

Geographical Study of Major Environmental Issues and Their Solutions in Alwar City

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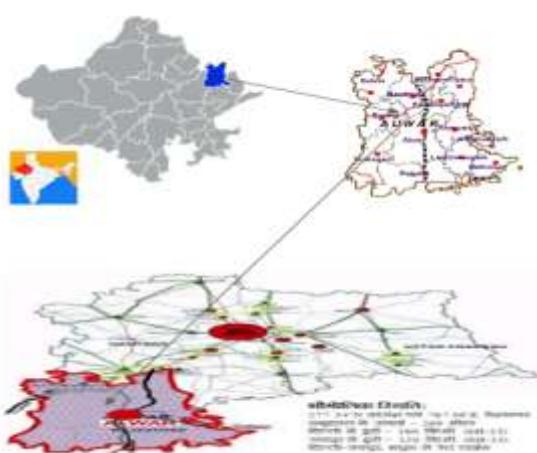
Abstract – *Urbanization has brought in its wave a host of problems particularly for the government of the developing countries. Although, higher income is an added benefit to the urban dwellers, yet urban poverty and unemployment and a host of problems associated with pollution and congestion are the most noted indicators of urban failures. The present study emphasis on the current situation of urban Alwar. With new phase comes new challenges. Urbanization has its side effects in a way when planning does not meet the implementation on ground level just like "A vehicle without fuel is just nothing irrespective of the fact how grand it is". The study deals with the changing phase of Alwar, Alwar being Urban itself is a challenge and the need for implementation of proper planning done by management.*

Keywords: *Urban, Urbanisation, Master Plan, Major Environmental Problems, Urban Area in Alwar. Important environmental issues and their solutions.*

INTRODUCTION OF STUDY AREA

Alwar City is located on 27° 32' 30" N latitude and 76° 37' 30" E longitude in North-eastern Rajasthan. The city covers an area of 48.14 sq. km and possesses population of 3,15310 persons (Census, 2011). Surrounded by The Aravallis in the west and south-west. Alwar is well connected to New Delhi and Jaipur by railway and roads and is accessible from Haryana and Uttar Pradesh. The has a significant historic-cultural background and the centre for tourism, trade and commerce, education and health facilities

To identify major environmental problems and the need for implementation of proper Urban planning.



OBJECTIVE

The purpose of this paper is to investigate the environmental Problem of in Urban Area in Alwar City and its impacts. The paper also reviews the role of a government to deal with the issue.

HYPOTHESIS

Causes of extreme extinction in the environment Problem in Alwar City

METHODOLOGY

This current paper is based on a second type of data basically obtained from secondary sources such as the UIT alwar and The input method used is paper. Proper analysis of each item Data is well represented with the help of graphs and tables. The features used are used on paper.

This study is based on primary as well as secondary data. The primary data has been collected through field survey using Base Map and Google Earth Imageries of the present land use categories, structure, and related problems and issues. The information on the land use, history, population, industrial and infrastructural facilities, and other socio-economic facilities have been obtained from different government

departments at the state and municipal level including, Alwar; Government

Museum, Alwar; Rajasthan State Archives, Town planning department, Alwar; PWD, Alwar. for analysis and interpretation. The field survey was also conducted through personal interviews and questionnaires from commercial developers, Professors, politicians, academicians, engineers, industrialists, locals and planning authorities to understand the key issues related to land use and problems faced by them and the need for planning. Master Plan of the city has been used as the base.

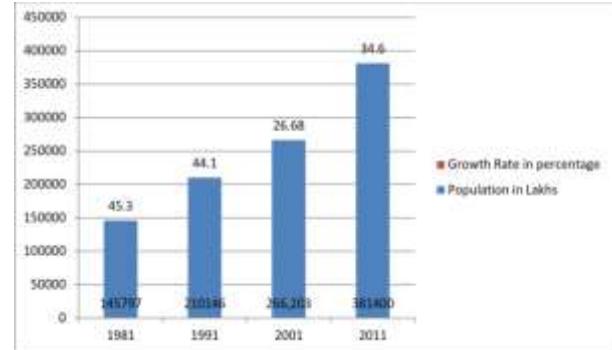
Alwar and its Phases of being Urban, and its Major concerns

The Accelerating pace of growth in Alwar started after 1980s both in terms of its growth of demographic composition, markets, urban spaces and infrastructure with the development of its localities and peripheral settlements.

As per the Plan formulated in 1985 for NCR, Alwar and Bhiwadi were identified as regional centres and were to be developed for setting up of industries and other economic activities on priority basis (GOR 2011). With such planned efforts, the Alwar started emerging as one of the important trading centres and satellite town for the NCR and it acquired its shape, as a product as well as a process by the procedures of the state and the manoeuvres of the market (Srivastava, 2009).

