

Retrieving the Sustainability Concern of Periphery Areas in the Era of Urbanisation– A Case of Amritsar City

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Abstract:

In the era of Urbanization and technological growth, cities are expanding beyond their boundaries thus finding their new future in urban peripheral areas. Cities today are bringing up new challenges that came up with competing land uses presenting the disintegrated and discontinuous urban growth patterns. Urban growth process of cities in the periphery is an intricate phenomenon that has resulted in urban voids which are not witnessed on horizontal grounds but also presenting their blight image in vertical sights. This phenomenon is followed by encroaching upon agriculture land for the urban growth effecting the physical, social, economic and environmental well being of periphery areas, thus highlighting sustainability concern. Therefore, the study examines the peripheral areas specially in relevance to medieval origin city like Amritsar, which are the sprawling areas of main city that lack the structured development patterns presenting the challenge for the overall urban sustainability of an area. . This study uses mixed methods approach quantifying, how unstructured and unsustainable physical patterns of development dispersed, as and when they emerged out from core to periphery. The study results shows how urban growth process which is responsible in loosening the compact growth of Amritsar city , is leading to unsustainability. Thus the main argument of study presents that with the expanding growth of city ,the urban identity, image ability and urban morphology is changing that call upon the serious measures in terms of planning -sustainability norms and architectural measures to harmonize the urban skyline in order to establish identity .

Keywords: Urban Void, Urban Vitality, Urban identity , Sustainable - development

1.Introduction

Through this study, our aim is to repose the urban sustainability of the periphery which is the part of cities urban growth ,but has lost its urban image ability due to the phenomena of urbanization and globalization , bringing new challenges in horizontal and vertical identity to an area. Study focus on the case of medieval town of Amritsar, discussing the factors of urban sprawl ,enlisting the growth challenges responsible for loosing the character of city. We believe that the following paragraphs unfold the challenges faced by cities in terms of periphery development which is disintegrated, loosen up, harming the physical , social economic and sustainable growth of cities. Findings and approaches call for the serious land

use planning and urban identity measures at local government level to save the identity of cities and regulate the urban growth patterns.

2. Theory And Methodology

2.1 Theoretical Overview

The era of globalization and modernization has brought with it new challenges which are faced by the cities worldwide. Urban sprawl in cities is not a new phenomenon but a quiet old process. Nelson (1995) have summarized the different definitions of urban sprawl in the urban planning literature to create a one definition of the sprawl as: ‘...unplanned, uncontrolled, and uncoordinated single use development that does not provide for a functionally mix of uses and/or is also not functionally related to surrounding land uses but it appears variant form as low-density, ribbon or strip, scattered, leapfrog, or isolated development (1).’

The phenomenon has gained its pace when the city’s core became unsustainable to tackle with the increasing population pressures. This was all continuous process, but it became more dangerous when urban and rural interface gained shanty picturesque. Complexity of land uses , real estate boom , lack of governance , unapproved developments became the real vision of what we called the face to the periphery of cities in our nation . Unplanned growth would involve radical land use conversion of forests, surface water bodies. with the irretrievable loss of ground prospect (2),(3),(4),(5).

