

Unplanned and Unsustainable: Impacts of urbanization in Purbachal

Md. Anas Ibna Rahman, University of Dhaka. Email: anasibna60@gmail.com

Abstract

Rapid urbanization and unplanned development activities have become serious problems in developing countries and Bangladesh is in that category as river pollution, land grabbing and unplanned construction works are ongoing here. The secondary effects of rapid urbanization include environmental problems, health difficulties, and poverty. This paper finds that the environmental condition of Purbachal is unbearable as developers are doing construction work for commercial purposes. The biodiversity of Purbachal is threatened due to several types of pollution, wherein air and water pollution are prominent. The River Balu is polluted by unplanned activities surrounding the study area. Moreover, the land acquisition process did not bring any positivity; instead, it took away the affluent life of the locals and, indeed, it is the prime factor in causing vulnerable socio-economic conditions. Unplanned development activities make residents more likely to be subjected to respiratory and waterborne diseases. The study also shows the authorities' apathy in protecting the area from unsustainable activities. This research concluded that careful actions of responsible bodies are badly needed to protect the area from unsustainable activities as well as environmental catastrophes.

Keywords: environmental problems; health problems, land acquisition, poverty, urbanization

1. Introduction

Urbanization is observed in developing countries, as the development of towns and cities and the conversion of the villages into towns due to a massively growing population is evident. The form of urbanization that started in Bangladesh can be attributed to the year 1947 (Hossain, 2008). However, the rate and type of urbanization in contemporary Bangladesh is unbalanced and unplanned, and because of that, it is impossible to make it sustainable. Without diminishing generative resources, sustainability means fulfilling people's desires and requirements through human actions (Mensah, 2019). Considering the developing world, it is regrettable that urbanization has not brought about any remarkable changes in the lifestyles of the citizens (Bodo, 2019). Despite steady urbanization advancement in South Asia, there are still issues of dissymmetrical urbanization, development gaps, and infrastructure disparities between development cities and the rural countryside (Bhagat, 2018). Dhaka is one of the largest megacities in South Asia, and urbanization is taking shape without thinking about the future. Because of the gigantic size of the population, Dhaka is struggling to preserve the quality of urban life, incorporating infrastructure, water demand, sanitation, and housing (Swapan *et al.*, 2017). The overall area of Dhaka's green space is diminishing over time, but these have effective natural, social, and economic potentialities (Byomkesh, Nakagoshi & Dewan, 2012).

To mitigate the population pressure on Dhaka city, a project called "The Purbachal New Town Project" was launched by Rajdhani Unnayan Karttripakkha, or the RAJUK (Rahman & Alam, 2021). Though the project celebrated its 28th birthday in 2023, it did not positively affect overpopulated Dhaka. Land acquisition by the developers is often contended in Purbachal. This process is the main factor in wiping away the conventional occupation of the locals, as lands are used for housing purposes. In Dhaka, developers transform cultivable lands into apartments (Alam & Ahmad, 2011). The environmental quality of the study area is too deplorable to discuss. Environmental degradation and insufficient infrastructure are two causes of dichotomous allotment of land use in urban features (Swapan *et al.*, 2017). As air pollution and water pollution are the linchpins of the residents' health problems are the major issue. Characteristics of urban life are significant factors in perceiving the outbreak of diseases (Gmelcj & Kuppinger, 2018).

While some studies have explored the plan and structure of the Purbachal New Town Project, they have yet comprehensively to examine the land acquisition process, environmental consequences, and overall socio-economic scenario of the locals. So, the objectives of the paper are to understand the impacts of urbanization in Purbachal, considering the environmental, socio-economic, and health conditions of the locals.

2. Methodology

The Purbachal 300-feet area at the Rupganj Thana of Narayanganj district has been selected for the study.

The study sample was 20. I selected informants through snowball sampling. Snowball sampling is an effective way of collecting information in a small group where one or more key individuals assist the researcher in identifying other informants (Bernard, 1995). In my study, I have used the snowball sampling technique for selecting respondents who are actually sufferers of the speedy process of urbanization in Purbachal. First of all, I introduced myself to the key informant, a local businessman of the area who is well acquainted with the people of the area. Then, I told him about my research objectives. Thanks to him, I defined the list of the primary respondents. Then he introduced me to other people experiencing similar situations and, thus, I interviewed a total of 19 respondents. My informants were residents who lost their cultivable lands due to acquisition, who are the worst sufferers of the urbanization process, and who changed their livelihood strategies. The informants belong to the 40-70 age group. One key informant interview and 19 in-depth interviews were conducted during the fieldwork.

Primary data have been collected through key informant interviews, in-depth interviews (IDI), and case studies. Key informant interviews (KII) have been used to gather an overview of the area. Moreover, to explore detailed information about the overall urbanization process of Purbachal, IDIs have been used during fieldwork as people feel more comfortable sharing confidential information in that form. Field notes, a recorder, and a checklist were used in the study. Some information has also been collected from secondary sources. Thus, for the secondary sources of information, this research has primarily relied on books, newspapers, and journal articles.

