

Level of Urban sprawl and its impact on daily life in India

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ABSTRACT: *Urban sprawl refers to unpremeditated, unaesthetic and uneconomic outgrowth of urban areas caused by uncontrolled, uncoordinated and unplanned growth that can be seen along the periphery of cities, highways, and roads connecting a city. Although urbanization improves socioeconomic development and life quality but due to disproportionate expansion of sprawl has a negative impact on daily life. In India there has been different increasing trend of sprawl from 1901 to 2011 and due to unplanned way it demonstrates a threat for urban sustainability.*

The main objective of this paper is to discuss the on going trend of sprawl in India and its impact on daily life. The study is based on secondary data such as census report of India 2011, World Urbanization Prospects 2018 etc. It also proposes some policy and recommendation for modern and sustainable urban growth.

Key Words: *Urban sprawl, Unpremeditated, Unaesthetic and Sustainability*

Introduction

The term "sprawl" was first used in 1937 by Earle Draper, one of the first city planners in the South-eastern United States (Black, 1996). While according to Wassmer, the term "urban sprawl" was first used in the opening paragraph of an article by a sociologist William Whyte in Fortune magazine in 1958. (Wassmer, R. W. 2002). Urban sprawl refers to unpremeditated, unaesthetic and uneconomic outgrowth of urban areas caused by uncontrolled, uncoordinated and unplanned growth that can be seen along the periphery of cities, highways, and roads connecting a city. Due to this disproportionate expansion of sprawl lacks basic amenities like fresh air, sanitation, treated water supply, solid waste management, health problem, medical facilities, slums etc. as planners were unable to visualize such growth during planning, policy and decision-making (Sudhira and Ramachandra, 2007). In the late 1970s, urbanized areas have extended outside rapidly during the suburbanization process of residence, industry and commerce, which encroached large amount of farmland and forest, brought negative effects to environment and caused more traffic problems. This uncontrolled pattern of urban development has been regarded as urban sprawl (Zhang, 2004). Thus Urban sprawl could be defined as outgrowth of an urban areas caused by unplanned urban development. Urban sprawl may be defined as the scattering of new development on isolated tracts, separated from other areas by vacant land (Ottensmann, 1977). It has negative environmental, social and economic impacts. Thus it can be said that unplanned urban growth demonstrates a threat for urban sustainability because it indicates high level of land, water and energy consumption, as well as increase pollutants and wastes (Shirkhanloo N. 2013)

Objectives of the study

This paper adopts the following objectives:

- To understand the concept of urban sprawl
- To analyze the on going trends in urban population in world and India prospective.
- To assess the impact on daily life
- To introduce Programs launched by government of India
- To suggest for sustainable urban growth.

Methodology

All the study depend on secondary source comprising census reports of India Ministry of Housing and Urban Affairs, Government of India, World development indicator, World Urbanization Prospects: The 2018 Revision and many other related issues from NET. The table is also used to represent the data progress related to urban sprawl.

Urban sprawl in a global perspective-

Today the world is going very fast to urbanization. So more and more people resides in urban areas than in rural areas. It is estimated that 55 % of the world's population residing in urban areas in 2018 which was

only 30 % in 1950. Since 1950, having increased from 751 million to 4.2 billion in 2018 and by 2050, 68 % of the world's population is projected to be urban. In 2018 the most urbanized regions is Northern America with 82 % followed by Latin America and the Caribbean (81 %), Europe (74 %) and Oceania (68%) of its population. In this contrast Asia is now approximating 50 %. While Africa having 43 % of its population living in urban areas. (World Urbanization Prospects: The 2018 Revision)

Urban sprawl in India perspective-

India is urbanizing very fast and this fast urbanization entails not only movement of population from rural to urban areas but also interchange of values, beliefs and attitudes. This fast urbanization creates social, economical and cultural problems and disharmony. The solution of the problem lies in strengthening the sense of our cities where the focus is not only development but also the quality of life, proper resource utilization and reducing environmental degradation. (Tiwari A. and Goel V. 2017)

Urbanization trend in India from 1901 to 2011

Year	Number of urban agglomerations and town	Urban Population in Lakhs	Urban Population (%)
1901	1834	258.55	10.8
1911	1776	259.48	10.3
1921	1920	280.91	11.2
1931	2049	334.62	12.0
1941	2210	441.62	13.9
1951	2844	624.44	17.3
1961	2330	789.37	18.0
1971	2531	1091.14	19.9
1981	3245	1594.62	23.3
1991	3609	2175.66	25.7
2001	3799	2861.19	27.8
2011	4041	3771.06	31.2

Source - Census Report of India, 2011.

