

# Urban Development and the Role of Infrastructure in the state of Uttarakhand: An Overview

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## ABSTRACT

Urbanization refers to the mass movement of populations from rural to urban settings and the consequent physical changes to urban settings. In 2018, the United Nations estimated that more than half the world's population now lives in urban areas and by 2041; this figure will increase to 6 billion people. Over 34% of India's current population lives in urban areas (UN World Urbanisation Prospects Report 2018). It has expanded rapidly as an increasing number of people migrate to towns and cities in search of economic opportunity. Rapid urbanization has necessitated the ULB's (urban local bodies) to develop both physical and social infrastructure in the urban areas not only to provide a better living environment for the citizens but also to make the urban centres the focal point of growth and economic development and attract investment opportunity. The present study covering the current status of urbanisation and infrastructure in the state of Uttarakhand.

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## 1. Introduction

Today, a half of the world's population lived in cities. By 2050, City dwellers are expected to account for more than two third of the world population (WEF Report 2015). This Rapid rise in urbanization will mainly take place in developing countries. India has the second largest population in the world and most of it lives in the 393 cities that have population of over one lakh. Urban population of India have increased from 28.6% in 2001 to 37.7% in 2011. The Urban population of India is growing at much faster rate than the overall growth rate of population growth .many people are moving to cities because of the available opportunities and the availability of infrastructure facilities. Urbanization is linked to economic growth and dynamic form of urban pattern in transforming the urban morphology, environment, social economic and physical aspect of a specific area. Increase in Urban population has put immense pressure on urban infrastructure. Urban infrastructure mainly refers to physical and social infrastructure as such as transport network, electricity, water supply, communication means, banks, sewerage system, educational institutions, health facilities and recreational facilities etc., availability of which determines the level of development of an area. Availability of good infrastructure is the key input in economic and social growth. There is a close link between the development of infrastructure and sustainable development of a region.

## 2. Objectives of the Study

The present study has been conducted with the following main objectives;

1. To study the status of Urban Development and infrastructure services in the state.
2. To study the emerging Trends and patterns in urbanization in Uttarakhand and their implications on urban infrastructure.

## 3. Methodology

Present study is based on mainly secondary data collected from published and documented sources .The internet sources have also been tapped to get Pertinent literature on the subject of research. The previous surveys, reports, studies have been consulted and reviewed critically to get insights on the topic of research. Findings are presented in the form of charts and diagrams.

## 4. Study Area

The Uttarakhand is located at extreme side of Himalayan range sharing it International boundaries with China in the Northern side, Nepal in the Eastern side, and Himachal Pradesh in the Western side, and with U.P in the southern side. The state is endowed with vast natural resources and has potential for development in the sector of tourism. It spread over 53,883 square kilometre which accounts for 1.63% of the total geographical area of India. Currently density in Uttarakhand is 189 per square kilometre which stands less than the national average density of India currently being at 382. The state population has reached approximately 10.1 lakh with an increase of 19.17 % from past decade. Uttarakhand feeds 0.84% of India's total population. The state has literacy rate of 79.63% which is above the national average of 74.04%.

## 5. Urban Development in the state of Uttarakhand:

Uttarakhand is the rural Centre state but presently facing Rapid pace of urbanization especially in some districts like Dehradun, Nainital, Haridwar and Udham Singh Nagar. As per Census 2011 the Urban population of the state of Uttarakhand is 30.5 lakh including cantonments and census town. The overall urbanisation rate which is around 30.2% of Uttarakhand is comparable with National average of 31.2%. However, it is noteworthy that the average annual urban growth rate of 4% is much higher compared to rural growth rate 1.2 % of the state.

Urban population of the state is mainly concentrated in bigger towns of Dehradun (5.75 lakh), Haridwar(2.31lakh) and the smaller towns located in agriculturally rich and industrially developed southern part of the state example Rudrapur,Roorkee,Kashipur and Haldwani.(udd.uk.gov.in). This phenomenon has led to a tremendous pressure on civic

infrastructure systems as water supply, sewerage, drainage, solid waste management, transport etc. It had also led to deterioration in the quality of city environment. In several cities, the problems of traffic congestion, pollution, poverty, urban slums, crime, and social unrest are assuming alarming proportions.

Table 1 Urbanization Scenario in the state with Comparison to National Growth.