Key informants are those who possess the necessary information and are willing to provide it to the researcher (Bernard, 1995). One of the sub-inspectors (SI) of Rupganj police station helped me identify a key informant as he has a close connection with a local businessperson. The key informant was a prominent local businessman who had firsthand knowledge of the area's urbanization process. With his help, nineteen informants were selected for In-Depth Interviews.

Nineteen in-depth interviews were conducted during the fieldwork in 2022. The survey questionnaires were semi-structured, and respondents were encouraged to share their experiences of rapid urbanization.

Specifically, this study has collected three case studies to understand the health problems, vulnerable conditions of the locals, and environmental conditions of the area.

2.1. Data Analysis

Case studies and oral histories have been used to process and analyze data. All the data have been classified and organized considering the research topic and objectives. In this case, the locals' reaction regarding the urbanization process, environmental impacts, socio-economic vulnerabilities, and health difficulties, have all been considered. In the case study, two or three problems have been identified, and efforts have been made to understand why these exist and who is responsible for them. Then, possible solutions have been uncovered. Finally, based on solid evidence, the best solution has been selected.

3. Results

The study found that urbanization has been relentless in Purbachal and has had negative consequences. The KII and IDIs revealed that deforestation, river pollution, and unchecked development interventions were common. Among several problems, environmental effects are at the top of the list as various consequences are associated with them. Health problems are also prevalent in Purbachal. It is likely that careful intervention by the relevant authority is required to overcome difficulties.

3.1. Impact of Socio-economic Conditions

There is a close connection between poverty and urbanization. Residents of Purbachal stated that urbanization has negatively impacted their livelihood strategies. It has taken away their conventional patterns of livelihood. Previously, they had everything a household needed except oil and turmeric. Urban projects have made Purbachal an unplanned urban area. Many land development projects and express highway projects have also played vital roles in creating urban centres in Purbachal. Developers build their offices and construction sites in the arable lands, and that is partly why the traditional way of survival – cultivation- has vanished. Development means a positive change in a society or community. However, the development issues should not be taken as simple; in fact, it is a very complex issue, which is why a prominent anthropologists Gardner and Lewis (1996) termed development ‘problematic.’ In contrast, Arturo Escobar termed it as ‘discourse’ (Escobar, 2011). The development works of the Purbachal new town project have worked to the detriment of the locals. The people of Purbachal are now on the poverty line and can scarcely support their families. Many have left their homeland because of extreme poverty. The brokers trap them. Most people of the Purbachal area have enrolled in small businesses like vegetable buyers, tea sellers, and sweets sellers, which are too small to feed their families. Owing to poverty, savings for the future are low among the residents. Sometimes, people have to spend some of their remaining money on special events or crises, despite scarcely having enough for their basic needs (George & Kuppinger, 2018). Though some households have cows, which represent a source of earning extra income by selling milk, this is rarely enough to tackle urgent situations such as weddings or illness. As a result, a loan is the final destination when handling any unusual circumstances. The tendency among people to eat fancy foods and buy new clothes is relatively rare. Respondents said they usually buy a pair of new clothes, either at Eid or Puja, once a year.

Moreover, expensive food items like beef or mutton curry are hardly on their menus. Fish like Tilapia or Pangasius are eaten twice or three times a week, while chicken is usually eaten once a week or twice a month. Most of the money is used for daily survival, so the expense of education is scanty. 80% of respondents completed their primary education at the local primary school, whereas the other 20% are illiterate. In the developing world, high poverty rates are among the major issues that prevent reluctant dwellers from achieving a prosperous life (Boadi *et al.*, 2005). One of the respondents stated that "... about 80% of the people in the area are now destitute."

Case Study: Where Is Our Resourceful Life?

Samir Das, 54 years old, is a sweet seller who hardly is able to support his family, which consists of seven members. He said: "My main occupation was farming from around 2002. We were blessed with everything - trees filled with fruits and the river filled with fish. We had not bought anything, but everything has changed due to rapid urbanization. Some grassland on the side of Kanchan Bridge and Purbachal was formed by merging these lands with the Neela market. We used to catch fish and cultivate land to feed ourselves. The land was full of everything that a family needed. Actually, the main sources of vitamins were the fruits that we found on many trees, but these were cut down for the sake of development activities. Nevertheless, now, if I can earn money, then I will be able to eat. Otherwise, I

will have to die without food. It does not feel good to reminisce about the glorious past. We led a very resourceful life.”

Box 1: An Example of Extreme Poverty in the Study Area; source: Fieldwork, 2023

The case of Samir Das indicates how urbanization has negatively impacted his and his family's socioeconomic conditions, resulting in impoverishment.

3.2. Land Acquisition

As the local people's lands are used for apartments and commercial purposes, land acquisition has become a common phenomenon in Purbachal. Before the project's inauguration, the area had several small canals. These canals have been removed under this project, which is the Purbachal New Town Project. Cultivable lands have become covered with the sand with which the canals have been filled for project purposes. A stadium now under construction next to the Neela market was once a place used as housing by many residents. Influential local people, more precisely, local intermediaries, help the developers and industry owners to acquire land. Land is bought by brokers from locals for about 100-150,000 BDT.¹ Currently, the brokers then sell it for thirty or forty times as much. Most of the respondents stated that, twenty years ago, they did not perceive the consequences of development projects and urbanization as the brokers misled them. Purbachal new town project has now turned into a machine for collecting money for third parties (Mamun, 2023). Neither the RAJUK nor the residents are the real beneficiaries, only the third party.

