Transformations of Residential Neighborhoods of Rajshahi: The Case of Sagarpara and Padma Residential Areas in Bangladesh

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Abstract

A neighbourhood is a fundamental unit of urban development as well as a primary reflection of people's culture. It is the physical expression of harmony between people, context and daily activities. A neighbourhood can go through a continuous process of transformation to complement urbanization and population influx. Due to large populations and rapid growth, this is more obvious in developing countries like Bangladesh. Rajshahi is the third largest metropolitan area of Bangladesh which has had a tremendous shift in the neighbourhood. At the early phase of Rajshahi, neighbourhoods were formed in the bank of Padma. To adapt to the increasing needs and population, an urban sprawl created new neighbourhoods in the outskirt of the city, which have some unique characteristics in contrast to the early ones.

This paper analyses and maps out these neighbourhoods in order to define the developmental pattern. This paper employs a qualitative method to identify and map Rajshahi's early and new neighbourhoods. A thorough inquiry is carried out over the selected cases of old Sagarpara and the new neighbourhoods in the Padma residential area to demonstrate transformations or changes that have taken place over the decades. Its aim is to establish the tone of the current practice. The paper reveals that most of the transformations are responsive towards growing needs. These transformations come at the expense of compromising the distinctiveness of Rajshahi's old neighborhoods. As a consequence, the unique elements that once defined these old neighborhoods are absent in the new residential areas. It is hoped that this paper will widen the opportunity for further investigation to strike a balance between modernization and the safeguarding of traditional neighborhood characteristics.

Keywords: Neighborhoods, Transformation, Rajshahi, Sagarpara, Kumarpara,

Introduction

Neighborhoods almost always come into being gradually in response to the societal norms, values, and lifestyles. It is regarded as the fundamental planning unit and also defines the fabric of a city. The layout and other physical characteristics of a neighborhood can reveal the inner stages of its inhabitants. Moreover the lifestyle, daily activity patterns, and social interactions are all rooted in the built forms of a neighborhood (Gopinath and Kulkarni, 2014). Nevertheless, the neighborhoods and their elements do not remain static. They undergo a continuous process of change, readjustment, and evolution.

One of the primary drivers of such neighborhood changes is the global trend of urbanization. Everywhere in the world, the urban sprawls occur, and there is also a massive population influx into cities. Often, the migrant population exacerbates the issues by pushing the boundaries of the cities. Thus, cities constantly evolve to meet the growing demand and worldwide trends. As a result, new neighborhoods come into being on the outskirts of cities to accommodate them. These new neighborhoods are infused with ideas of globalization and offer some cutting-edge amenities and services. There facilities make life more comfortable and convenient for the residents while also ensuring a high standard of living. There is also a global phenomenon of these newly developed neighborhoods adopting global trends and practices rather than the prevailing traditional ones.

In Bangladesh, and especially in the metropolitan areas like Rajshahi, population is always increasing along with the trend of urbanization which stands at 28% at present. The outskirts of the city have gradually urbanized, and influxes of people have started to settle there. As a result, new neighborhoods have started to emerge on the periphery of the old town. These new neighborhoods were not developed in the same way as the older ones and have had several differences. This was especially evident in the early 1980s neighborhoods. This shift happened so quickly that it was more like a replacement than an adaptation.

Almost all physical characteristics of these neighborhoods, including layouts, road networks and built forms, have undergone significant change. Rajshahi's organic roads and water-centric communities have been converted into pre-planned neighborhoods. The built form has become more privatized, and spatial arrangements have started to accommodate the limited potential for diverse lifestyles. The number of residential units in the neighborhood has grown and apartment buildings have become prevalent.

Although the physical appearance of the neighborhoods has changed significantly, living habits and lifestyles have not changed at the same pace (Mirmoghtadaee, 2009). However, all of these changes have had a significant effect on people's lifestyles and everyday activities, from the individual to the communal level. When the surroundings change, residents have to adapt themselves to their new conditions; consequently, some social values and norms would be lost (Eben Saleh, 2002).

In this context, understanding these transformations are useful as they can also help determine the urban development pattern (Defilippis, 1997). This paper focuses on these transformations and highlights the specific changes that have occurred over the last few decades to shape the communities in Rajshahi. Its objective is to lay the foundation for more studies in this area.