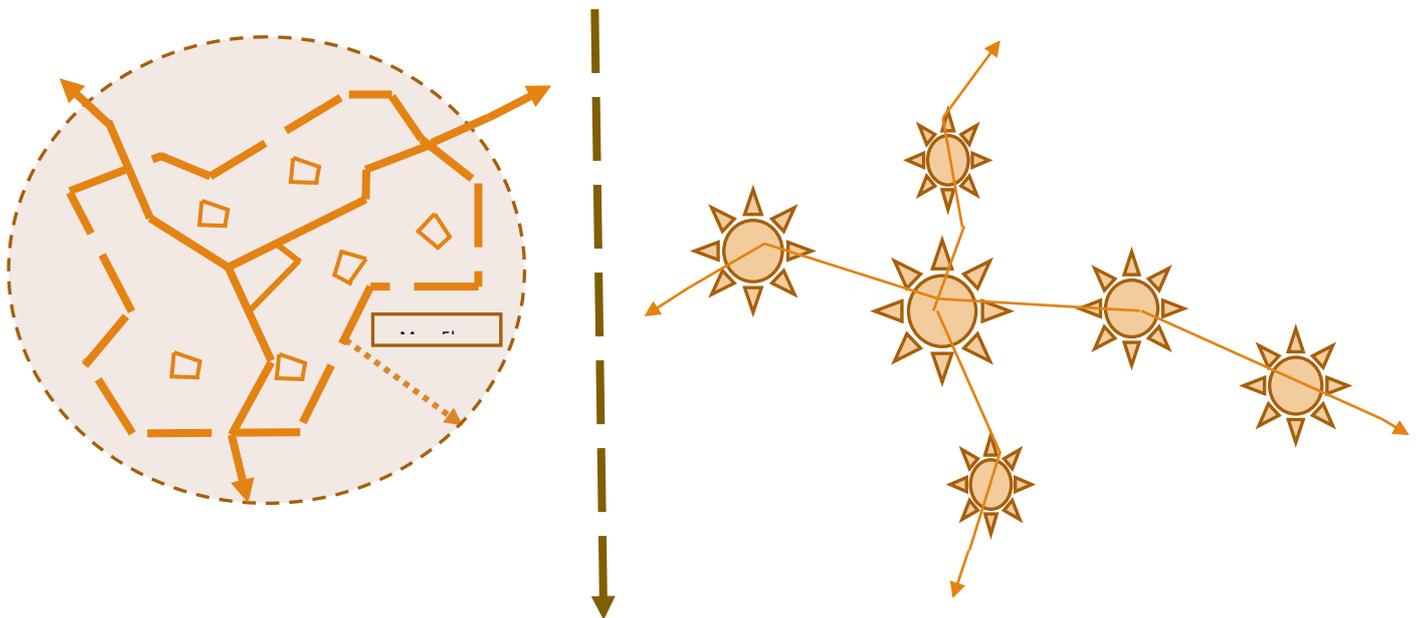


FIG -1 Integrated Development In Core vs the scattered nucleus approach of the periphery

Urban periphery population is still dependent upon city core for its livelihood . Thus expansion of city area due to rapid population growth leads to the increase in the total built up area decreasing the green cover leading to an unsustainable landuses . Core cities are approachable with limited expansion presenting the interwoven network of spaces in contrast to periphery areas which are disintegrated and dispersed development units illustrated in (fig 1).Phenomenon of haphazard urban expansion has led to uneven distribution of land uses which

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has led to the change of urban form and the structure of cities. Many authors like (Gillham,2002;Hilman ,1996;Deal and Schunk ,2004;Kelly-Schwartz et.al,2004; Siedentrop ,2005; Bhatta. B, 2010; Habibi,S.&Asadi,N.,2011, Shirkhanloo, Nina 2013) have mentioned in their studies about sprawl as segregation, polarization , fragmented , socially unsustainable framework of urban form and structure causing unsustainability in all sectors like economic social , physical and environmental (6),(7),(8),(9),(10),(11),(12),13). Cities are growing in an unsustainable manner at the expenses of our rural areas , due to which not only the urban growth but also the quality of life is disintegrated in our living areas .Therefore, increased distances and regular dependence of basic needs on city core negates the concept of sustained compact development in urban peripheral region of cities. In this study we would move towards the sprawling periphery growth challenges faced by many developing countries .

2-1.Growth Challenges

The periphery growth challenges in developed and developing countries is very different due the difference in quality of life , demographic profile and government policies . Developing countries show rural to urban migration , decreased in urban population in core, rural urbanization creating mix of agricultural and non agricultural activities , thus changing the spatial structure of cities in developing countries . Globalization have impacted in changing the facial structure of periphery impacting the urban imageability and sustainability of periphery in case of developing countries. When we define urban sustainability we consider 3 pillars upon which we analyze the cities , that are social(our society , health and well being) , economic resources to operate society and environmental well being .