The urban population has increased from 285.55 lakh in 1901 to 334.5 lakh in 1931 with slow growth rate because of natural hazards and many health problems. After that development of transportation, industrialization, and medical facilities lead fast urbanization and this is why the urban population growth increased at 624.44 lakh in 1951. In the 1941, India witnessed the growth of four metropolitan cities, which were Kolkata, Delhi, Mumbai, and Chennai. (Nath V. And Aggarwal S, 2007). After independence the India faced many problems, such as poverty, economic backwardness, health problems and unemployment. But by five year planning implementation resulted fast urbanization. This is the reason that the urban population increased from 789.37 lakh in 1986 to 3771.06 lakh in 2011. Thus according to 2011 census, the urban population increased up from 27.8% in 2001 to 31.2% in 2011.

In spite of these the above data is also represent the number of urban agglomerations and towns has increased from 3799 in 2001 to 4041 in 2011. It is projected that the country's urban population would increase 41.4 percent by 2030 (United Nations, 2004). By 2011, there are 53 urban agglomerations / cities having a population of more than one million up from 35 urban agglomerations in 2001.

Number of urban agglomeration/town and outgrowths

Types of town (UAs/OGs)	Numbers		Growth
	Census 2001	census 2011	
Statutory towns	3,799	4,041	242
Census towns	1,362	3,894	2,532
Total	5,161	7,935	2,774
UAs	384	475	91
OGs	962	981	19

Source - Census Report of India, 2011

The above data shows the number of statutory and census towns increasing trend on the basis of census of India 2011. The number of Statutory town is 3799 in 2001 have increase 4041 in 2011 deference with 242. The census town has reached 3,894 in 2011 from 1362 in 2001.

Urban population growth in India (annual %)

Year	Growth rate	Year	Growth rate
2009	2.5	2014	2.4
2010	2.5	2015	2.4
2011	2.4	2016	2.4
2012	2.4	2017	2.4
2013	2.4	2018	-

Source-World development indicator 2018

India's urban population is currently growing at about 2.4 percent per annum. The two main factors are responsible for urban population growth. The first is natural growth in population (birth & death) while the other is migration to urban area. Due to this increasing trend the urban population and growth in urban areas is inadvertent. The magnitude of urban growth taking place in India at only few urban areas is evident from the proportion of the urban population in these 53 urban agglomerations / cities to the total urban population of the country. It is seen that these 53 urban areas account for about 42 percent of the total urban population, thus indicating the magnitude of urbanization prevailing in the country. This clearly indicates the magnitude of concentrated growth taking place in large urban agglomerations, which has paved way for urban sprawl. (H. S. Sudhira¹)

The Population Projection in India (In millions)

Year	Urban Population	Total Population
2001	286	1,029
2006	321	1,112
2011	358	1,192
2016	395	1,269
2021	433	1,340
2026	468	1,400

Source: The Report of National Population Commission of India

The above table presented Urban Population Projections from 2001 to 2026. According to this the urban population is expected to increase from 286 millions to 468 million during 2001-2026. As a proportion of total population, it is estimated to increase from 27.8 % in 2001 to 33.4% by 2026. It is observed that the expected population is 1192 millions in 2011 but by the end of the year it has been touched at 1211 millions which indicate the rapid growth rate of population. (Sastry S.V.S., 2012)

Impact on daily life

With the development of urbanization, more and more population resides in cities. Urban sprawl is also termed as 'horizontal spreading' or 'dispersed urbanization'. Along with the rapid growth rate of urban populations comes rapid urban sprawl. Although urbanization improves socioeconomic development and life quality but due to disproportionate expansion of sprawl has a negative impact on daily life. It inevitably converts the natural and semi-natural ecosystems into artificial ecosystem. (Wang H., Ning X., Zhu W, Li F. 2016)

Demand of energy – Sprawling city require more energy because developments increase energy consumption per person, for increased gasoline, home heating, and electricity use.

