

SOCIOECONOMIC AND ENVIRONMENTAL EFFECTS OF URBANIZATION WITHIN THE FRAMEWORK OF SUSTAINABLE DEVELOPMENT GOALS: A CASE STUDY OF SIKAR CITY IN RAJASTHAN, INDIA

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ABSTRACT

The present century witnessed a sharp rise in urbanisation and cities of the world have become major centers of population and economic growth. While these cities are an indicator of development, the increasing trend of urbanization increases the problems associated with the urbanization. Many urban centres in developing countries are experiencing unprecedented population growth. More population means greater demand for educational facilities, health facilities, transport facilities, employment, clean air, clean water etc. Not only this, changing lifestyles and consumption pattern of inhabitants are enhancing the demand for global services and products which contributes to increased environmental pressure and profoundly change the size, structure and density of cities. Lack of proper planning, design and investment in these cities, exposing the citizens to the negative effects of climate change and reduced quality of life as well as increased social instability.

In this background the present paper attempts to understand the socioeconomic and environmental problems arising due to the increase in the urbanization of Sikar city, keeping in mind the goals of sustainable development. Empirical methods have been used to analyse the data obtained from various sources. It has been found that the development of Sikar city has taken place in an unplanned manner. Increased population put pressure on the limited resources as well as access to resources, which adversely affects the socio-economic development. Therefore, it is argued that the goals of sustainable development can be achieved by striking a balance between resources and population in urban centers.

Keywords: Urbanization, Sustainable Development, Socio-economic and environmental impacts, Planning.

INTRODUCTION

The present century witnessed a sharp rise in urbanisation and cities of the world have become major centers of population and economic growth. While these cities are an indicator of development, the increasing trend of urbanization increases the problems associated with the urbanization. Many urban centres in developing countries are experiencing unprecedented population growth. More population means greater demand for educational facilities, health facilities, transport facilities, employment, clean air, clean water etc. Not only this, changing lifestyles and consumption pattern of inhabitants are enhancing the demand for global services and products which contributes to increased environmental pressure and profoundly change the size, structure and density of cities. Lack of proper planning, design and investment in these cities, exposing the citizens to the negative effects of climate change and reduced quality of life as well as increased social instability “*There was no doubt about it: the city was the culmination of man’s mastery over the environment.*” (Asimov Isaac, *The Caves of Steel*). Cities are not only

where rapid improvement in socioeconomic and environmental conditions is possible, but it is indeed where such change is most needed. The cities of the developing countries are the captivating centres of prosperity but this prosperity demands more and more resources. Thus, this condition leads to the depleting resources of the earth. “The level of urbanization is defined as the proportion of total population residing in urban places”(Trewartha G.T.). Increasing urbanization is the combination of both the positive and negative effects on humankind and environment. To avoid negative effects cities must be developed in the manner of sustainable development which can be achieved by realizing the goals of sustainable urban development. We must urgently find ways to achieve economic and socially beneficial growth without further cost to the environment. Solution to this problem lies in how cities are planned, governed and provide services to their citizens.

According to the data of the year 2021, total urban population living in urban centers is 4.46 billion worldwide. In 1950 world’s total urban population was 751 million, in 2021 it is 4.46 billion and it will grow to 6.68 billion by the end of 2050, which is

the increase about 2.22 billion population in urban areas. Highest growth of urban population will be occurred in the continents of Asia and Africa. The global rural population is expected to decline to 3.1 billion by 2050. (Source- UN World Urbanisation Prospects 2018).

