

**Athens Institute for Education and Research**

**ATINER**



**ATINER's Conference Paper Series**

**PLA2013-0704**

**Interrogating Challenges for Planners and  
Urban Designers in Territories Undergoing  
Transformation Due to Contemporary Social  
and Economical Changes - Suggesting Adoptive  
Methods and Strategies for Analyzing the  
Changes for Bhopal City**

**Arti Jaiswal**

**Assistant Professor**

**Deptt.of Planning, SPA Bhopal, M.P.**

**India**

**Prashanti Rao**

**Research Scholar**

**SPA Bhopal, M.P.**

**India**

Athens Institute for Education and Research  
8 Valaoritou Street, Kolonaki, 10671 Athens, Greece  
Tel: + 30 210 3634210 Fax: + 30 210 3634209  
Email: [info@atiner.gr](mailto:info@atiner.gr) URL: [www.atiner.gr](http://www.atiner.gr)  
URL Conference Papers Series: [www.atiner.gr/papers.htm](http://www.atiner.gr/papers.htm)

Printed in Athens, Greece by the Athens Institute for Education and Research.  
All rights reserved. Reproduction is allowed for non-commercial purposes if the  
source is fully acknowledged.

**ISSN 2241-2891**

5/11/2013

## An Introduction to ATINER's Conference Paper Series

ATINER started to publish this conference papers series in 2012. It includes only the papers submitted for publication after they were presented at one of the conferences organized by our Institute every year. The papers published in the series have not been refereed and are published as they were submitted by the author. The series serves two purposes. First, we want to disseminate the information as fast as possible. Second, by doing so, the authors can receive comments useful to revise their papers before they are considered for publication in one of ATINER's books, following our standard procedures of a blind review.

Dr. Gregory T. Papanikos  
President  
Athens Institute for Education and Research

This paper should be cited as follows:

**Jaiswal, A. and Rao, P. (2013) "Interrogating Challenges for Planners and Urban Designers in Territories Undergoing Transformation Due to Contemporary Social and Economical Changes - Suggesting Adoptive Methods and Strategies for Analyzing the Changes for Bhopal City"**  
Athens: ATINER'S Conference Paper Series, No: PLA2013-0704.

**Interrogating Challenges for Planners and Urban Designers in Territories Undergoing Transformation Due to Contemporary Social and Economical Changes - Suggesting Adoptive Methods and Strategies for Analyzing the Changes for Bhopal City**

**Arti Jaiswal**  
**Assistant Professor**  
**Deptt.of Planning, SPA Bhopal, M.P.**  
**India**

**Prashanti Rao**  
**Research Scholar**  
**SPA Bhopal, M.P.**  
**India**

**Abstract**

Rapid urbanization and Globalization process, cities are facing tremendous challenges with the increasing demographic transformations, climate change ,inadequate social participation, congested transport networks and other development challenges which in turn hindering the sustainable growth of the cities. Such development concerns in urban housing have become more challenging for the built environment professions, especially from the recent global economic crisis and political uncertainties. However, such cataclysmic changes in global economic and political systems, has opened new opportunities too, to develop innovative design principles and development practices. So it is needed to investigate how innovative design principles and development practices adopted for development which were shaped and reshaped by the recent global economical and political crisis. There is a need for new methodological frameworks for understanding the urban transformations especially with the evolution of spaces over the period of time which is a result of so many factors like Liberalization, Political influence in case of Bhopal city. This paper investigates through the empirical case study of the city of Bhopal in central India for inquiring how design principles and practices adopted in the physical setting of developments have been transformed since Historic time and after the Bhopal gas tragedy in 1984 to the most recent global economic crisis. The paper intends to develop an integrated methodological framework to understand the transformation of neighborhoods in time continuum and will conclude with discussion on role of the global economic crisis in the evolution and transformation of design practices adopted in the neighborhood community developments.