Demand of public facilities- With the development of city need to be public facilities and basic services like schools, colleges, police service, hospitals sanitation, water, and electricity may increase the public service costs. Other services like post, public transport, garbage collection etc. are more costly in low-density areas.

Increased demand on Fossil Fuels-Transportation facilities connecting city center to low density outer areas of city require increase time of travel to cover longer distances. If there is public conveyance like buses and auto rickshaw to reach their destination but some time it may be risky to reach on time so the people living in peripheries use personal conveyance like cars and bike to reach on time which creates traffic resulting into problems for the city with much more fuel consumption.

Poor Air Quality-Uses of personal vehicles like cars and bikes create more traffic problem in the city thereby burning more fossil fuel and emission of greenhouse gases polluting the city air. Urban sprawl encourages the use of more cars thereby increasing air pollution in the cities affecting public health seriously. Due to industrialization and traffic congestion, the high emission level of air pollutants creates many health problems like asthma, heart, lung and skin diseases.

Loss of Productive Agricultural Land- Urban sprawl may contribute to the loss of productive agricultural land and open spaces. Land use policies, taxes and financial pressure force farmers to sell their land. The multistory buildings, shopping malls, highways and other sterile urban landscaping replace this farmland.

Water Quality and Quantity-Urban sprawl means more houses and long roads increasing covered areas that can't absorb the rain water into the ground and can cause flood and soil erosion in rainy season. Rainwater thus runs off into sewer lines and drainages choking these service lines and ultimately landing into the rivers and seas. Countryside industries also produce waste chemicals that are left to flowing water that directly goes into the river that may cause water pollution. (Sisodia P.S. 2018)

Environmental problems -Urban sprawl is also the root of many environmental problems such as heat island effect, local climate change, deforestation, disappearing of wetland, and pollution like air, water, soil, noise, and waste.

Problems with Slums- Problems related to slums are the prime challenge with sprawling city. The fast urbanization in combination with industrialization has resulted in the enlargement of slums. The poverty, unhygienic food and drinking water, sewage, lowly education system, lack of medical facilities, unemployment and crime is major issue, which makes the urban environment unhealthy. Therefore, in present scenario the urban sprawl is considered as one of the most challengeable issue which is now seen not only in the developed countries but also in the developing countries with having numerous and undesirable socio-economic and environmental effects. (Pourahmad et al. 2007)

Government Schemes

The government of India launched several schemes and programs to sustainable development of urban growth, which are following-

Swarna Jayanti Shahari Rozgar Yojana (SJSRY) -This has been launched from December 1997 focused on urban employment having two sub-schemes, namely, Urban Self-Employment Programme and Urban Wage Employment Programme

Pradhan Mantri Awas Yojana- Housing for All (Urban)-This mission is being implemented during 2015-2022. Under this mission 2 million non-slum urban poor households are proposed to be covered. The main focus of this mission is to rehabilitation of existing slum inhabitants, Credit Linked Subsidy, Affordable Housing in Partnership and subsidy for beneficiary-led individual house construction.

AMRUT-This mission is named by Atal Mission for Rejuvenation and Urban Transformation has aim to be improve the quality of life for all the people by increasing the amenity value of cities by developing greenery, to assure the supply of water and a sewerage connection, and reducing pollution by switching to public transport.

HRIDAY Scheme-The Ministry of Housing and Urban Affairs launched the National Heritage City Development and Augmentation Yojana (HRIDAY) scheme on 21st January 2015, with a focus on holistic development of heritage cities. The scheme aims to preserve and rejuvenate soul of the heritage city to reflect the city's unique character. In this way government has issued initiatives like development of water supply, sanitation, drainage, waste management, approach roads, footpaths, street lights, tourist conveniences, electricity wiring, landscaping and such citizen services.