Census year	Total population (Millions)		Urban population (Millions)		Percentage of Urban population	
	India	Uttarakhand	India	Uttarakhand	India	Uttarakhand
1951	361.23	2.5	62.44	0.2	17.3	11.7
1961	439.23	3.1	78.13	0.3	18.0	12.1
1971	548.15	3.8	109.11	0.5	19.9	14.7
1981	159.46	5.7	159.56	1.1	23.3	20.1
1991	846.30	7.0	217.61	1.6	25.7	22.8
2001	1048.15	8.4	296.97	2.1	27.8	25.6
2011	1210.19	10.1	377.0	3.0	31.2	30.55

Source: census, 2011.

Figure 1 Growing trend of urbanisation in Uttarakhand

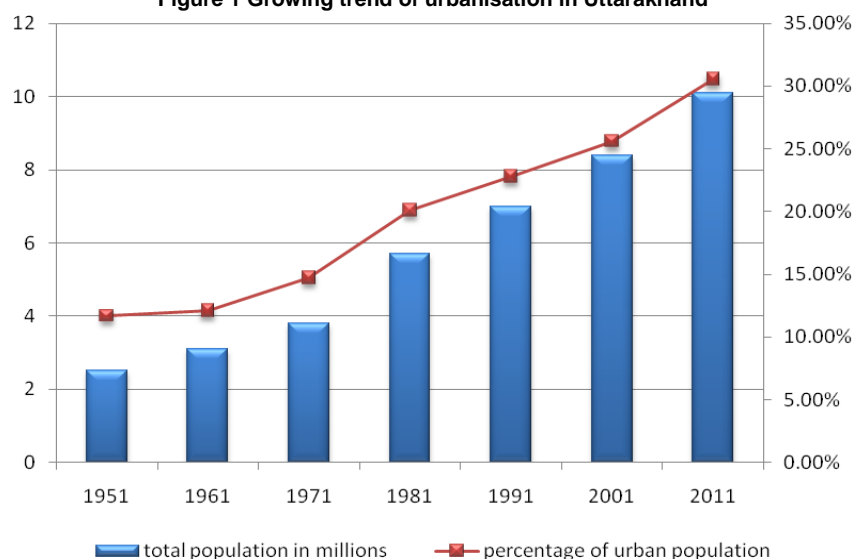


Table 2 Urban Local Bodies in Uttarakhand

Category	Number	Name
Municipal corporation	08	Dehradun, Haldwani, Haridwar, Kashipur, Rudrapur, Roorkee, Kotdwar, Rishikesh
Nagar palikaparishad	41	Alomar, Bageshwar, Bajpur, Barkot Bhowali, Chamba, Champawat, chilyanaula, chinyalisaur, Devprayag, Dharchula, Didihat, Doiwala, Dugadda, Gadarpur, Gauchar, Gopeshwar, Herbertpur, Jaspur, Jyotirmath, Karnaprayag, Khatima, Kichcha, Laksar, MahuaKheraganj, Manglaur, Muni kireti, Mussoorie, Nainital, Narendranagar, Pauri, Pithoragarh, Ramnagar, Rudraprayag, Shivaliknagar, Sitarganj, Srinagar, Tanakpur, Tehri, Uttarkashi, Vikasnagar
Nagar panchayat	43	Agastmuni, Badrinath, Banbasa, Berinag, Bhagwanpur, Bhatrojkhan, Bhikiyasain, Bhimtal, Chamiyala, Dineshpur, Dwarahat, Gairsan, Gaja, Gangolihat, Gangotri, Ghansali, Gularbhoj, Jhabrera, Kaladhungi, Kapkot, Kedarnath, Kelakhara, Kirtinagar, Lalkuan, Lambgaon, Ladhaura, Lohaghat, Mahua dabra haripura, Nanakmatta, Nandaprayag, Naugaon, Pipalkoti, Pirankaliyar, Pokhari, Purola, Satpuli, Selakui, Shaktigarh, Sultanpur, Swargashram, Tharali, Tilwara, Ukhimath
Cantonments board	09	Almora Cantonment, Chakrata, Clement town, Dehradun cantonment, Landour, Lansdowne, Nainital Cantonment, Ranikhet, Roorkee Cantonment

Source: census, 2011. Department of planning, directorate of economics and statistics.

