air pollution in the urban areas of Uttarakhand. An increasing number of vehicles in the cities have led to air pollution due to vehicular emissions. The rapid industrialization in the state has led to the setting up of factories which produce poisonous smoke and effluents into the environment deteriorating the air and water quality. This increase in the level of pollution is engulfing the hill state of Uttarakhand. The air in the city is contaminated with toxic chemicals like carbon mono oxide (CO), oxides of sulphur and nitrogen reactive hydrocarbons, heavy metal lead and organic compounds. The oxides of nitrogen and the VOCs undergo photochemical reaction to produce deadly smog.

### Increasing Noise Intensities

Increasing noise intensity is a growing phenomenon in the city due to overcrowding of both humans and the automobiles. This heavy traffic on the roads creates chaos in the environment. The ugly culture of 'honking horns' in the cities is a ridiculous feature In Uttarakhand the total number of towns / urban agglomeration are 86 (Municipal Corporation 01, Nagar Palika Doon valley once a silent valley is no more silent today.

### Degradation of Arable and Gradation of Arable and Fertile Land Around Cities

The urgent need for urbanization has created increasing demand for land, housing, transport, water supply, sanitation and health facilities leading to development of buildings, houses, multi-complexes, shops, industries in an unplanned manner

causing spoilage of landscape by converting agricultural land and forest cover putting more pressure on the already stressed ecosystem. This also disturbs the land use pattern of the region.

### **Biodiversity Erosion**

Biodiversity of a particular region has an important role in environmental balance. But the urban expansion has resulted in removal of trees, bushes, and has eroded the local, natural biodiversity of the region. For instance Dehradun once an area filled with trees and shrubs is now filled with multistoried apartments, shops, complexes and residential houses.

### **Vertical Cities**

Increasing population in cities and reduction in land has lead to low land man ratio. The urban planners find it difficult to expand horizontally on land so they are looking towards the sky planning for vertical expansion, developing vertical cities or the skyscrapers discarding the ecological consequences of such housing development. The culture of skyscrapers and high rise multistoried buildings are increasing in Dehradun, Haridwar and other towns of Uttarakhand. These create many health and environmental problems. The natural jungles of trees have been replaced by concrete jungles of stone and bricks. They are heat islands in the city.

### **Piling Urban Waste**

Urbanization has lead to a tremendous increase in solid waste. The city has become the major centre of waste generation. The waste from human beings and animals, domestic wastes (food scrapes, vegetables, cow dung, etc), industrial wastes (metals, oil spills etc), commercial wastes (plastics, packaging materials, used papers, thermo cols etc), agricultural wastes (silt from irrigation practices, wastes from farms and poultry etc), the garbage from offices and business establishments, hospitals and medical clinics. Tones of such wastes are daily produced which have to be safely disposed off. But the lack of inadequate collection and lack of effective disposal system has created several environmental problems like ground water pollution, air pollution, diseases. For instance river Rispana in Dehradun once a barsati river was wide and deep. But the encroachment has made it a narrow nala. Many of the milk dairies are situated near the river and the waste is excreted into the river. It has become a convenient place of solid waste disposal.

### **Migration Is a Problem of Uttarakhand in Present Time**

Migration is a major problem in Uttarakhand. Due to lack of resources and employment opportunities the youth are working in other areas of the country, health education and physical resources in the remote areas of Uttarakhand are also not good and people are migrating to urban areas very fast. When the State was formed, people did not expect it, but the governments did not formulate any concrete policy. In view of the migration situation, the government constituted the migration commission on 17<sup>th</sup> September 2017 and the commission submitted the first report to the government in the year 2018. According to the report, thousands of villages have been completely evacuated in the state, while there are 405 villages with less than 10 civilians. In 2011, 1034 villages of Uttarakhand were vacant and 1734 villages have been evacuated till 2018. More than 350000 houses are lying desolate in the state. In Uttarakhand, 42.2 % of the people are young in the age group of 26 to 35. As per the migration commission report, the monthly income of 73 % of households is less than 5000 rupees.