**Key words:** Built forms, Globalization, Space, Transformations, Urbanization.

**Corresponding Author:**

## **Introduction**

Urban transformation itself is a complex phenomenon and it impacts micro as well as macro issues of the City fabric. It is directly connected with the urban development issues and change in urbanization process; one cannot deny both these postulates while studying the process of urban transformation. The concept of urban transformation in planning theory changes in each period and the approach to urban transformation in planning practice differ from each other with reference to the paradigm shifts in planning history. Hence the need of holistic framework to visualize the gap between theory and practice and resolve them to conceptualize the challenges of urban transformations, so that it can be used in the planning system in organized way. (ZEREN, 2011). The Present planning system emphasizes mostly on the future planning and development of urban areas. Because of this, prevailing problems of the city fabric remain unaddressed. Most of the planning policies are highly influenced by western systems, due to which it is sometimes ineffective in Indian scenario. If we look at the Indian scenario; the urban transformation has mostly impacted over built and unbuilt form of the city fabric. This happens because of impact of some prevailing external factors those including various administrative interfaces from past to present in the form of rulers or political empowerment initiatives, Urbanization, and globalization processes. So every city reveals its own story regarding its growth in terms of its social, economic and physical dimensions. For example catastrophe events like gas tragedy in Bhopal on 3rd December 1984 raised some serious ethical issues. The pesticide factory was built in the midst of densely populated settlements in an area where nearly 120,000 people lived. That was a sheer exercise of political intervention in Planning. Hence it is essential to understand different processes of urban transformation and identify the ones that have impacted more and all such analysis will help the built environment professionals to plan for Sustainable urban development.

## **Theoretical Background**

There is a complexity within the concept of urban transformation, in that planning history encapsulates the issues of urban development, urban change and urban conservation. Urban transformation is explained by urban development and urban change by outlining urbanization processes (Roberts & Sykes, 2000) and paradigm shifts (Alexander, 1984) resulting from the non-existence of a single explanatory theory on the concept of urban transformation (Hillier & Healey, 2010). Starting from 12<sup>th</sup> century to 18<sup>th</sup> century bases for the urban transformation changes philosophical and scientific reasons to Urban design factors in 19<sup>th</sup> century. The 20<sup>th</sup> century embraced a variety of progress-related debates and multi-dimensional challenges that evolved from capitalist industrialism and liberalism (Hillier & Healey, 2010).

The shift from modernist industrial cities to post-modernist and post-industrial global cities put an emphasis on the process of urban change (Freestone, 2000) as a dominating paradigm. In parallel with this, the planning and management of urbanization processes have been reconfigured, and the concept of urban transformation became diversified in both the theory and practice of urban planning (Ward, 2004) at organizational and spatial levels. Therefore, the paradigms for the process of urban change created a fundamental tradition of heritage and sustainable development through multi-dimensional frameworks for urban transformation.

Cities then underwent a new period of transformation during the second half of the 20th century after they had become industrialized in which new technologies allowed for development of regional and global networks (Witlox, Derudder, 2007). As a result of these new networks, international hubs came into being on the basis of attracting companies in the advanced service sectors and their headquarters. The main resource of these new economies is human knowledge and thus they are often referred to as knowledge economies. Today, there is fierce competition between established global centers and new emerging cities worldwide (Gaebe, 2004). Thus, the quality of urban space is gaining importance due to the necessity of attracting and sustaining human resources.

### **Measuring Urban Transformations in City Fabric**

Throughout history of cities, there have been changing between growth and decline, and “there has always been an element of instability in cities, which by their very nature are liable to rapid growth in favourable circumstances and to stagnation when these circumstances alter. City in their state of transformation can be seen as the barometers of economic change, rarely still for long time” (Dyer 1991). Shift and change in political and economic power between places have always created an uneven geography (Storper 1989]. Society and the built environment provide an ever changeable, non-static structure, changing and restructuring over different time spans. Thus Transformation can be defined a process of change that takes the (organization) on entirely new paths to effectiveness. Urban transformation in city vicinity can be measured in various ways, some of them are described below:-

- a. **Physical urban transformation:** - This type of transformation could be observed as reduction of agricultural land holdings, increase in populous area and concentration of urbanized land, loss of fertile agriculture land, new forms of residential neighborhoods, buildings and built forms, increase in density. Another factor which explains the change in urban structures is the increased centralization on into huge urban agglomeration on combined with an increased suburbanization.
- b. **Social urban transformation:** - This type of transformation deals with the change in community perspective for instance