The city witnessed growth in its population due to various efforts of the government such as growth of industry and growing of employment opportunities in the city. The city attracted migrants from nearby rural areas (UIT 2014).

The population increased from 38.10 per cent to 45.30 per cent in 1981, 44.10 per cent in 1991 and but subsequently reduced a bit to 26.68 per cent and 28.24 per cent in 2001 and 2011, respectively. Finally, it is with the inclusion of four villages (Mannaka, Divakri, Belaka, Bhugore) in Alwar Metropolitan Area" the absolute growth rate of Alwar city in 2011 reaches to 34.60 % (UIT 2014) During the Census 2011, located at the periphery/fringes of the Alwar city counted as part of Alwar city population.



Alwar not only got a special mention in the Master Plan of NCR Delhi(Lall 2001) as mentioned earlier, the GoR itself also came up with its own Master Plans in 2001 to streamline the growth of infrastructure, transport, industry, etc. in the city. The plan aimed the year 2031 to achieve the set targets.

Land Use	Proposed Land use 2001		Actual Used Land in 2011	
	Area (hectares)	Developed Area (%)	Area(Hectares)	Developed Area (%)
Residential	2240	44.80	1858	45.60
Commercial	246	4.90	196	4.80
Industrial	1180	23.60	1055	26
Government/semi government	54	1.10	42	1
Recreational	188	3.70	84	2
Transportation and communication	464	9.30	309	7.60
Public places	628	12.60	526	13
Total Developed Area	5000	100.00	4070	100.00
Government Reserved Area	1234	-	1182	-
Dairy Ponds/Mountain	454	-	35	-
Fallow land	-	-	70	-
Total urban Area	6688	-	5807	-

Currently, the city's urban area covers 49 Sq Km of which industrial (26%) and residential (46%) areas cover 72 % of the total land (UIT 2014).

Total Land covers	Industrial	Residential
72%	26%	46%

Major concern of being Urban is in the Rising cost of land and accessibility of urban land in Alwar. Land cost in Alwar following the trend the costliest is found in the heart of the city where urban amenities and infrastructure at its best. Dividing Alwar in three parts horizontally the middle part has the maximum cost which reduces on the other two sides, i.e., towards densely built inner part and sparsely developed outer part.

Residential houses in commercial areas of Road no. 2, Pratappbas, Jublibas and at major crossings characterised by high land value prove uneconomic to take the profitable returns of the land. The landuse has shifted from Residential to commercial. It is also found relatively high at major cross-roads and along Delhi and Jaipur roads in outer part. vacant plots amidst residential colonies, reduction in size of land plots as well as

in size of built structures and increase in adoption of vague aesthetic and architectural style. As the prices of the land increases, the other strata of the society prefers to stay at the boundary as the land prices are comparatively low. Built-up area of city is expanding horizontally approaching cheaper agricultural land of outer parts. The growth of urban land use, to a great extent, has been occurring rapidly towards MIA in East along Delhi road. In future, it may have detrimental effect on both people and industries. Development of MIA and high land value in city has induced growth of urban sprawl on Delhi road which is characterised by low density, leapfrog development, and outward expansion.

Agricultural land which is cheaper as compared to residential land in the city and is free from municipal taxes on the main outgoing roads have attained magnetic properties to the investors of money on land and where no such controlling laws are in operation. Low density pattern of development has also encouraged misuse of land as vast amount of agricultural land is left vacant or unused. Such conditions are favourable for the formation of slums which may occur in outermost part of the city, if this type of haphazard and uncontrolled growth persists for years.

Bottlenecks of the Traffic: Tripoliya is one such example in the city where Monday is a heavy day. Since the morning devotees with two wheelers with their utmost devotion couldn't find place to preach the Shrine peacefully. The shrine attracts various devotees everyday but Mondays proves to be the Sun of the Solar system. Lack of parking facility leads in congestion and traffic Jam on daily basis. Because of the increase in population in 2011.

Kedalganj also shares the same experience as the location of small scale and household industries particularly tel, ghani and khandsari industries in area has now proved to be a misfit for the location. Lack of space causes obstruction in the desirable privacy and peace of the residents by causing noise and nuisance in the surroundings.