Literature Review

Transformation refers to profound and sustainable changes that alter the essence of something (Derezotes, 2014). The transformation in thinking occurs when we see the strategic opportunities hidden in any given context (Snow, 2001). According to Derezotes (2014) the concept of transformation can be applied to various contexts, including the study of neighborhoods. The rapidly changing populations have led to the need for restructuring to meet new and emerging needs, necessitating a restructuring of neighborhoods to adapt and address these evolving demands (James, 2007). Different perspectives exist on defining successful approaches to neighborhood transformation (Gruis, Visscher and Kleinhans, 2006) . The Chicago School's urban ecology, which considers cities to evolve naturally through mechanisms such as invasion, succession, and competition(Janoschka, 2019). Janoschka(2019) also says demarks that, this viewpoint is founded on a neoclassical concept. However, these concepts cannot be generalized and must be examined within specific contexts.

The region-down approach emphasizes the larger regional context in shaping neighborhood transformation, considering macro-level factors that influence and shape neighborhood dynamics (Rae, 2003). on the other hand, Barry Rae (2003) also introduces the neighborhood-up approach takes a cognitive definition of local neighborhoods and examines the opportunities and constraints for growth and change at the neighborhood level, recognizing the agency and unique characteristics of each neighborhood. The concept of a "decade of

growth" is often used to describe a form of neighborhood transformation, suggesting that sustained growth over ten years can signify a significant transformation (Aulia and Marpaung, 2017).

To delve deeper into neighborhood transformation, it is crucial to move beyond generalized studies and consider the contextual factors that shape each neighborhood's evolution. Examining the specific reasons behind transformation and the dynamics at play can provide a more comprehensive understanding of neighborhood changes. This requires careful examination of the local context, including social, economic, and cultural factors, to uncover the underlying drivers and consequences of transformation.

Research Methodology

The formation of new neighbourhood is an inevitable fact. These new neighbourhoods complement the growing need but at the same time a major drift from the traditional practice is very evident. However, as the notion of the neighbourhood is not universal, the changes or transformations that occur over time cannot be generalized. As a result, a study area must be chosen, and then some systematic steps must be taken to observe the specific transformations over a specific area.

This research first identified the specific settlements to study. Then the location of the old and the new residential neighbourhoods were identified in respect to the study area. Through meticulous observation and on-site investigation, a thorough understanding of the selected neighborhoods was obtained. Based on the acquired information, a comparative analysis was conducted to assess the transformation of space and elements from the residential units to the neighborhood level, specifically focusing on the transition from older to newer residential neighborhoods. These will aid in understanding the characteristics of the neighbourhoods as well as revealing the changes that have occurred over time in the chosen instance of the specific study area.
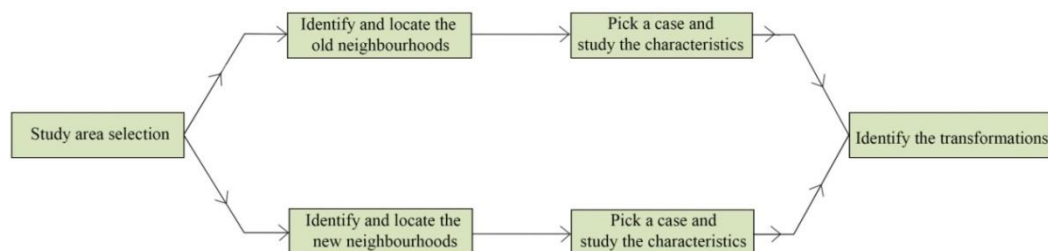