The periphery areas have undergone great urban sustainability challenges in terms that there are unregulated developments that present the shabby outlook to these areas. Peripheral urban areas are some of the most contested areas of the city in terms of the range of competing land uses: from industrial and distribution to residential and leisure. Thus, Periphery areas are opportunistic as there is greater scope of development. But due to cheaper land rates real estate monopoly overshadow the regulated development in these areas. Sometimes the growth challenges are due to already existing patchy development. This disconnected development creates disconnected communities which further leads to the issue of social fragmentation.

The periphery areas in developing countries also present the special character of development when it comes to area of existence like cantonments in urban periphery. Cantonments restrict the development opportunities in that area. So we can justify that there are greater growth challenges which need to be thoroughly studied to form planning regulations so that regularized urban character can be achieved . Thus the history of urban growth of periphery and the extent to which urban and rural areas are separated, the role of transportation, communication and information technology, economic development they all vary widely globally (14),(15),(16).

Urban planning and urban design prospective evolved throughout the twentieth century, lead to a great variety of urban forms which has resulted in their direct impact upon the urban environment. Thus with an increasing awareness of human impact on the environment, the concept of ‘sustainability’ gained international significance in an emergent way. From the

1970s onwards, ideas of sustainability evolved in the urban planning literature – and in somewhat ‘radical’ manner when first emerged by the 1987 World Commission on Environment and Development’s *Our Common Future* (WCED, 1987), also known as the ‘Brundtland Report’, brought sustainability first time into the mainstream.

When we discuss about growth challenges of conventional urban development (or sprawl) we point on various impulsive factors as discussed below pointing on urban intensification and integration, creating limits to urban growth in periphery areas and their expansion encouraging mixed-use development rather than single use and focusing on the change of urban quality landscapes.

a) Population pressure

The term suburban is derived from the Latin *sub urbe*, meaning beneath or below the focus of the settlement, the *urbs*. Predominantly the spatial arrangement was such that the *sub urbe* was situated beyond the walls that defined the centre of the settlement (17).

The centre core of the cities are inefficient to tackle with higher growth of population pressures. Therefore cities are expanding at constant rate, some in concentric growth module, linear expansion, core to core linking expansion etc. If the growth of cities is in organized manner then it is observed that urban identity of the cities is retained. But on the other hand if cities expand due to higher population pressure in haphazard manner, the urban identity is lost in the urban outreach of cities. This is matter of concern not at local level but completely at global outlook level.

b) Cheaper land

The land rate in urban periphery are much lower as compared to urban core of the cities. Due to lucrative offers available at peripheral areas variety of land uses came up in these areas. The concern lies here when we consider the compatibility between the variety of land uses to create the defined image of urban fabric in these areas.

c) Better connectivity

The urban periphery areas have opportunity of better connectivity to city fringes and extended area. But due to fragmented urban fabric of the periphery areas it bring the challenges of social dysconnectivity or we can say the social disintegration.

d) Urban Imageability –Sense And Perception

City is basically interaction of individual perception with physical environment which changes with the perception image when city grow from medieval boundaries to outward peripheral areas(18). Lynch describes observer as a citizen who “has had long associations with some part of his city, and his image is soaked in memories and meanings” (18). To describe any city we need to consider the five elements given by the Kelvin lynch that describe the perform that are Vitality, sense, fit, accessibility and control. These differ from core to extended periphery which help to retrieve the image of area in the spatial manifestation process which is described in the case example in the paper.

2-2.Methodology

This research was conducted using mixed methods methodology using secondary data as well as primary survey approach. Primary plans were generated from first hand physical survey by author and multiple secondary sources as well as Amritsar draft Master plan report 2010-2031 was referred . Qualitative analysis was done on primary data and factors were analysed on same basis.

3.Results And Discussion

Every city has some influx factor that contribute to its development through the history. Medieval origin cities are the cities that evolved between the ancient and the modern era. Amritsar city is a medieval origin city situated in Punjab , India name after 4th Sikh guru , Guru ram das , flourished between 16th to 18th century as a walled city in first phase.

The physical form and urban structure of the city has undergone the change in the different time periods . The religious center Golden temple within old city around which whole settlement evolved in the past era has transformed the city from core complex to the sprawl phenomenon. The change in the urban form and the urban tissue of the city, crop up the concern of the different urban image in periphery , losing its originality of urban fabric creating unsustainable land forms. The below figure 2 depicts how the urban structure of city is transformed from core to periphery leading to fragmented urban form.