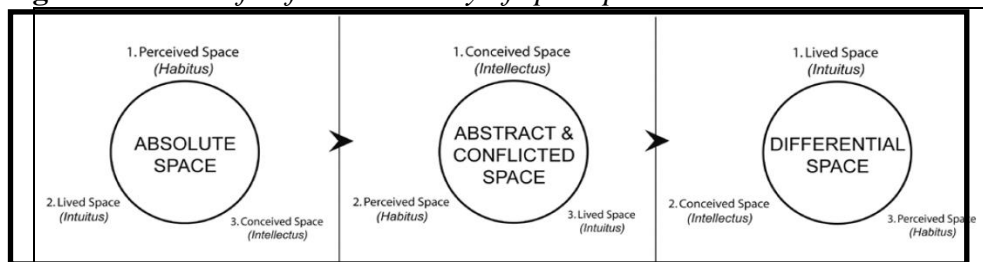
Occupational change, immigration, out migration, increases in economic status of villagers but usually decrease in quality of life. Urban Social Transformation (UST) places the dysfunctions of the city at the center of its scope. Indicators of Urban Social Transformation occur on an individual and collective society level. Individuals and families that struggle with health, finances, education, employment, housing, crime, addictions or dysfunctions begin to make changes that positively influence the quality of their life and the lives of others around them. Improvements are hindered by inept legislation, but slowly exact change in the areas of sanitation, crime, adequate housing, high unemployment, unavailability of viable jobs, poor or no health insurance are the beginning of social ills that plague urban communities. (Heidebrecht, 2006)

- c. c. Cultural urban transformation: - Change in traditions and culture due to the change in percentage migrants and dominance of particular religion in various timeline.
- d. d. Economical Urban transformation:-This type of transformation is observed in due to change in employment generation modes and opportunity in various time frames. In recent years, the flows of goods, services, information, capital, and people across national and regional lines have increased greatly; giving rise to the notion that modern economic activity is somehow becoming “globalized”. (Storper 1997: 169). And the world is becoming smaller and likewise cities are preparing itself as economic growth centres.
- e. e. Environmental urban transformation:-This can be measured in change in ecological balance in urban environment in terms of decrease in open spaces and loss of rural character resource base drastically changes traditional sources of water are overloaded or lost. Consequently, villagers are forced to buy food grains rather than to grow.

Since urban transformation is seen as multi dimensional phenomenon which is different in different geographical context. In this context, this paper seeks to substantiate the hypothesis that urban governance in emerging cities is increasingly facing the crucial need for integrating the specific requirements of growing knowledge communities.



**Figure 1.** *Model of Lefebvre’s theory of space production and evolution.*



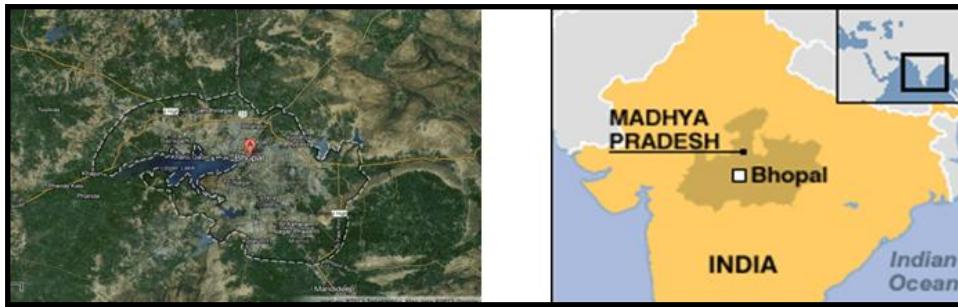
Source: Wiedmann 2012

The basis of the analysis of urban evolution in the city of Bhopal is the work of the French sociologist Henri Lefebvre, who is known for his comprehensive theories on the production of space. Lefebvre, defines three main factors in the process of space production, namely, conceived space, perceived space and lived space. While conceived is regarded as the space produced by planners and political decision-makers, and is therefore based on knowledge and ideologies, perceived space is produced by the spatial practice of all the users of a space. In addition to movements (habitus) and planning (intellects) space is formed by the invisible degree of people’s attachment to a certain place. This subjective dimension of space production is defined as lived space (intuits). Based on his theory of the three dimensions that produce space, Lefebvre developed his second ontological transformation of space in order to address the evolutionary dimension through the course of history (Figure 1). While in the past spatial practice was initially the dominant factor in the production of space, a period followed in which conceived space became most influential. The end of the 20th century though marks, in Lefebvre’s view, the beginning of a new type of space that is more dominated by lived space and which he considers as still being in its infancy. He names these three historical phases as ‘absolute space’, ‘abstract space’ and ‘differential space’ (Source: Wiedmann 2012). his theory of space evolution is applicable to a wide variety of contexts. In this paper the urban evolution of Bhopal as capital of Madhya Pradesh state is investigated by examining each of its four distinct urban spaces during its urban development from a historic settlement to a capital city to its transformation to an emerging service centre within regional and global networks all with all political and social interventions.

