



Urbanisation In Ziro Valley, Arunachal Pradesh: An Analysis Of Contributing Factors

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ABSTRACT:Urbanisation refers to the increasing concentration of population, economic activities, and infrastructure in urban areas. This study examines the major factors contributing to urbanisation in Ziro Valley, Arunachal Pradesh. Both primary and secondary data sources were used to analyse the dynamics of urban growth in the region. Primary data were collected through structured questionnaires and interviews with local residents, while secondary data were sourced from government reports, census publications, books, and peer-reviewed journals. Due to the limited availability of prior research specific to Ziro Valley, greater reliance was placed on primary data. The study identifies population growth, infrastructure development, rural–urban migration, economic opportunities, and government policies as key drivers of urbanisation. The findings highlight the need for sustainable urban planning to ensure balanced development, efficient resource utilisation, environmental conservation, and an improved quality of life in ecologically sensitive regions such as Ziro Valley.

Keywords: Urbanisation, Factors, Hapoli, Migration, Population Growth, Globalisation, Sustainable Development

INTRODUCTION

Urbanisation is a process characterised by the growth of urban populations through natural increase and rural–urban migration, accompanied by the physical expansion of urban areas and changes in land use. It reflects a shift from agrarian to non-agricultural economic activities and is closely linked to social, economic, and political transformations. Globally, the proportion of the population living in urban areas has increased rapidly, rising from about 30 per cent in 1950 to over 54 per cent in 2014, with projections indicating continued growth in the coming decades.

Urbanisation patterns vary across regions depending on levels of development and socio-economic conditions. In developing countries, particularly in Asia and Africa, urban growth has been rapid, driven largely by migration and population pressure. In India, urbanisation has significantly altered livelihood patterns, with declining dependence on agriculture and increasing engagement in services, manufacturing, and informal sector activities. While urbanisation offers improved access to employment, education, and amenities, it also generates challenges such as infrastructure deficits, environmental degradation, and socio-economic inequality.

In Northeast India, urbanisation presents distinct challenges due to ecological sensitivity, cultural diversity, and historically limited infrastructure. The process has influenced traditional livelihoods, land use patterns, and socio-cultural practices. In Ziro Valley, urban growth has transformed the predominantly agrarian economy, particularly among the indigenous Apatani community, leading to diversification of livelihoods into tourism, services, education, and small-scale enterprises. However, these changes have also raised concerns regarding loss of agricultural land, environmental stress, and cultural erosion, underscoring the need for sustainable and inclusive urban development.

STUDY AREA

The study is conducted in Ziro Valley, located in Arunachal Pradesh between $93^{\circ}47'E$ to $93^{\circ}55'E$ longitude and $27^{\circ}30'N$ to $27^{\circ}38'N$ latitude. The valley lies at an altitude ranging from approximately 1,541.7 metres to 2,406.83 metres above mean sea level and covers an area of about 142.3 sq. km. It is surrounded by gently sloping mountains that form the source of the Kale watershed. Administratively, the valley is bordered by Kra Daadi district to the north, Kamle district to the east, and Keyi Panyor district to the west and south.

Ziro Valley experiences a temperate climate with mild summers, cold winters, and heavy monsoon rainfall. These climatic conditions support rich biodiversity, including several endemic species. The valley's unique physical and ecological characteristics make it particularly sensitive to unplanned urban expansion.

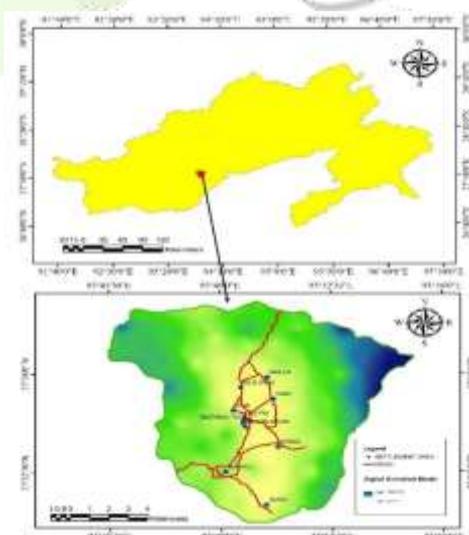


Fig. Location Map of Ziro Valley

STATEMENT OF THE PROBLEM

Rapid urbanisation in Ziro Valley poses significant challenges, particularly the conversion of limited agricultural land for construction to accommodate a growing population. Ziro, the headquarters of Lower Subansiri district, comprises the towns of Hapoli and Old Ziro. Traditionally, the inhabitants practised terrace farming and relied on barter systems; however, increasing exposure to globalisation and modernisation has altered living conditions, consumption patterns, and land use.

Urban growth has extended beyond physical expansion to include socio-cultural transformations, raising concerns about the erosion of indigenous knowledge systems and cultural identity. Additionally, unplanned urbanisation may exacerbate income inequality, disparities in access to essential services, and environmental degradation, including deforestation, soil erosion, and water pollution. Pressure on existing infrastructure such as roads, water supply, sanitation, and healthcare further affects the quality of life. In this context, the present study seeks to assess the impact of urbanisation on traditional livelihood patterns in Ziro Valley.