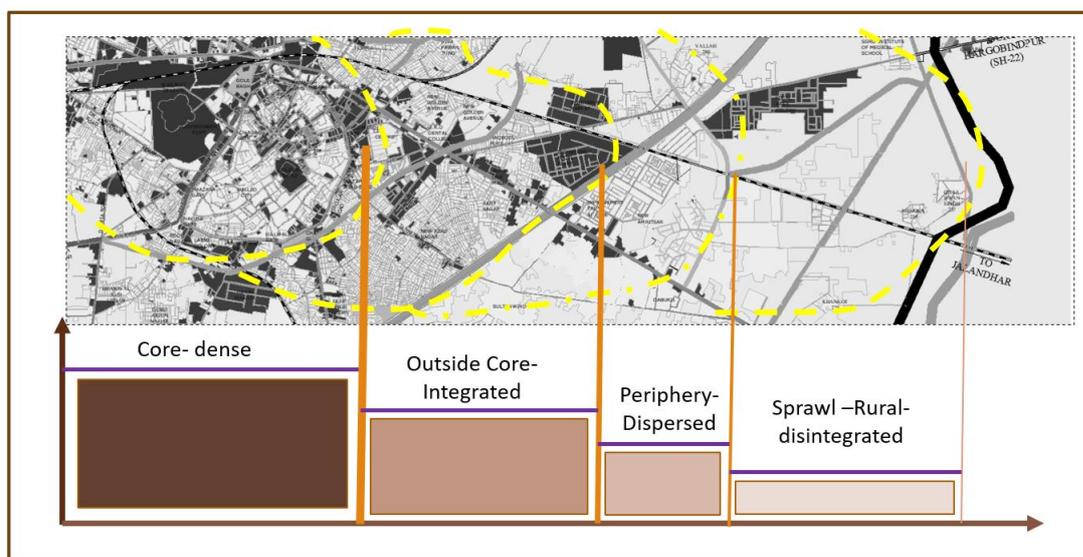


Figure 2. Spatial Transformation in the urban structure of Amritsar city area Source: Analyzed from Google Earth

The city is structured in the organic form extending its boundaries to further development. The existing structure of land use is mixed type of development. Walled city is the emerging point of city growth having hub of economic activities; thus, the city is growing in the poly centric form. If see the below Table 1 below, it shows how the settlement group around the city has grown due to the influx of economic development. This has majorly impacted the

overall physical structure of the city. . This has led to the haphazard growth of the city creating the various issue of social, physical, economic and environmental imbalance.

The distribution of different land uses has increased over the period of time impacting the distribution of area under residential and commercial use ,which has amplified with the increase in population over the period of time

Settlement GROUP	2001	2011
BELOW 500	43	124
500-1000	59	147
1000-2000	150	247
2000-5000	42	156
5000-10000	16	27