### **Case Examples to Interrogate the Urban Transformation Phenomenon**

Bhopal City located in central India. Best city to understand transformation as city is subjected to so many transitions and interphases. City has clearly defined territories. According to the 2011 census the population of the Bhopal city is about 1,795,648. The population of Bhopal district stands at 2,368,145. It has nearly 56% Hindus and 40% Muslims, while 2-4% includes Christians, Jains, Buddhists and Sikhs.

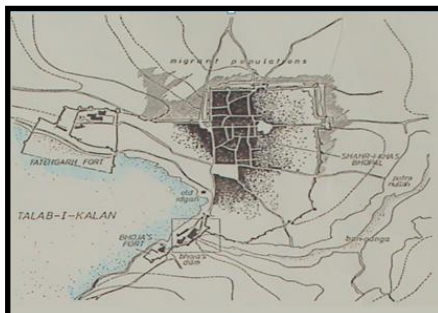
**Figure 2. Municipal Area of Bhopal**



### **Absolute Space: The Historic Settlements of Bhopal**

Considering the past history, Bhopal city is an eminent example of decay and growth. It has been undergone from past to present many administrative interfaces, whose traces can be seen in and around city. The Bhopal city in 11th century was founded by Parmar King of Dhar namely Raja Bhoj and city got its name after him. The city was established again and fortified in the 18th century by Dost Mohammed Khan, when he was invited by Rani Kamalawati. City enjoyed the rule of Nawabs in the past and its traces could be seen in every aspect of it.

**Figure 3. 1800 AD: Sheher I Khas Double cities within lager walled perimeter with Dense four quadrant core. Source: Bhopal saga 2002**



**Figure 4. Historic town of Bhopal Source: Bhopal saga 2002**



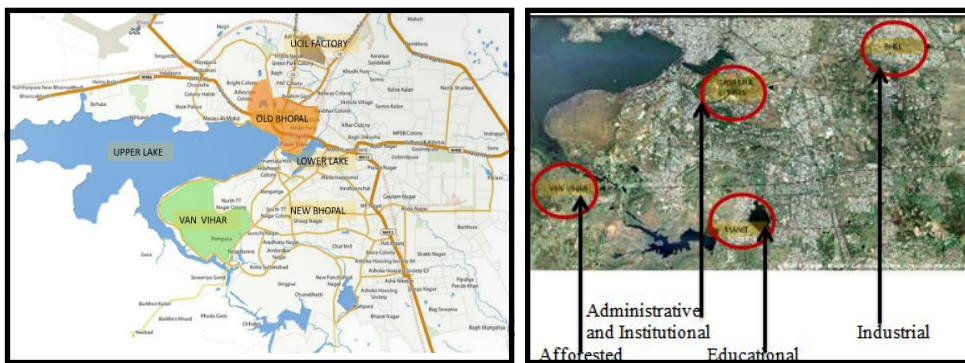
Homes were built based on the inherited knowledge of the indigenous population using local building materials. Residential buildings varied from

simple buildings with one space and entrance to courtyard houses with two floors (Jaidah and Bourenane, 2009, 30). The design followed the Islamic tradition of dividing male and female spaces and the high degree of family privacy, which was further mirrored in the complex system of winding alleys within neighborhoods that served as access to individual homes (Bhopal saga 2002). Bhopal old city area is to a large extent the product of the collective efforts of its inhabitants, their habits and their intuition and thus it is interpreted as an “absolute space”.

**Abstract Space: Modern Urbanisation as a Result of City Being Declared as Capital City**

Bhopal also known as the city of lakes was declared the capital of newly reorganized state of Madhya Pradesh in 1956. The Industrial Township of Bharat Heavy Electricals Limited (BHEL) was also established in the same year this eventually accelerated the growth of city.