METHODOLOGY

The study is based on both primary and secondary data sources. Given the limited availability of earlier research on the study area, primary data formed the core of the analysis. Data were collected using structured questionnaires and in-depth interviews through random sampling. Four villages—Hong, Dutta, Mudang Tage, and Bamin Michi—and Hapoli town were surveyed. A total of 113 households from the villages and 53 households from Hapoli town were covered, representing approximately 25 per cent of households in each village.

Respondents were selected to ensure diversity in age, occupation, education, marital status, and cultural perspectives. Secondary data were obtained from government reports, census records, books, and academic articles. Both qualitative and quantitative methods were employed to analyse socio-economic and cultural changes associated with urbanisation.

OBJECTIVES

1. To identify the key factors driving urbanisation in Ziro Valley.
2. To analyse the role of globalisation and modernisation in shaping urbanisation processes.
3. To assess the influence of government policies and development initiatives on urban growth in the valley.

LITERATURE REVIEW

Urbanization in the Ziro Valley began with the establishment of the administrative centre at Old Ziro in 1952, though significant development and migration to Ziro town occurred later, leading to concentrated population growth and rapid expansion of commercial and built-up areas (Mondal Tanmey & Tripathy Bipalb, 2023). Urban expansion has substantially increased land values, making land ownership in Ziro town and its periphery highly expensive and economically lucrative (Padai Hana, 2018).

Changes in consumption patterns have accompanied urbanization, particularly due to the influx of non-tribal communities. Traditional food and beverages are increasingly replaced by market-based and non-indigenous

products, influenced by rising income levels and living standards, while indigenous products have also gained economic value (Dera Natung Government College Research Forum, 2016). The use of modern construction materials has reduced dependence on local resources, weakened community-based building practices, and altered traditional spatial organization and social interactions (Tewari & Sridharan, 2019).

Shifts in livelihood patterns have contributed to the decline of traditional knowledge related to agriculture, crafts, and construction, leading to erosion of indigenous identity and weakening of human–nature relationships under the influence of globalization and modernity (Pandey & Wadwekar, 2019). Studies on tourism indicate that active community participation minimizes negative impacts such as displacement and cultural commercialization while enhancing local benefits (Dolma Eco-tourism, 2018). Traditional practices such as fish culture in paddy fields continue in Ziro but remain highly dependent on reliable water availability (Kacha, 2018).

FACTORS INFLUENCING URBANIZATION IN ZIRO VALLEY

Ziro Valley in Arunachal Pradesh has traditionally been a rural region characterised by rich natural landscapes, indigenous culture, and agriculture-based livelihoods. In recent decades, however, the valley has undergone gradual urbanisation driven by population growth, infrastructure expansion, economic diversification, government interventions, migration, and increasing integration with global markets.

Population Growth

The population of Ziro Valley has increased steadily due to both natural growth and migration from surrounding rural areas. Urban centres, particularly Hapoli, have experienced notable population concentration. This growth has intensified pressure on land and natural resources, leading to the expansion of residential and commercial areas, often at the cost of agricultural and forest land.

Rising population levels have increased demand for housing, employment, markets, and public services, encouraging the spatial expansion of urban centres. Population growth has also necessitated the development of infrastructure such as roads, educational institutions, healthcare facilities, and utilities, thereby accelerating the urbanisation process.

Migration has played a crucial role in population increase, as people move to Ziro Valley in search of better living conditions and opportunities. Alongside demographic changes, population growth has contributed to shifts in social and cultural practices, including housing styles, dietary habits, and occupational structures. Environmental pressures such as land degradation and declining agricultural productivity in rural areas further reinforce movement towards urbanised locations where services and infrastructure are more developed.

Table 1: showing the growth of urban population of Lower Subansiri District 1991-2011

1991	83167	8862	74305
Year	Total Population	Urban population	Rural population
2001	55726	12384	43342
2011	83030	12806	70224

Source: Census data of 1991 (<http://lsi.gov.in>),2011(www.censusindia2011.co.in)

Infrastructure Development

Infrastructure development has been a key driver of urbanisation in Ziro Valley. Improved road connectivity and transportation networks have facilitated the movement of people and goods, encouraging migration, tourism, and commercial activities. Infrastructure projects such as roads, bridges, and public facilities have generated employment and attracted population inflows.

The expansion of healthcare facilities, educational institutions, and basic utilities—including water supply, electricity, and internet connectivity—has enhanced the livability of the area, making urban centres more attractive for settlement. Improved infrastructure has also supported tourism by enhancing accessibility and providing accommodation and related amenities, thereby stimulating local economic growth.

Rising infrastructure standards have increased demand for housing and commercial spaces, contributing to the expansion of residential and business areas. Government investment in infrastructure and regional development initiatives has further accelerated urban growth. Additionally, the development of social infrastructure such as parks, community centres, and cultural institutions has improved quality of life, reinforcing urbanisation trends.