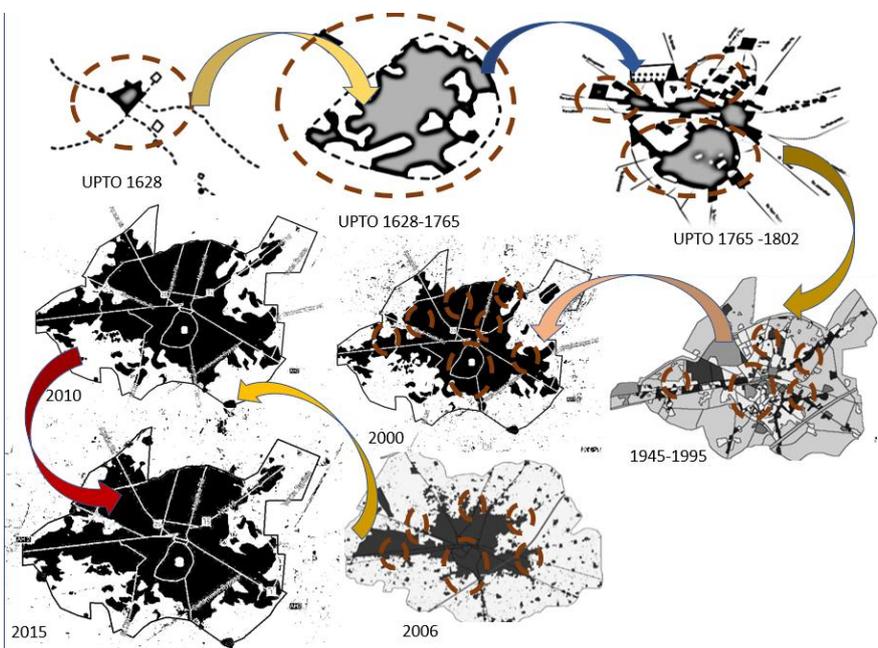


Table 1.Settlement group rise from year : Analyzed from Draft Master Plan Report Amritsar 2010-2031 and Census of India Report 2011.

Figure 3 Evolution of city increasing built up area from year 1628 -2015: Analyzed from Draft Master Plan Report Amritsar 2010-2031 and Google Earth.

In the fig 3 we can clearly see how the city emerged as the single epicenter up to 1628 and went through drastic urban form and imageability changes in the different eras of Mughal rule, British rule, Post-independence, and present era. The city has presented the finger planning form with the fragmented, disintegrated structure and character of periphery. To study the performance of city defining its character three timelines of city has been compared in below . The study below in Table -2 reflected that periphery is the constituent of city core which is beginning and where cities' urban character has been evolved .The sense of perception ,urban structure , urban form drastically changes as we move from central city to periphery creating unsustainable urban image

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CITY FORM ELEMENTS	WALLED CITY (Medieval)	UNWALLED CITY(British)	PERIPHERY (Present 2010-2020 master plan)
			
VITALITY	Decay due to increase in population growth and changing needs and aspirations of people .	Increased traffic due to dependence on vehicular community .Thus harming the physical and social sustenance of living	Vitality of urban public space and environment increases at community level but overall dispersed development generate urban pressure
SENSE	Greater sense of belongingness to physical form and social contact	Lesser sense as division of lots with boundaries and privacy factor disconnect with	Decreased sense due to larger lots sizes and confinement of unorganized land uses
FIT	More connectivity and integrity	Integrity at cul-de-sac level while physical connectivity increase but socially it is reduced	Lack of connection of physical dispersion with social living pattern of inhabitants
ACCESSIBILITY	Easy pedestrian approach to various services and facilities	Less favor to pedestrian environment and more stress on vehicular movement	Vehicular accessibility at greater level preference to pedestrian at secondary level
CONTROL	Greater control due to integration socially and physically	Control on private environment increases but on public space this is less.	Control of user of space at local level but at urban level it is highly lost due disintegration of communities

Table 2 Comparative analysis of three Development stages of the city Amritsar. Source: Primary Survey

Thus, we can clearly drive the unsustainable phase of urban development represented as the foremost step towards the decentralized sprawling developments in periphery and uncontrolled growth pattern which has characterize city today .

Thus this periphery spatial transition is seen as an image of uncontrolled and unsustainable development (19).The basic factors of urban character that periphery present are the dilapidated structures and no uniformity in skyline, unplanned growth of town , variety of land uses creating heterogeneity of form and urban voids with unused land uses. The city of Amritsar presents the finger plan shown in figure 4 below with core as the palm print and extending peripheries as the finger extending in all directions except towards border side which act as a constraint.In the era of urbanization and globalization this city has gained momentum of growth due to the iconic heritage center of Golden temple. Therefore, the urban character of city in the periphery is completely modernized or we can call disintegrated-unsustainable as compared to the core.