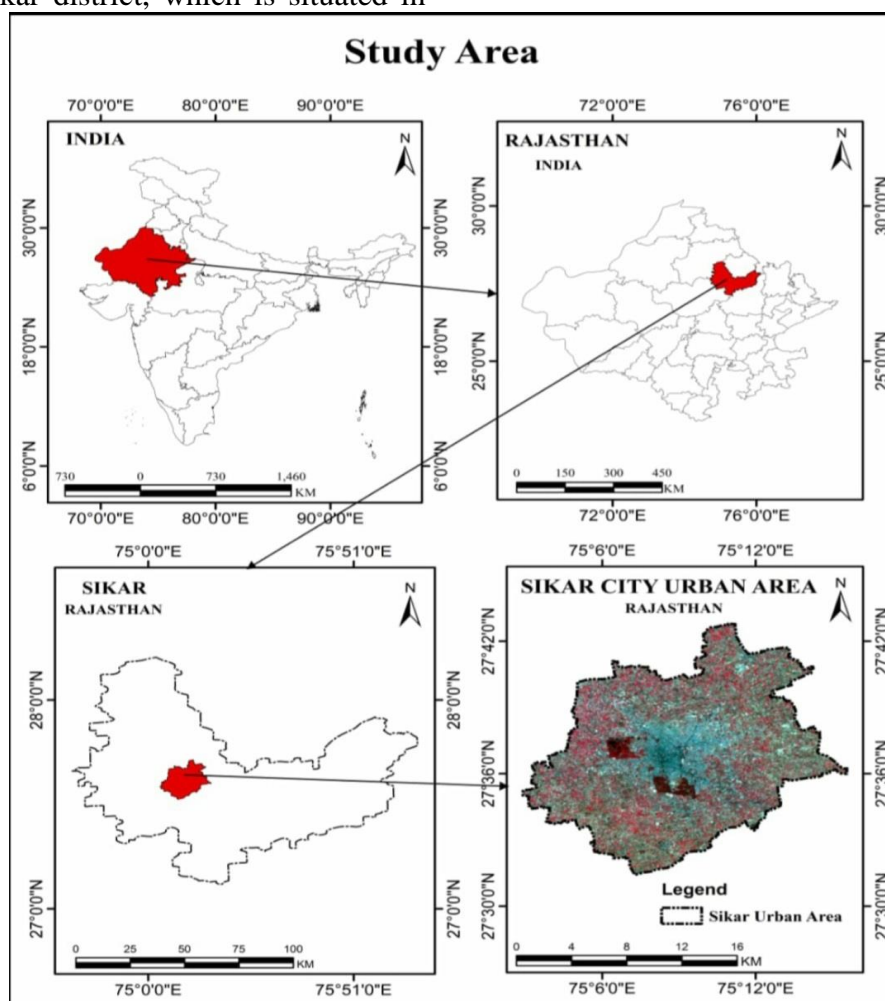
From the source of Census 2011, India's total population is 1210.2 million, in which 377.1 people

STUDY AREA

Sikar city is located on 27.62 ° north and 75.15°east. The average altitude from mean sea level is 427 meters Sikar city is district headquarters of Sikar district, which is situated in

northeast part of Rajasthan. Sikar city is located 115 kilometers from Jaipur, 320 kilometers from Jodhpur, 215 kilometers from Bikaner and 280 kilometers from Delhi.

are living in urban centers. Total percentage of urban population is 31.6%. As per details from census 2011, total population of Rajasthan is 6.86 crore, in 2001 it was 5.65 crore. Decadal growth of the population is 21.31%. Total urban population of Rajasthan is 24.9% to total state population.



Sikar city is located on NH 52 between Agra and Churu. The area of Sikar city includes Chandrpura, Radhakishnpura, Samarthpura, Shivsinghpura and Sikar region. Sikar city is the sixth most populated city of Rajasthan. According to the census 2011 total metropolitan population of Sikar City is 237,532. In this urban population total males 123,022 are and total females are 114,510.

OBJECTIVES

- To estimate the problems arising due to the increasing urban population in study area.

- To study the socioeconomic and environmental effects of urbanization within the framework of Sustainable Development Goals.

METHODOLOGY AND DATA COLLECTION

The study is based upon the data collected from Census-2011 and secondary data available from different published reports, articles and newspapers data. For data collection master plan of Sikar city has been taken into consideration. To know social and environmental impacts of urbanization data have been collected from different wards. To know

environmental impacts of urbanization in Sikar city data collected from District Pollution Control Board, Sikar and District Environment Plan for Sikar District, have been used.