## 6. Urban Development Challenges

- Expansion of municipal limits-the local bodies, most of which are cash-strapped and already struggling to maintain civic facilities in their existing areas;- will be required to extend services to the newly incorporated rural areas, and posing a urban development challenge for the authority.
- Uttarakhand faces the challenge of having to mobilize sufficient resources both financial and human -to ensure the provisioning of basic social services including affordable housing, safe drinking water and sanitation, public schools and health care facilities.
- Cities and municipalities often may not have the revenue generating capacity to build adequate garbage disposal and sewerage system plan for adequate urban public transport infrastructure and services, both in quantity and quality, to keep traffic congestion, accidents and air pollution under check.

**Infrastructural Facilities in the State:** Any planning meant for the development of a region depends a good deal upon the infrastructural facilities. Without these facilities no planning be successful in any region.

A- **Transport**-Good quality of roads and their connectivity is the main requirement for the process and any type of development. it has been stated that the because of topographical complexities and the climatic conditions the proper Road net is not possible. much of the states area is still inaccessible. Total length of metalled road is 26426km in the state.50% of the roads are located in 4 district, 16.2% in PauriGarhwal, 13.2% in Dehradun, 11.0 2% in TehriGarhwal and 9.89 percent in Nainital.(statistical diary 2017-18.). total no. Of Railway station in the state is 42. The main railways stations are Dehradun, Hardwar, Roorkee, Kotdwar, Kashipur, Haldwani, Ramnagar and Kathgodam. The state has five domestic airports: Pantnagar airports(U.S.N), Nainisaini airports (Pithoragarh), Bharkot airports(uttarkashi), and Gaucher airports(chamoli)

A.Transport					
Year	National highways	State highways	District roads	Railways stations	Airports
(up to march 2018)	2091 km	4479 km	2036 km	42	5

Source P.W.D, uttarakhand, Indian railway

B- **Electricity**- The state is almost electrified state in the country. In some of the remote locations where the villagers are generally isolated, the power is supplied by Mini Hydel project and also by solar energy. The state is gifted by nature with rivers like Ganga, Yamuna, Kosi etc. So provides an ideal

location for hydropower development. As mentioned in the below table, currently the production of electricity is 4152.78 MU and the demand of electricity is 10681.85 MU, which is very high.

B.Electricity			
year	Installed capacity(MW)	Total electricity production(MU)	Total electricity demand(MU)
Up to dec 2018	1292.10	4152.78	10681.85

Source- uttarakhand power corporation ltd.

C- **Water supply and sewerage network**-There are 92 local bodies in Uttarakhand out of which 8 are Nagar Nigam, 41 are Nagar Palika Parishad and 43 are Nagar Panchayat. out of these water supply in 69 cities is less than 135 lpcd.(litre per capita per day). Swargashram, Devprayag and Shri Badrinath cities are having highest sewerage network coverage in the state which are 95%, 90% and 90% respectively. According to peyjal Nigam, sewerage generation is happening in 26 cities

and 27 sewerage treatment plant have been established in 14 cities with the capacity of 175.94 MLD(million liters per day) and 24 STP(sewerage treatment plant) is proposed for future with the capacity of 149.55 MLD. At present the construction of sewerage network, 1108.37 km is complete in the state with the capacity of 190 MLD . A 650 km sewerage network of 70 MLD capacity is under construction.

C.Water supply/sewerage network				
year	Water supply in U.L.B	Sewerage network	Capacity of sewerage generation	Sewerage treatment plant
2018	135 lpcd	1,108.37 km	190 mld	27

Source: peyjal nigam & economic survey 2017-18, uttarakhand

D- **Solid waste Generation**- solid waste management is a basic and essential service provided by municipalities to keep urban Centres neat and clean. Generation of solid waste is a part of human culture and has emerged as an environmental

challenges due to poorly rendered Civic services. Currently, the total (90 ULB) solid waste generation in the state is 1527.45 ton. total dumping sites are 42.

D.Solid waste Generation status				
year	Solid waste Generation (TPD)	Collected	Treated	Total no. Of existing dumpsites
2018	1527.45ton	1437.4ton	524ton	42

Source: Annual report, pollution board of uttarakhand

E- **Educational facilities**-educational facilities are the crucial strategic factor in the development process .provision of good schools and colleges are very much needed for proper

development. The level of educational facilities are mentioned in the above Table 3. For the higher Technical Education 1 IIT and 1 IIM situated in the state.