Fig. 1: Methodology flowchart
Source: Author

Study Area Justification

Rajshahi is the third largest metropolitan of Bangladesh and can also be considered as the most important city of the Northern region. It has a significant historic background. The city was initially developed on the bank of river Padma (Asaduzzaman and Hameem, 2021).As a result, the neighbourhood initially was established within the old settlement area on the river bank. The same fabric and neighbourhood approach continued to greater road. However, form the late 20th century, the city began to witness rapid urbanization and a growth of population. Thus, the city began to grow and increase its sprawl resulted in the formation of comparatively newer neighbourhoods in the adjacent periphery. That is how Rajshahi possess a perfect blend of 'old and new' neighbourhoods which makes this city a potential study area for this research.
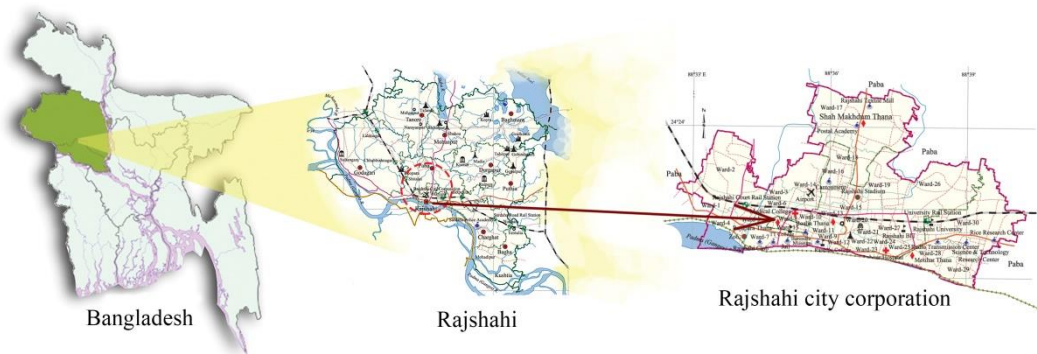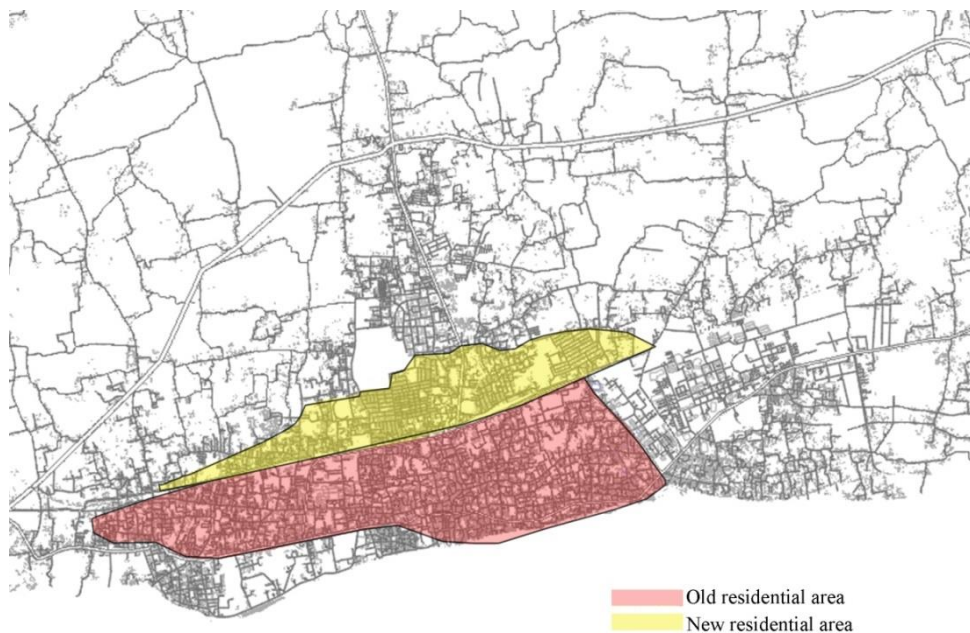
Fig. 2: Location of the study area
Source: Author

Fig. 3: Old and New residential areas of Rajshahi
Source: Author

Old Neighborhoods

It is a known fact that most of the cities were initially formed on riverbank, which is "Padma" in case of Rajshahi and this city has a long history form British colonial rule to mauryas, gupat and other ruling powers (Bin-Doza, 2008). However, only traces of the previous century can be found in the relatively older part of the city, which is bounded by the Greater road and the river Padma, respectively, and where old neighbourhoods such as Sagarpara, Kumarpara, Dorgapara, Ghoramara, Ganesh para, and Gosh para exist (Bin-Doza, 2008) Sagarpara is one of these old neighbourhoods that has been chosen for further study and inquiry in order to develop the concept of Rajshahi's old residential neighbourhood practice.

1. Sagarpara

Sagarpara is picked as a case from the old neighbourhoods. It is one of the oldest neighbourhoods existing today. Some of the existing structures are more than hundred years old. Sagarpara also have some day-to-day activity pattern and variant responsive social

spaces within it. A thorough investigation was conducted on Sagarpara, exhibits a fascinating characteristic of pond-centric development, making it truly distinctive. The area boasts an abundance of water bodies, covering nearly 10% of the total land area.