**Figure 5 . Different function assigned to different spaces within City**



Source: Author

Interesting thing about this city is that the natural heritage and topography act as a catalyst as well as hurdle in the development of its own. South and south eastern part of City is developed in the past due to availability of water bodies and open spaces in abundance and mainly developed by Nawabs to expose their forts with maximum scenic beauty. But after it had been declared as capital in 1957. and establishment of BHEL Township, the eastern, north and North West part of city started developing as a New Bhopal. At That particular time Govindpura area marked for future industrial development. Subsequently with Nehru’s vision and green revolution UCC invited for foreign investment in Industrial sector.

**Figure 6.** *Bhopal Gas Tragedy Source: Rediffphoto.com*



The site very near to residential area and near to railway track, the site was given to UCIL in 1960 contrary to the land use. Within the city new plant was assigned to strategic location. In 1984 tragedy happens with the leakage of MIC in air leading to thousands of deaths and injuries den and after. That was completely the result of incompatible location of areas. Tragedy resulted in complete seclusion of those areas physically as well as virtually. Due to which the area of city within city fabric subjects to negative growth. With time, lot of urban invention had taken place in that area still the area houses some of the worst survivors of the tragedy and experiencing negative growth trend in terms of poor infrastructure, poor environmental conditions, less density in comparison to other new developed areas of Bhopal.

After the tragedy lot of medical and economic rehabilitation is done for the affected population. As a result of it lot of infrastructure development related to medical and other facilities. a massive medical rehabilitation programme was undertaken in which Rs.226.77 crores have been spent under the Action Plan till 31.3.2003. This amount has been largely spent on construction, equipping, staffing and providing free medicines and free medical treatment to the gas victims through one super-specialty, two specialty, four general, two polyclinics and fourteen dispensaries. Since, most of the gas victims are from the lower strata of the society, the Government took welfare measures to economically rehabilitate the victims. On the other hand, Development of New Bhopal established a new horizons and challenges to the urban planners. Master plan 1991-2005 had also played an important role in development of city by extending its planning area limits. Steadily it led to the new outgrowths like Kolar, Mandideep, and Pilukhedi. This started taking shape due to saturation in Old Bhopal and limited space availability in new Bhopal.

### **Differential Space: The Introduction of Liberalisation Strategies and their Impact on Urban Structures**

Due to number of liberalization policies of Govt like FDI lot of infrastructure development is coming up within the City with developments like international Airport in 2010, Lake front development, bus rapid transit system etc. Upcoming development is taking place mostly along the transportation corridor linking the peripheral areas. Since most of the land within is city is Govt land all the new development in territory three is heterogeneous development with less resembles to old identity of city.

**Figure 7** *Biggest Mall in surrounding regions*



*Source: Author*

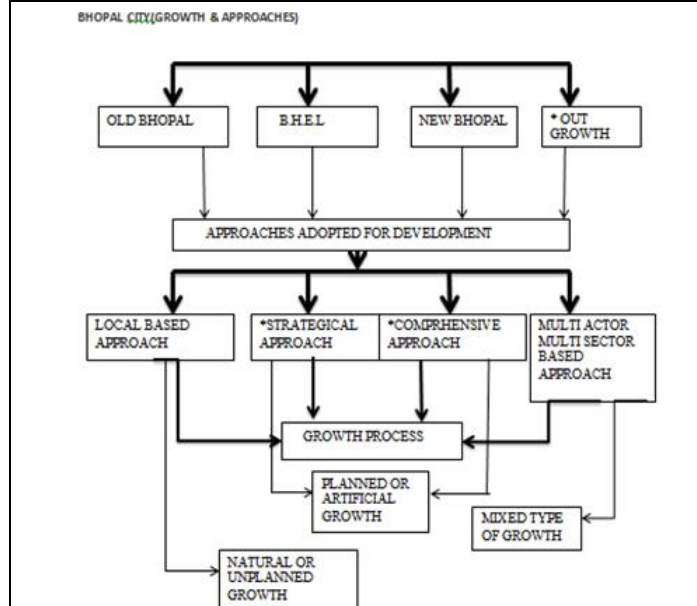
### **Case: Bhopal Functional and Physical Form Transformation**

In the case of Bhopal, urban morphology exist in various forms ranging from concrete physical forms to the more abstract cultural values that people may associate with a place. The walled city of Bhopal was self-contained unit governing a very small principality. Holding the status of capital city basic regional functions taking place in spaces were related to administration. Some of the major territories are occupied by administrative purpose. This function of administration still continues but with a wide change of scale. Except for a few units, much of the areas occupied for administrative purpose leading to less scope for further expansion within the city fabric. As a consequence much of the growth is extending towards the periphery and inner city areas are experiencing negative growth.