Swachh Bharat Mission-This mission was launched on 2nd October 2014 aims at making urban India free from open defecation and achieving 100% scientific management of municipal solid waste in 4,041 statutory towns in the country. The main objectives are to Elimination of open defecation, Eradication of Manual Scavenging, sustainable solid waste management, healthy sanitation practices.

Smart Cities Mission- The Smart Cities Mission of the Government is a new initiative is focus on economic growth and to improve the purpose of the Smart Cities Mission is to drive economic growth and improve the quality of life of people by giving sustainable environment which include adequate water supply, assured

electricity supply, medical facilities and good education system, sanitation, solid waste management, efficient urban mobility, affordable housing for poor, initiatives for slums strong IT connectivity and digitalization, e-Governance, and safety and security of citizens.

Urban Transport- This Wing of Ministry of Urban Development is focus to encourage innovative financing mechanisms in transport sector, capacity building at institutional and individual levels under Sustainable Urban Transport Project (SUTP). (The Ministry of Housing and Urban Affairs)

Jawaharlal Nehru National Urban Renewal Mission.- This mission has launched by the Central Government in December 2005, to give a focused attention to integrated development of urban infrastructure and services initially in select 63 mission cities. Its emphasis was on provision of basic services to the urban poor, including housing, water supply, sanitation, road network, urban transport, the development of inner/old city areas, etc. JNNURM was divided into two broad parts namely the Sub- Mission on Urban Infrastructure and Governance and (UIG) and the Sub-Mission on Basic Services to the Urban Poor (BSUP). This mission was made mandatory for each city to formulate its City Development Plan (CDP) on large scale.

Rajiv AwasYojana (RAY) -This yojana was launched on 2 June 2011 with a focus of slum free India as a pilot project for a period of two years. The Central Government finally approved the RAY on 3rd September 2013 for a period 2013-2022. This scheme specifically aimed to support state and city governments to upgrade slums and assign title to their residents and to plan to accommodate the envisaged growth as India's rapid urbanization continues, so that more slums are not formed. The scheme was applicable to all slums within a city, whether notified or non-notified. (Bhagat R. B., 2014)

Suggestion

Sustainable urbanization is key to successful development. As India is urbanizing very fast so it should be very necessary to successful management of urban growth. Therefore, there are following suggestions that should be followed by urban planners.

- The town planners and policy makers should be plan according to level of urban growth, and also coordinate with the academicians, geographers and NGOs. (Sisodia P.S.,2018)
- The local government norms should be strengthened to avoid land conversions in the urban and periphery areas.
- The number of schools, hospitals, police stations etc. should be according to population size.
- The accidents and traffic jams can be overcome by construction of six lane and eight line roads with speed limits, necessary indicators, Flyovers and Circle Bridges in the urban domain.
- The diversion roads like ring roads, by-pass roads, T and Y junctions are to be established to avoid the trafficking, which causes sound, water, and air pollutions.
- The construction of the more number of filter beds and water lines having WHO standards has been initiated to overcome the water pollution.
- The leather, chemical, and fertilizer, etc. are the polluted Industries and cause of environmental degradation should be shifted from towns to a Specially Developed Industrial Zones.
- The push factors which is the reason for urban migration such as transport, protected drinking water, electricity, proper education health and communication facilities should be develop in rural areas.
- The urban and rural areas linkages should be very potency in terms of economic, social and environmental aspects..
- The Local Governments should also take initiation to reduce the slum areas by giving importance to construct multi-storied buildings for the poor people can stop slum growth in urban areas. .
- Urban consolidation should be introduced as a solution for more appropriate utilization of lands and infrastructures in the city and periphery areas.
- The smart city mission should be followed for sustainable urban growth.

Conclusion

In the present scenario the rapid growth of urban area is a key challenge for sustainable economic social and environmental development. If there are a lot of integrated policies launched by government of India to improve the quality of life but they become failure due to proper management. So a successful urbanization depends on the successful management of urban growth, Efforts are needed in providing infrastructure costs, control travels, create urban boundaries, redevelopment of inner-core regions, support smart growth

strategies, increase density and create compact city, strength the role of local public and authorities. (Tiwari A. and Goel V. 2017)

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