Sagarpara features a central spine of roads, both vertically and horizontally, ensures efficient connectivity throughout the neighborhoods. Branching off from this central axis are narrower secondary roads, locally known as "goli," which provide access to smaller, more intimate parts of the community. The residential buildings in Sagarpara primarily consist of 2 to 3 stories, maintaining an average height. What distinguishes these structures is the presence of courtyards within them. These inner courtyards serve as open spaces within the residential complexes, offering a tranquil retreat for residents. They provide an opportunity for relaxation, social interaction, and the enjoyment of natural surroundings, further enhancing the overall liveability of the neighborhoods.

a)   b)

Fig. 4: a) Central Road spine of Sagarpara, b) Pond centric development of Sagarpara
Source: Author

The detailed study conducted on Sagarpara not only helped to understand its specific features but also shed light on the generic characteristics shared by the old residential neighborhoods of Rajshahi while uncovering commonalities such as:

1. Organic growth patterns and fabric found in these residential areas.
2. Water body-centric development and building frontage oriented toward the water bodies.
3. The existing ponds' landing pier as a vibrant and responsive neighborhood place.
4. Water bodies surrounded by greenery that maintain the equilibrium of natural and man-made settings.
5. Homogenous residential development with two or three-storied houses.
6. Uneven distribution pattern and size of built forms.
7. The layouts of the built forms being mostly responsive to social, spatial, and climatic needs.
8. Courtyards and open spaces being frequent features of built forms, as are dwelling units that begin after the preparatory area or approaching frontages.
9. Hierarchy of roads and the intersectional nodes being the most vibrant interactive spaces.
10. Minimal frontages and narrow lanes producing a human scale streetscape that then opens out to a later, wider street layout of winding nature (Bin-Doza, 2008)

a)   b)

Fig. 5: a) Figure ground map of Sagarpara b) Organic Road network of Sagarpara
Source: Author

New neighbourhoods

Due to the city's rapid expansion, new residential neighbourhoods have started to emerge in the early 1990s. Rural-to-urban migration had started, and the old neighbourhoods could no longer accommodate the growing population. Rajshahi Development Authority (RDA) took on a number of residential projects, including Padma, Chandrima, Mahananda, Parizat, and Chayanir Residential Area (Rakib *et al.*, 2020). Thus the new neighbourhood began to form in the city outskirt of that time. Those neighbourhoods are still developing. Among the others, the Padma residential area is considered for further study to find out the characteristics of these new neighbourhoods.

1. Padma residential area

The Rajshahi development authority took the effort to create this well-planned residential neighbourhood (RDA) and Padma residential area is one of them. It is located is almost two kilometres away from the old residential areas. This residential area has approximately 565 plots and consisting of 28250 people (Rakib *et al.*, 2020) and these numbers are still increasing. But Padma residential area has some unique to in contrast to the old residential neighbourhoods.

The Padma residential area, initially developed with parallel road networks, has become inadequate to meet growing demand, leading to expansion. The area lacks adequate water infrastructure and public spaces, with only a paid park accessible. This limited outdoor activities and social interactions may impact the overall liveability and sense of community. As population growth and housing demand increase, the height of residential buildings in Padma has increased, with 8 to 12-storied apartments now common. This vertical expansion reflects the need to accommodate more residents within a limited land area.
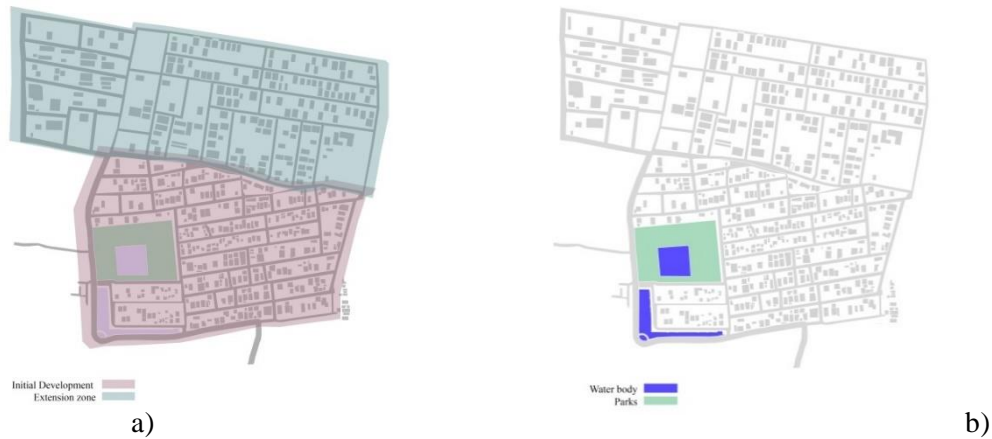
Fig. 6: a) Initial development and extension Padma residential area, b) Parallel Road network of
Padma residential area
Source: Author

The extensive examination of the Padma residential area not only provided a
comprehensive account of its distinctive qualities, but it also highlighted the prevalent
neighborhood practices in Rajshahi. The findings of the study not only helped to
comprehend the specific characteristics of the area under consideration, but also provided
insights into the prevailing patterns and trends seen throughout Rajshahi's residential areas.
They are as follows:

1. They follow pre-planned development patterns.
2. The layout consists of wider and straight parallel roads and adjacent plots.
3. Roads are mostly vehicular with solid hard surfaces with no hierarchy in road widths.
4. Multi-story buildings are sprouting up with mixed-use developments.
5. Planned layout for amenities like water electricity & gas supply, drainage & sewerage
    systems exist.
6. Multifamily apartment houses. Most of the users are renters.
7. Buildings with solid boundary walls render the landscape uninviting and not interactive.
8. Confusion in the streetscape due to similar road layouts, a lack of hierarchy, and plots of the
    same size.