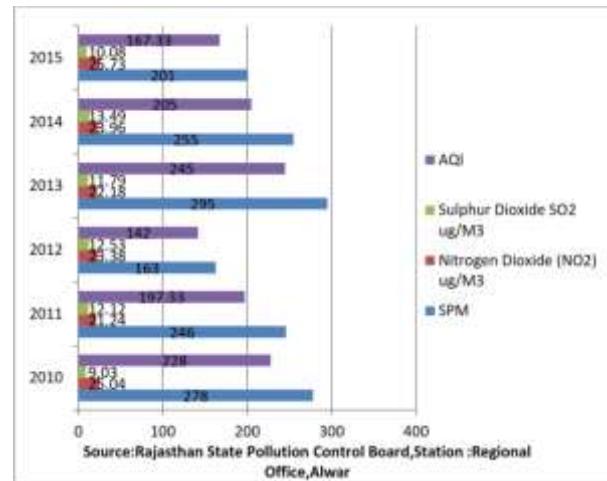
Majority of the shopkeepers at Ghantaghar vegetable market and Kedalganj grain market resist to shift their establishments from this densely populated area to the lesser one because of the higher demand. These shops lag behind with the optimum location and considered to be as misfit as the surrounding area is characterised by dominance of retail shops. Higher concentration of demand and supply, leads to traffic jam in that area.

The face of current urban challenges such as rapid urbanisation, poverty, environmental pollution and unemployment various calls have been made for sustainable development and redevelopment of cities and urban areas. Urban Land use planning is offered as a more effective tool to deliver this goal.

Major Environmental Problems of being Urban Area Alwar and the need of Planning and Implementation:-

Planning systems and practice like any other form of human institution should not be built on a stereotypic conceptual model, but should be conceived taking into account human action to ensure their success in addressing sustainable development challenges that confront the world today.

Urbanisation has resulted steady deterioration of the city's ecosystem resulting in adverse impact on natural resources (land, air, water, soil and forest). Therefore Alwar has been included in the 50 most polluted urban centres of India, where solid particulate matters (SPM) and SO₂ levels are found critical (Khullar, 2008). Major sources of Air pollution include stone and marble cutting and polishing industries, chemical industries, metal based industries, forest based industries, increased number of Traffic.



Source:

Following the Noise Pollution The metal based and Tel, ghani industries in Hope circus area produces imperceptible noise pollution. Besides, inadequate and poor sanitation, sewerage and solid waste disposal services leading to open defecation, heaps of garbage and overflow of garbage laden sewerage on roads enhances environmental complications. The inner part is facing problem of urban decay due to increasing number of dilapidated, obsolete structures. Inner city renewal programme may check further decay and conserve these structures by restoring the uniqueness of the city and the inner part. Inner part of alwar the streets are narrow as compared to the vehicles and traffic leading to congestion and bottlenecks.

The street animals wander on roads freely, even sitting in the middle of the roads create problem for the residents or to the visitors while driving they obstruct the leading leading to fatal accidents this rural-urban culture needs to settle to promote growth. The outer part has, improper developed

infrastructure subsequent upon sparse growth of structures has led to increase in incidences of social crimes, i.e., theft, robbery, rape cases, gambling, murder, accidents etc.

Source: Master Plan, Alwar (2011-2031)

Such type of environment, people always remain under deep psychological pressure and stress. The urban environment in these areas may be improved by providing street lights, proper maintenance of roads in the city, patrolling of police. Increased human interactions in reserved forests of the Alwar hills has been affecting the flora and fauna.

Online trends of Vlogging and exploring the not-so-explored trend has led to the exploration of many natural habitats and roosting sites of animals and birds, any how has led to indirectly affect the environment and ecosystem of the nature. It is need of the hour to conserve these Green blessings in the form of forests; otherwise city's environmental and ecological balance will certainly fall in peril in future. For this, a replantation scheme covering the foothill areas may improve the existing condition. Further, any development activities in these areas should be environmentally as well as ecologically viable and friendly. The development of green belt as envisaged in the Master Plan as well as in the Development Plan needs immediate implementation on the ground level and given priority basis along the major roads and in peripheral areas.

PUBLIC PARTICIPATION IS THE NEED OF THE HOUR

The main reason of this limited success is the Active involvement of locals during preparation and implementation of Master plans and other development schemes. It is the people who can identify their problems and make themselves and our Alwar a priority, prioritizing problems and better addressal of the problems than government officials can be done by the locals.

DIGITAL MAPPING OF URBAN LAND

Urban land use planning needs to be technology driven, the assessment of resource potentiality, its availability and consumption in the urban areas. Urban Information System (UIS) helps in development through preparation and integration of thematic maps using satellite data and GIS techniques.

IMPORTANT ENVIRONMENTAL ISSUES AND THEIR SOLUTIONS

Such population growth in urban areas creates many environmental problems. Some important environmental issues and their solutions may be discussed below:

1. Shack Development

Areas within large and small cities (urban areas) that do not have social and basic needs are called slums. These slums are due to the lack of access to rural areas and the lack of housing.