Table 2: The satisfactory of the respondent comparison between the year 1987 – 2005 and 2006 – 2024

	Good	Better	Bad	Worst
Road network connectivity	31	35	21	0
Market	28	30	8	1
Electricity	31	29	6	1
Water	34	31	2	0
Public Toilet	5	11	14	37

Source: Primary data, 2024

Economic Opportunities

Economic diversification has significantly influenced urbanisation in Ziro Valley. The valley's fertile land and favourable climate support agriculture, including rice, millet, horticulture, organic farming, and the traditional Apatani rice–fish cultivation system. These activities provide livelihoods and attract related services and agribusiness investments.

Tourism has emerged as a major economic driver due to the valley's scenic beauty, pleasant climate, cultural heritage, and events such as the Ziro Festival of Music. Growth in tourism has generated employment in hospitality, services, and allied sectors, leading to infrastructure development and urban expansion.

Traditional handicrafts produced by the Apatani community, including bamboo and textile products, have created additional livelihood opportunities through workshops and retail outlets. As the administrative headquarters of Lower Subansiri district, Ziro Valley hosts government offices and institutions that generate employment and attract population inflows.

The establishment of educational institutions, including schools and vocational centres, has created jobs while drawing students and families to the area. Growth in retail, services, manufacturing, and construction

activities linked to infrastructure projects has further expanded employment opportunities, reinforcing urban growth.

Table 3: Occupation of the people					
OCCUPATION	HONG	DUTTA	MUDAND TAGE	BAMIN MICHI	TOTAL
GOVERNMENT SERVICE	25	11	14	8	58
PRIVATE SERVICE	4	0	4	4	12
BUSSINESS	10	3	7	4	24
AGRICULTURE	33	10	10	10	63
STUDENTS	26	7	12	10	55
OTHER	1	0	1	1	3
TOTAL	99	31	48	17	215

Source: Primary data, 2024

Government Policies

Government policies have played a central role in shaping urbanisation in Ziro Valley. Public investment in infrastructure such as roads, bridges, electricity, and water supply has improved connectivity and living conditions, attracting population and economic activities. Policies offering incentives, subsidies, and grants have encouraged business investments and employment generation.

Tourism promotion policies, including infrastructure development and cultural heritage conservation, have increased visitor inflows, stimulating urban expansion. Agricultural support programmes have improved rural incomes and strengthened market linkages, indirectly fostering urban growth.

Government initiatives in education, healthcare, housing, and urban planning have contributed to population concentration in urban centres by improving access to essential services. Employment-oriented schemes and support for small and medium enterprises have further attracted job seekers to urban areas, reinforcing the urbanisation process.

Table 4: Number of Households benefitted from the Government Schemes 2006 – 2024					
	HONG	DUTTA	MUDANG TAGE	BAMIN MICHI	TOTAL
PRADHAN MANTRI AWAS YOJANA (HOUSING)	46	3	11	17	77
PRADHAN MANTRI UJJWALA YOJANA (LPG CONNECTION)	42	5	7	15	69
SARVA SHIKSHA ABHIYAN	45	7	18	12	82
MAHATMA GHANDHI NATIONAL RURAL EMPLOYMENT GURANTEE ACT (100 DAYS GURANTEE WAGE EMPLOYMENT)	48	13	22	16	99

Source: Primary Data, 2024

Rural–Urban Migration

Rural–urban migration has been a major contributor to urbanisation in Ziro Valley. Limited employment opportunities, land degradation, and inadequate rural infrastructure in surrounding areas act as push factors, while better livelihoods, education, healthcare, and amenities serve as pull factors.

Urban centres offer diversified employment opportunities in services, trade, tourism, and administration, along with higher wage prospects. Access to better educational institutions, skill development facilities, healthcare services, modern housing, and utilities further motivates migration. Improved transportation and communication infrastructure facilitates movement, while social networks and cultural opportunities in urban areas reinforce migration flows.

The continuous influx of migrants has expanded urban settlements and increased demand for housing, infrastructure, and public services.

Globalisation and Trade

Globalisation has strengthened urbanisation in Ziro Valley by expanding market access for local products such as organic rice, handloom, and handicrafts. Increased exposure through tourism, particularly events like the Ziro Music Festival, has boosted local enterprises and employment.

Global integration has driven investments in transportation, communication, and service infrastructure to support trade and tourism. Exposure to global lifestyles, education standards, and technologies has influenced aspirations and migration towards urban centres. Technological adoption in agriculture, manufacturing, and services has further increased dependence on urban infrastructure.

Government policies promoting trade, investment, and public-private partnerships have supported infrastructure development and economic integration, accelerating the urbanisation process.



Photographs capture during survey, 2024

CONCLUSION

Urbanisation in Ziro Valley is the result of population growth, migration, infrastructure development, economic diversification, government policies, and globalisation. While these processes have expanded livelihood opportunities and improved access to services, they have also generated environmental stress, land-use conflicts, and cultural challenges. Effective management of urbanisation in Ziro Valley requires a balanced approach that integrates economic development with environmental sustainability, social equity, and cultural preservation. Context-specific planning and community participation are essential to ensure inclusive and resilient urban growth in the valley.

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