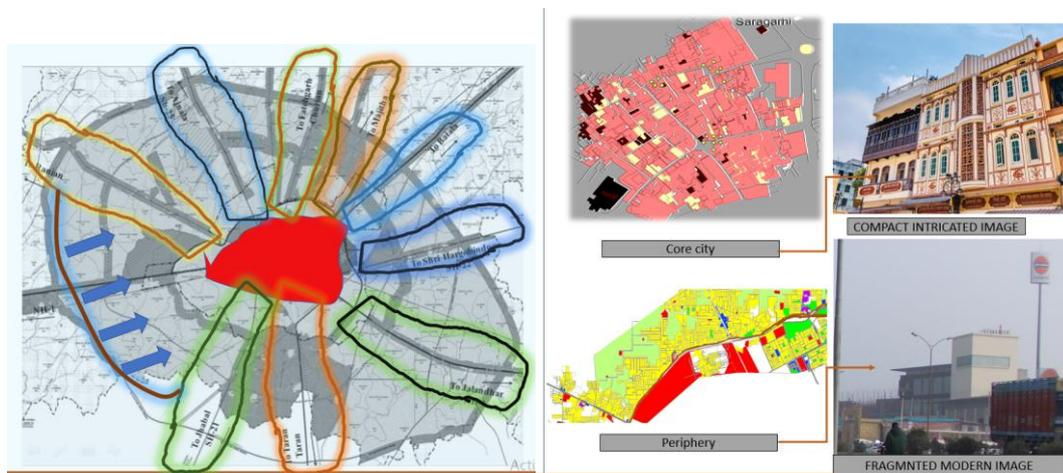


Figure 4: Imageability difference of the character of Periphery verse Core city of Amritsar

Tilaar (2015) explains that the transformation of peri-urban regions involves spatial/ physical and socio-economic transformations(20). Spatial transformation of peri-urban regions involves aspects of land use, accessibility, and completeness of available infrastructure (21).There are the different factors that impact the overall urban layout of the periphery areas in case of Amritsar City mentioned in the below table.

FACTORS	IMPACT
Social segregation	Community interaction and social networking hinders, giving privacy as a prime concern , thus resulting in disintegrating communities.
Conflicting land uses	Unplanned and unauthorizes developments

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More distances -more roads networks	Encourage use of private vehicle Environmental degradation Loss of green spaces and agricultural land
Lack of Architectural character	Poor aesthetics No façade controls Discontinuous development

Table 3: Resultant factors that impact the Periphery area of Amritsar.

From the above discussion we reveal that Amritsar City is undergoing in serious character and urban morphology change in periphery that harming the social and physical sustainability. The core of the city is able to save its conventional urban imageability and character due to high density but the periphery is presenting completely modern image that is harming the overall urban form of the city.

4. Conclusion:

Thus, the study shows how the urban character of periphery area is affected creating unsustainable landscapes . On the one side, we can acknowledge that urbanization has led the city outgrowth which has become basically the opportunity for the residents to escape from decayed conditions prevailing in core city and reside in better opportunities and better living conditions. This has generated on the other hand generated numerous negative consequences such as higher water and air pollution, increased traffic fatalities and jams, loss of agricultural farmlands, increased dependency on automobiles, higher public expenditure, harmful effects on human health and rise chronic diseases, loss of natural resources, and green open space. Moreover, it has also impacted the social life of people in terms of community dis connectivity rather than integrity. The two terms (core and periphery) are both associative and determinative, implying the existence of a priori, the presence of the one relying on the presence of the other(22). Thus the study has reflected urban character and form of periphery areas represent dynamic transition of urban appeal that already extant blight image than nurturing its sustainability.

In order to retrieve the urban sustainability of periphery following suggestive measures should be adopted to regulate the urban form and character of the periphery.

- The development in the periphery should be regularized in terms of land use policy in order to avoid disoriented, disintegrated and unstructured urban growth,
- Ribbon development promoting the interface between different urban settlements in the periphery should be checked. Compact development should be encouraged minimizing the conversion of agricultural land to non-agricultural land.
- Urban imageability in the periphery should convey the flavour of city image and style and should not be completely alien and depicts only the vocabulary of modern urbanized environment .
- Patchy development should be integrated wisely creating the better urban form with better standards of living and employment to reduce the urban pressure on the core.

- Urban sprawl is basically unavoidable phenomenon. uncontrolled and unauthorized development has basically led to many social and environmental issues. Local planning authorities should intervene to regulate the development so that city growth should be in planned and controlled manner.

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