### Role of Plant and Agriculture in Preventing Migration in Uttarakhand

Himalaya is a global biodiversity hotspot with much diversified geographical, ecological and evolutionary factors for species diversity which support 18,440 species of plants of which 25.3 % is of endemic (Singh and Hajra 1996, Samant et al, 1998). The Indian state Uttarakhand located in Himalayan hotspot having a huge wild diversity which occupies 17.3 % of India's total land area including 92.57 % area under hills and 7.43 % under plains (Dwivedi *et al.* 2019). Uttarakhand is a hilly state, world famous for its scenic beauty, unique culture, climate, wild flora and fauna. In terms of development, the biggest problem in Uttarakhand is also the most hill terrain where heavy industries cannot be established in difficult areas, as a result of which it has to depend on the plains. Agriculture in Uttarakhand is entirely dependent on weather and climate and most of the agriculture sector does not have irrigation facilities. If there is no timely rainfall crop failure climate change like drought, hailstorm, excessive rainfall, unnecessary timely rainfall also damages the crops. The crops in rural areas are suffering a lot by wild animals, stray animals and monkeys. So that people have lost faith in the agriculture work and people are gradually stopping doing agricultural work (Sharma, 2019). The entire Himalayan region is known for the biodiversity of both types of flora and fauna. Many species in the flora world give life to human beings. Being an intelligent organism, human beings have identified many plant species that cater to the needs of its habitat, food, fiber, fuel, medicine and fodder for its pets etc (Mehta et al). According to Mehta et al., 61 descendants of 39 clans of medicinal 78 plant species found in Uttarakhand are involved. These plants, which are used by the tribes, are used to diagnose 68 types of diseases. Out of a total of 78 plant species, 26 herbs are used as root and tubers, 20 leaves, 03 fruits, entire parts of 10 including root, 07 seeds, flowers of 07, stem of 01, rootless air route part of 04, rhizome of 01, vegetable milk (latex) of 02, and 01 glue as medicine. These plant species can be used to be important in the upliftment of rural society, today it has become very important to conserve this knowledge, increase resources, conserve plants in their natural habitat and save them in favorable habitat. In Uttarakhand, proper marketing arrangements should be made by promoting agriculture sector, Horticulture, fruits production, fruit-made food items and medicinal plants, thereby providing employment to youth and improving the economic condition of the villagers. Perfection is organic farming in the mountains and the food produced is highly nutritious. Rajma, Manduwa, Soyabeen, Choulai, Medicinal plants and Lichen are marketed in hilly areas. Migration can be prevented in this area by doing this in a larger way and the economic situation in Uttarakhand can be further strengthened.

### CONCLUSIONS

All the countries of the world witnessed the process of urbanization with variations in the rate of urbanization. Today the world cities are growing unsustainably at an unprecedented rate. In the 19<sup>th</sup> Century only 3 % of the population lived in cities and by the end of the 20<sup>th</sup> century 47 % i.e. almost half of the world population were concentrated in the urban areas. Although the development of city in unsustainable manner and helped the world economy but has degraded the ecology. It has given birth to social and environmental problems. No city in the world today is environmentally sustainable. Uttarakhand is presently facing rapid pace of urbanization especially in popular districts like Deharadun, Nanital, Haridwar, Udham Singh Nagar. The overall urbanization rate of Uttarakhand is comparable with the national average. Migration to Uttarakhand with a formidable geographical structure emerged as a major problem. Ever since the state of Uttarakhand came into existence, the exodus has been increasing continuously. Migration today, social public awakening is becoming a national issue associated with the crisis of protecting human rights values and losing its cultural identity. For the last few years, whether it is the mountain dwellers of the migrant people living in remote areas, they are compelled to

suffer the curse of migration. Uttarakhand is a hilly state where employment, roads, marketing, health, telecommunication etc, are facing basic problems. That is why the people here are constantly migrating to cities, which is continuously promoting urbanization. Small towns and towns are converting into big towns. Uttarakhand is home to fruits, organic farming and medicinal plants, but no concrete policy was formulated by the Government in this direction. Therefore, there is no economic cooperation in the livelihood of the people here. In a concrete policy should be formulated by the government to strengthen the economic condition of the rural people of Uttarakhand and mobilize basic resources to protect the crop of villagers. The villagers should provide support for increasing the yield of crop horticulture, fruits and medicinal plants. The people here are poor, with the cooperation of the government, Uttarakhand can be made self-reliant.

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