E. Educational facilities		
Schools or colleges	Total no.	No. of schools or colleges per lakh population
Primary school	19178	190.7
Secondary school	7674	76.08
State college	123	1.21
State univ.	12	0.11
Polytechnic	128	1.26
Pharmacy	33	0.32
I.I.T	1	-
I.I.M	1	-
Engineering colleges	34	0.33

Source: Economic survey 2018, directorate of economics and statistics

F- **Communication means** -the post office and telephone services have also play important role in the development of a regions. These days with the popularity of individual cell phone mobile phones, the public telephone

services have lost its importance. Now a days the computer and internet have given new revolution in the field of communication.

F. Communication means		
means	Total no.	No. Of communication means per lakh population
Post office	2723	26.9
P.c.o	1108	10.9
Telephone	103452	1025.

Source: postal deptt./BSNL uttarakhand Division, quoted by statistical diary uttarakhand, 2017-18.

G- **Banking and institutional finance**-the capacity of different types of banks serving in the area also determine the level of economic state of the region. The total number of Bank branches in the state are 2366.

G. Banking and institutional finance		
Year	Total no. Of bank branches	Population in thousand per bank branch
2018	2366	4263

Source: state level banker committee, uttarakhand

H- **Health care facilities**- Infrastructure development depends on the provision of proper Healthcare facilities. In the state, there are 57 district and Sub District Hospitals, 80

community Hospital centre and 578 Primary Health Centre and 1897 other medical units are operated.

H. Health services		
services	Total no.	No. Of hospitals per lakh population
Primary health care	578	5.73
Community health care	80	0.79
District hospitals	57	0.56

Source: medical, Health and family welfare deptt. uttarakhand (2017-18).

**Impact of infrastructural facilities on urban development:** Urban Development means the provision of basic services to the people but urban centres in Uttarakhand presents a grim picture with regard to the availability of these. It is widely accepted that insufficiency and imbalance of infrastructural facilities have a negative impact on the economic growth and the development of the people in the state. There is a gap between demand and availability in infrastructure facilities and services. The study has indicated that a large segments of Urban population do not have access to basic services. Thus Urban Sector suffers from inadequacy in infrastructural facilities. Moreover it is also necessary to know that the sight of filth, choked sewerage, heap of garbage, pitiable condition of street is basically the reflection of culturally poverty of a social groups or a cumulative bias of municipal governance towards them or a combination of both.

## 7. Conclusions

Poorly managed and unplanned urbanization can make the lives of residents as well as migrants to cities extremely vulnerable. During 2001 to 2011 Uttarakhand witnessed high rates of urbanization. The States Urban population grew by almost 40% and the share of Urban population in total population went up from around 26% in 2001 to over 30% in 2011. Towns have also grown in the size and there have been the burgeoning of a large number of urban centres. Village adjoining urban areas especially in the plains districts of Udham Singh Nagar, Haridwar and Dehradun as well as in the hill districts of Nainital have witnessed rapid Urbanization. This is indicator of the likely increase in the demand of infrastructural facilities and services that could arise due to urbanisation.

The urban infrastructure facilities are average as compared to other states of India. The smaller and medium town in the state of Uttarakhand do not have proper infrastructure facilities such as water supply and wastewater management and storm water and solid waste management and so on. This is high time to mobilize resources for financing urban infrastructure and . we need to expand physical infrastructure roads , Railways, drinking water and water networks and all electrical power- to satisfy the aspiration and rising expectations of our citizen. much of the existing infrastructure is old worn and over exploited it needs to be rebuilt Re furnished and maintained. The problems are not only associated with the accessibility of basic services to all the Urban population in the state but also of their inequitable distribution among the different section of population. As the way forward, in attempting to bring inclusive Urban Development, the state needs to priorities on the following:

- Health and education facilities expanded and strengthened with adequate manpower and infrastructure.
- Infrastructure like Road rail and their services made more efficient in the hill districts for better connectivity.
- Urban areas should be made through GIS and Remote Sensing for planned Urban Development in Uttarakhand.
- The feedback of citizens regarding quality and coverage of services provided by Agencies may increase accountability and efficiency in Service Delivery.

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