New Bhopal area still is in transition stage with many new redevelopment projects, but with lot of Political influence these areas are subjected to spatial and social polarisation. Bhopal, the second largest metropolitan city of the state, is the capital city of state by Madhya Pradesh in Central India , situated in the beautiful surrounding of low hills and large lakes, the city has grown as an agglomeration of old Bhopal, Taty Tope nagar, BHEL and Bairagrah well linked with other cities of the country by rail, Road Air. The city was founded by Parmara king Raja Bhoj some thousand years back in the eleventh century and its function in early year primarily as the Temple town. Since the beginning of the eighteenth century till the Independence of India. Bhopal Grew as the Muslim City with Islamic way of life culture and Architecture. Bhopal was planned to be developed as multi functional city in order to meet the requirement of changing urban economic policies. That time City is structured as identification in terms of self contained sub cities and town planner. There were five sub cities or townships. The development plan of 2005 envisage two additional sub cities, one around Misrod towards Madideep in the south and other between Chola road and Narsingarh road in north west. The major location of the work centres within the planning area is the state

capital complex on the Arera Hills. Commission and district administration centre main business district in the old city area, BHEL, Trade and commercial development in the new market area and Bairagarh.

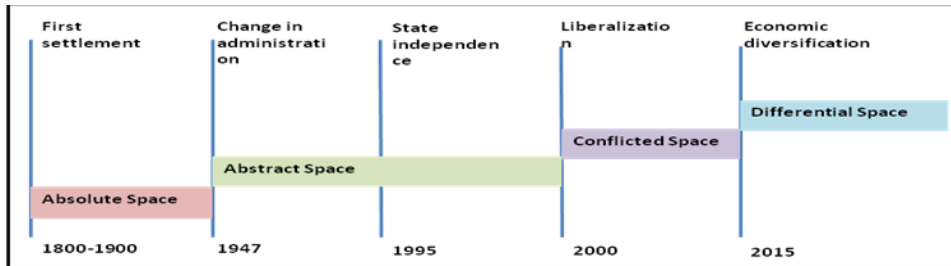
**Figure 8. Development framework**



Source: Authors

**Figure 9. Bhopal transformation of space in different period of Urbanization.**

**Table 1. Illustrating the influence of Governance**



Lefebvre's theory on space evolution	Economic Background	Government Strategy	Planning Strategy	Impact on the built Environment
<b>Absolute Space</b>	Pre historic settlement, Agriculture based economy, Period of Unrest and feudal wars during 18 <sup>th</sup> century	Top down decision making feudalism and rule of Kings and Nawab's	No general settlement planning, minor projects like Dam by king Raja Bhoj and later on fortified. In late 18 <sup>th</sup> Century broad gauge laying led to base for Industrial establishment increasing the economy of town.	Vernacular structure based on traditional knowledge system.
<b>Abstract Space</b>	With declaration of Bhopal as town Interventions were Establishment of BHEL and Govindpura Industrial area	Modernization, Investment into infrastructure development with planned interventions including many public and semipublic buildings residential areas. In 1956-1991 Bhopal has subjected to rapid urban and assumed the status of cosmopolitan cities.	First master plan in 1965, introduction of modern means of communication. New Township were developed. Expansions have taken place along highways. Various sub cities were developed. Topography and lakes are main reason for restricted growth in west.	Low rise development in sub urbans Old city retains its own character. Low density due to urban sprawl.
<b>Conflicted Space</b>	Real estate and Knowledge based economy	As a result of Liberalization, globalization and privatization city spreading as administrative and education hub.	Decentralized urban development and private sector development	Fragmented and segregated development. No clear demarcation of centre and sub Centre.
<b>Differential Space</b>	International service hubs	Integrative development strategy	PPP approach in both infrastructure and real estate development.	Multi modal transport system /different urban structure in different territories.