RESULTS AND DISCUSSIONS

Sustainable development is a concept adopted by all the United Nations member states in the year 2015. This concept is a blueprint to save our earth. 17 Sustainable Development Goals (SDGs), through which we can achieve sustainable developed world. These goals recognise that ending poverty and other deprivations must go hand in hand with strategies that improve health and education, reduce inequalities and economic problems and remove the hazardous problems of climate change and preserve our ecosystems.

1. Urbanisation impacts on Economic Development and SDGs

In 17 goals of sustainability there are goals of “*reduced inequality and decent work and economic growth*”. Economic impact of urbanization includes both positive and negative sides, but taking sustainability into consideration it is found that unplanned city has more negative effects of urbanization. It is found from secondary sources like local newspapers, magazines and reports that more population pressure on resources increases inequality and all the population is not getting decent work. Because of this there is an increasing gap between rich and poor people. Development of infrastructure is centred only in few areas of the city. Technology access is limited to the rich people only because of this there is arising issue of digital divide. Prices are too high to survive in urban areas. In Sikar city developed areas are market places like Govind market, Laxmi market, Diwan market and Harichand market. These popular places are known for shopping and eatery zones. These market areas are exciting places for tourists and local residents. Station road area is also an another very important and busy area within the city. Anand Nagar is an important locality within Sikar city. In this area there are some big schools, hospitals and colleges. Another important area in Sikar city is Subhash Chowk area, this area is known for its entertainment facilities like Sikar Cinema and Samrat Talkies. Basant Vihar, Police line area, Bioscope Cinema are other developed areas of the city. On one hand these areas are developed in this urbanised area, on second hand there are slum areas in Sikar city for example in the

area of Housing Board and Salasar Road area land is occupied by several slums. In these slums life of people is too miserable. Because of this huge development difference in a city, target of sustainable city is too far.

2. Urbanisation impacts on social development and SDGs

According to the seventeen Sustainable Development Goals, social development for a region is very important. No poverty, zero hunger, quality education and gender equality are important goals to achieve socially developed areas. If we study Urbanisation in Sikar city within these social sustainable goals, we find that this city has achieved only few percentages of these goals. In Sikar city education facilities are up to the mark. According to Census-2011, total literates in Sikar city are 154,491, in which 89,074 males and 65,417 females are there. Average literacy percentage is 75.61% in which 84.65% males and 66.02% females are literates. According to Census 2011, in Sikar city sex ratio and child sex ratio are not in favour to achieve gender equality. Sex ratio of Sikar city is 931 and child sex ratio is 867. Health facilities of Sikar city are growing day by day to achieve goal of good health. The biggest government hospital of Sikar city is Shri Kalyan Government Hospital, which is in the main area of the city. This hospital is providing good health to city residents but health infrastructure in this hospital is outdated. Rapid housing construction leads to many social problems to the city like poor sanitation, high crime rates, overcrowding and slums. After reading various reports of Sikar city planners have to do extra efforts to achieve the goal of sustainable social city.

3. Urbanisation impacts on Environment and SDGs

“*Sustainable Cities*” and “*Greener Cities*” are two most important concepts of today’s urbanised world. Cities are increasing in an unplanned manner. City has to be well planned and managed to achieve sustainability. Urbanisation effects environment in both direct and indirect manner like climate change, ecosystems threats, energy security waste management etc. Goal no.11 of SDGs says “**Make Cities and Human Settlement Inclusive, Safe, Resilient and Sustainable**”. Goal no. 12 of SDGs says that *consumption and production of energy should be well managed*. Goal no. 13 of SDGs says “**Climate Action**”.

District Environment Plan for Sikar District is an attempt to get Sikar city more sustainable. This environmental programme covers the following areas:

- Waste Management Plan
- Solid Waste Management Plan
- C&D Waste Management
- Biomedical Waste Management
- E- Waste Management
- Hazardous Waste Management
- Water Quality Management Plan
- Domestic Sewage Management Plan
- Air Quality Management Plan
- Noise Pollution Management Plan
- Forest Conservation

SDG 12 of UNDP states that constant monitoring of the life cycle of plastic products should be carried out in such a way that the minimum resources may be utilized to produce maximum output. *“Recycling and disposal techniques should be improved to minimize energy consumption and reduce waste generation (Le Blanc & UN Environment Programme, 2017).”*