Fig. 7: a) Figure ground map of Padma residential area, b) Parallel Road network of Padma residential area
Source: Author

Findings and the Discussion

There has been a considerable amount of transformation for the neighbourhoods of Rajshahi. These changes occurred at an astonishing rate and are mostly adaptive in character in response to needs and demands. They are concerned not only with planning but also with the residential unit level. Along with the new features, a new social structure has been implemented (Çıkış, 2007). Based on the above discussion and analysis a comparison of the transformation has been made in the form of the following table:

Table 1: Comparison of old and new residential neighborhoods
Source: Author

	Factors	Old residential areas	New residential areas
Neighborhood Level	Neighborhood layout	Organic pond centric development	Planned development with parallel road network
	Land use	Homogenous residential	Mixed use development
	Road	Organic narrow road network	comparatively wider Parallel roads networks
	Solid void ratio	Nearly 40%	50%
	Water percentage	About 10%	About 2%
Residential unit Level	Building layout	Court yard based development is prominent	Compact Apartment development
	Residence type	Single family residence	Multifamily apartments
	Average Building height	Two to three storied	Five to ten storied
	Building age	Most of the building are about 50 to 60 0years of age	10-15 years of age and still developing
	Ownership pattern	Majority are house Owners	Majority are Tenants

Based on the comparison it can be said that the transformations have happened in new neighborhoods from their predecessors are in the following forms:

1. The organic development has been converted into a planned community.
2. The narrow road hierarchy has been replaced by some fixed parallel roadways.
3. The average size of the neighborhoods has grown in comparison to earlier ones.
4. Two to three-story residential units have given way to mid-rise apartment structures.
5. The open courtyard-based building plan has been converted into enclosed dwelling units. Dedicated Social and communal spaces and buildings are not seen in the new neighborhoods
6. The gender domain spaces of the early neighborhoods have been lost.
7. Mixed-use development is seen in contrast to the homogenous residential development of the old neighborhoods.
8. New construction technologies and materials have been adapted.
9. The numbers of tenants have increased and social interaction has become marginalized.
10. In comparison to the old, more amenities and living facilities are available in these neighbourhoods.

Thus, transformations of these neighbourhoods are obvious and they will continue evolving and adapting with the unforeseen needs and requirements(Liu and Li, 2021). Some traditional aspects were valuable and rich, but the same system cannot be followed today because of the circumstances that allowed traditional architecture to develop have changed and no longer exist.

Conclusions

Rajshahi's neighbourhoods have experienced a significant amount of it. Most of these transformations are result of urgency to cope with the growing demand. And all these changes had a mixed effect.

The undeniable truth is that the emergence of modern residential neighborhoods has led to improved amenities and quality of life. However, this progress comes at the expense of compromising the distinctiveness of Rajshahi's old neighborhoods. The fabric, development patterns, and essence of these traditional areas have gradually transformed into typical neighborhood practices. As a consequence, the unique elements that once defined these old neighborhoods are absent in the new residential areas.

On the other hand, the old residential neighbourhoods cannot be maintained while remaining detached from the present trend and failing to respond to the growing needs.

This raises important questions regarding the preservation of cultural heritage and the need to strike a balance between modernization and the conservation of traditional neighborhood characteristics. Efforts must be made to protect and celebrate the distinct identity and historical value of Rajshahi's old neighborhoods, ensuring that their legacy is not completely overshadowed by the march of progress and urban development. By preserving the essence of these old neighborhoods, a sense of place, community, and cultural continuity can be maintained, enriching the urban landscape and fostering a connection to the city's history.

This paper only looked at the transformations of some neighbourhoods. However, there are some further areas to investigate, particularly the effect of neighbourhood changes on daily activity or lifestyle, and how to quantify these impacts. A survey-based analysis can also help to comprehend people's perceptions of changing neighbourhoods. More extensive studies in a variety of areas and contexts can aid in resolving these facts.

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