Source: Authors

All this sub city areas can be treated as different territories to understand its urban landscape as some territories are subjected to positive growth and some territories are subjected to either negative growth and are stagnant in terms of development.

## Findings

It has been observed that City as whole is subjected polarised development because of multi dimensional factors like political influence, cultural factors and stigmas like Bhopal Gas tragedy. Therefore, wards located in the northern side of the city have shown a declining trend in the population growth, whereas, wards located in the southern side has shown a accelerating trend in population growth. Thus transformation is seen and can be understood by studying urban fabric in different territories by studying its built landscape and

by analysing scale of influence of different factors on growth and decline of territories.

**Table 2 & 3.** Selected territories to interrogate Bhopal urban transformation Phenomenon



## Conclusion

Urban areas are complex multi-dimensional systems evolving out of an interaction of multiple agents at several levels. At any given singular moment of time, several transformations may be occurring simultaneously, which every human being perceives differently and comprehends individually. Although Lefebvre developed his theories about the evolution of space with the urban history of Europe in mind, the analysis of Bhopal city transformation also utilizes general aspects of his ideas regarding the evolutionary characteristics of urban space. While in Europe the transformation process from absolute to abstract space occurred gradually over the centuries, Bhopal has witnessed a rapid shift from a traditional built environment to modern urban structures as a



result of city being declared as capital. With the conceived spaces and its association of tragedy site the territory in the south has shown very less growth, City has recently begun to go through a new transformation period in which conflicts have occurred due to the increasingly fragmented and segregated nature of its urban development. These conflicted spaces are the product of privatisation and decentralisation. The urbanization process in India, its pace of growth has accelerated over the past ninety years. The process of urban development is guided and co-ordinate by the development plan of the city. Most of the major cities of India do have development plans, but these plans are often vitiated at various stages of its implementation, mostly in qualitative terms and provision of basic facilities. In most of the sectors of development, the intent of the proposals is not adequately translated into the envisaged physical framework thus creating differentiated, disjointed and undesirable urban growth. When the demands are not met in a guided manner, illegal occupation of sites and services, land use transformation, unauthorized constructions takes place, this is where the degradation of urban environment starts of, and the issue of assessing urban transformation assume importance. This interface of planning has to be flexible and transparent to accommodate the change in perceptions or values through time rather than setting out rigid parameters or design constraints, which predetermine the future behaviour and aspirations of the community. An understanding of the underlying spatial patterns and social systems is essential before any future interventions are carried out. This is important to avoid the dissonance that may occur in the resultant urban structure because of conflicting patterns superimposed over one another. A management plan for a city, especially for one that has strong links to the past, has to then necessarily start with understanding the transformations that have taken place in the city through time. Any planning has to evolve out of this spatial-temporal context of the city, which further emphasizes the need for the integration of a research aspect to a statistical process such as urban planning.

## References

- Alexander, E.R., (1984). After Rationality, What? A Review of Responses to Paradigm Breakdown, *Journal of American Planning Association*, Vol. 50, No.1, 62-69.
- Bhopal development plan 2005
- Derudder, B. & Witlox, F. (2007) "Data sources for analysing transnational urban networks: a critical overview". *Flux: International Scientific Quarterly on Networks and Territories*. Vol. 68, pp. 22-32.
- Freestone, R., ed. (2000). *Urban Planning in a Changing World: The Twentieth Century Experience*, E&FN Spon, London; New York.
- Heidebrecht, c. (2006). *Thoughts of urban and global transformation through a progressive evangelical lens*. Pennsylvania, United States.

- Hillier, J. and Healey, P., eds. ,(2010). *Research Companion to Planning Theory: Conceptual Challenges for Spatial Planning*, Ashgate, Farnham; Surrey, UK.
- Nuran ZEREN, G. G. (April 2011). Conceptual challenges on urban transformation. *ITU A/Z, VOL: 8 NO: 1* , 10-24.
- Roberts, P and Sykes, H (2000) *Urban Regeneration – A Handbook*, British Urban Regeneration Association, SAGE Publications, London.
- THE BHOPAL SAGA (March 2008) -Causes and Consequences of the World's Largest Industrial Disaster Universities Press (India) Private Limited, 2004 Presentation.
- Ward, S.V. (2004). *Planning and Urban Change*, Thousand Oaks, London; UK and SAGE, California, USA.