In Sikar city the estimated quantity of domestic sewage generated is 22.08 MLD. There are 2 STPs installed here which are fully operational. The full

capacity of these are 2 and 8 MLD. Quantity of wastewater reaching in the STPs is 1 and 2.7 MLD., so 18.38 MLD of wastewater remains untreated or partially treated. There is provision of partial underground sewage network which covers 45.3% of the population. Action plan for future to domestic sewage management in Sikar city is to survey and identification of all households to ensure proper drainage of sewage, efforts for full utilisation of existing STP and inspection of STPs. The concept of air quality can be explained as the level to which the ambient air is pollution free, calculated by measuring several indicators of pollution. The RSPCB has established thirteen regional offices in different parts of the state to keep in check the implementation of various provisions including The Air (Prevention and Control of Pollution), Act, 1981 and its rules. The goal of noise management is to take care low noise exposures, such as human health and well being square measure protected (Greenberg and Schneider, 2019). Section 3 of the Environment Protection act of 1986 let to noise regulations rules (2000). The noise level standards for different categories of areas are given following:

Table-1 Noise limit for different areas/zones

Sr. No.	Category of Area/Zone	Limits in dB(A)	
		Day	Night
1	Industrial area	75	70
2	Commercial area	65	55
3	Residential area	55	45
4	Silence Zone (near hospitals, schools etc.)	50	40

Table-2 Silent zone as per Rajasthan Noises Management Act, 1963

1.	From hospital or from a building during which there's a phone exchange	150 meters
2.	From any educational institution managed, maintained, recognized or controlled by the authorities or a university established beneath any law for the nowadays good or a neighbourhood authority, throughout the hours or operating of such establishment.	150 meters
3.	From any hostel maintained or recognized by the authorities or University or government agency once such hostel is within the use of scholars.	150 meters
4.	From a building during which a court or Government workplace is controlled throughout the hours of operating of such court or office	150 meters

Table 3- Noise monitoring in Sikar

No.	Action Areas	Measurable Outcome	Outcomes
A	Availability Monitoring equipment		
1	No. of noise measuring devices with district administration	[Nos] / [None]	NONE
2	No. of noise measuring devices with SPCBs	[Nos] / [None]	1
B	Capability to conduct noise level monitoring by State agency / District authorities		
1	capability to conduct noise level monitoring by State agency / District authorities	[Available] / [Not available]	Available in Sikar city District headquarters at SPCB Regional office
C	Management of Noise related complaints		
1	No of complaints received on noise pollution in last 1 year	[Nos]	88
2	No of complaints redressed	[Nos]	88
D	Compliance to ambient noise standards		
1	Implementation of Ambient noise standards in residential and silent zones	[Regular Activity] / [Occasional] / [Never]	Regular Activity (monthly) in District HQ
2	Noise monitoring study in district	[carried out] / [not carried out]	Carried out in Sikar city at District HQ
3	Sign boards in towns and cities in silent zones	[Installed] / [Partial] / [Not Installed]	Partial

Table 4 – Action plan for industrial waste management, air pollution and water quality

S. No.	Action points (Including source and mitigation measures)	Time frame for implementation	Suggested Responsible stakeholders/ Agency involved
1.	Installation of Flow meter / Water meter with each industrial unit for monitoring of compliance of the permitted discharge quantity.	1-year	Industrial Association, RIICO
2.	Periodic water audit of industries	1-year	RSPCB and ULB
3.	Monitoring of Groundwater quality	1-year	State Groundwater Board
4.	Provision of potable water for affected villages, if any	1-year	PHED
5.	Inventory of Industrial emission by doing survey of all industries to	3-years	RSPCB
	ensure inventory of emission		
6.	Adequacy of Available Infrastructure for Pollution Control: (i) Air Pollution Monitoring and Control (ii) Industrial Waste water monitoring and Control (iii) Hazardous Waste Monitoring and Control	5-years	RSPCB
7.	Environment Compensation	21-year	RSPCB

After doing research on the study area, it has been found that the development of Sikar city has taken place in an unplanned manner, due to which the

concentration of increasing population is reducing the pace of development and the goals of sustainable development are being left behind.

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