They build their houses using worn cans, empty tarpaulins, roofs, jute bags and so on. Although these areas are overcrowded, these facilities lack public facilities such as lighting, water supply, water, roads, toilets, and medical facilities. Slums become centers of many environmental problems. Some important environmental issues can be described as follows:

(i) These shallow areas dispose of their waste in an informal manner that pollutes the air and water.

(ii) Water pollution causes diseases such as typhoid, cholera, enteric fever and gastroenteritis.

(iii) Informal waste dumps and open sewers become areas for the growth of disease-carrying diseases such as flies, mosquitoes etc. This poses health risks not only in informal settlements but also in nearby areas.

Therefore, to avoid the above environmental problems, informal settlements should be provided with the provision of public services such as lighting, water supply, water, toilets and medical facilities.

2. Solid waste management

The densely populated urban area uses a lot of material and at the same time produces a lot of solid waste. Solid waste includes municipal waste, industrial waste, hazardous waste etc. Production of solid waste increases with increasing population. When this solid waste is disposed of for a long time, it emits a foul odor and toxic gases and then generations of animals carry various diseases.

The gases produced cause air pollution, surface runoff from debris causes water pollution and vectors cause various diseases. To avoid the above environmental problems, a more appropriate waste disposal method must be used or recycled or disposed of living, inanimate, and recyclable waste.

3. By exploiting natural resources

Due to overcrowding and costly living, the use of natural resources (eg water, energy, fossil fuels, forest products, etc.) is very high in urban areas. There is also the misuse of natural resources whose compensation is rapidly increasing. There

are few serious problems in urban areas. Lack of drinking water especially groundwater, lack of forest products, power outages due to excessive electricity consumption etc.

4. Availability of open space

Due to the rapid growth of cities and overcrowding, urban areas are overcrowded except for open spaces for parks, playgrounds, and recreation centers. This leads to a lack of free and clean air and a place for play and recreation.

5. Air pollution

The air in urban areas is polluted due to many anthropogenic activities, mass traffic, industries etc. These activities release pollutants such as carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides, hydrocarbons, organic chemical vapors, particles, toxic metals etc. which can reduce several health risks.

6. Noise pollution

Noise produced by cars, vehicles, public works, industries etc. causes noise pollution in urban areas causing mental and physical illnesses.

7. Violations of town planning laws

Random urbanization leads to violations of established rules for establishing urban settlements where one can live a healthy and comfortable life. Built-in structures do not comply with a specific location index or floor area.

8. Cutting of water and water pipes

Migration of large numbers of poor and rural people without a sense of nationality, dumping of large amounts of solid waste, unplanned settlements etc. in urban areas poses a problem for water logging and water flow.

9. Traffic and floating people

The massive influx of people from rural areas in search of work in urban areas poses a serious problem of traffic and environmental pollution of all kinds.

10. Unusual temperature rise

The informal construction of large buildings in urban areas absorbs the sun's rays and, in the afternoon, emits heat waves that increase the temperature of the climate.

CONCLUSION

The Government of Rajasthan showed special concerns to transform Alwar city into a dynamic

urban growth centre. However, not standing with government's Aim of developing Alwar into an inclusive and dynamic urban growth centre, the current trends of growth of Alwar city are not in line with the targets of the state. Planning without implementation is just like vehicle without Fuel. The analysis brings in light the level of urban amenities available in the city is deplorable. In respect to the level of urban planning and implementation has not met the reality on ground level. All the measures and precautions are much more implemented only on the paper rather than the reality. The bottlenecks of the traffic and functioning of the traffic rule is still not prevalent in present day even the traffic light of Bijli ghar chauraha being the epicentre of the city is still not coping up with the traffic congestion even in the daylight. During the diwali festival the two wheelers creates congestion in the city's marketplace which creates nuisance and improper functioning of the traffic flow. The big promises made on masterplans and planning of the city does not meet the reality of the city.

REFERENCES

Berry, B.J.L (1961). City size distributions and economic development. *Economic Development and Cultural Change*.

Geddes, P. (1949). *Cities in Evolution* Williams and Norgate, London.

Government of Rajasthan, Master Plan, 2014, Jaipur

Sharma, K.D. (1992). "Patterns and Processes of Urbanization in a Himalayan State: A Case study of Himachal Pradesh (India) 1881-1981", *Transactions of the Institute of Indian Geographers* Vol.14, No 1, pp.1-12.

Master Plan, of Alwar (2001, 2011, 2031.)

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