According to Islam (2022), in the new town project, plot location and developer reputation are two important elements for selling land. Relying on these two factors, each *katha* of land (approximately 126 square metres) is being sold for anywhere between 300,000-55,500,000 BDT in RAJUK's Purbachal new town project. The total area overseen by RAJUK is 6,213 acres (2,514 hectares) (Chambugang, 2023). Some prominent companies, including Purbachal American City, Probashi Polli Abashon project, Purbachal Marine City, and Green Purbachal Developer Ltd. are developing the sites to establish residential, commercial, and institutional districts. One of the respondents, Abdur Rashid, stated that the broker told him to sell his land as the project was being done for the locality, and he would reap the benefits soon. Since he is illiterate, he did not really understand what was going on and accepted what he was told. Now, the brokers are selling plots such as his at much higher prices.

3.3. Environmental Problems

Development activities have adversely impacted the environment, so air pollution, river pollution, and deforestation are common occurrences in Purbachal. The River Balu is the lifeblood of the locals. The river is being polluted heavily as industry owners use it as a dustbin to dump industrial garbage, which has made the river's natural flow stagnate. Moreover, dirt from Tongi and Demra came into the river later and increased the amount of pollution. Four hundred and fifty cubic litres of toxic liquid waste mixed with chemicals from various factories, which represents 1,000,000 cubic metres of sewage, is entering the Balu regularly (Shikder, 2023). The river water is now brackish and cannot be drunk or used for other purposes. Owing to the river pollution, the people's sufferings beggar description. Noxious odours rise from the water and are almost unbearable. As a result, the nature and environment of Purbachal is endangered. Once river water was entirely fresh and clean with solid flows. At that time, fishing was considered the second largest income source after agriculture because the river was filled with fish. Now, there are no fish in the river due to the polluted water.

Moreover, some brickfields in Purbachal have been built close to the river. Brickfields (responsible for 58% of the total amount) are the main polluting factor in Dhaka's air, and unplanned urbanization and unregulated

¹ US\$1 = 120.6 Bangladeshi tikals (BDT), approximately.

development are other significant factors (Ahmed *et al.*, 2024). Owing to the lack of proper guidelines and waste management policies, industrial activities harm surface and subsurface water (Boadi *et al.*, 2005). As a result of the lack of proper monitoring and surveillance, the river is dying day by day. If the government had properly managed the course of the river, the amount of water flow would have increased, but the government did not take any such initiatives. Recently, RAJUK started supplying water through a deep tube well in Purbachal (Hossain, 2023). However, owing to the adverse effects they can cause, deep tube wells are considered enemies of the environment. They lower the level of groundwater, which damages biodiversity. In addition, the frequency of natural disasters is increased. Respondents said that RAJUK could easily save water from being polluted by taking proper steps and that a sustainable way of collecting water was quite feasible. However, it is not possible right now as the water is polluted. The area around Purbachal is full of dust as fumes are produced at the construction sites.

At the same time, the developers indiscriminately cut down trees, which resulted in desertification. During field visits, it was discovered that the project area was full of dust, which was once greenery, according to the respondents. There is a large number of polythene bags everywhere, which have mostly been dumped by tourists. Local people try their level best to conserve the area, but the required careful attention of the authorities is rarely to be found. Under the circumstances, unscrupulous people can misuse the local environment to the fullest extent for their own purposes.

Case Study: The River Has Almost Died

Bimal Chandra Das is 52 years old and a vegetable seller. He said: “I have nothing to say about the environment. If we calculate, Dhaka will be number one in environmental pollution, and Purbachal will be at the top of the list considering the unchecked activities - let the river suffer, let the plants uproot, but let the building rise. Once upon a time, there were many fish in this river. I, Bimal, used to sell fish. This place filled with sand was once part of the river. The water of the left-dried river is black due to heavy wastage. As the water has rotted, fish no longer live in the river. Certain people are responsible for destroying the river. There used to be various canals that kept the river alive. Besides, the canals were full of fish, providing a large portion of our daily life. But now, alas! We have been left with only a half-dead river.

Box 2: An Example of the Worsening Condition of the River; source: Fieldwork, 2023

The case of Bimal Chandra Das depicts that river pollution has adversely impacted the environment and people's lives, removing a substantial source of their protein.

3.4. Health Problems

The local population of Purbachal suffers from a wide range of waterborne diseases due to inadequate arrangements for safe drinking water and poor sanitation. Diarrhea is prevalent as there is not enough safe drinking water in the study area. During the rainy season, people generally have to live in an unhygienic environment, and the sanitation system is seriously damaged. As a result, the inhabitants are easily attacked by waterborne diseases. In Purbachal, the manufacturing industry and vehicle emissions are leading causes of air pollution, which results in respiratory diseases such as asthma. By failing to meet important social and ecological variables, developing nations can encounter unwanted problems (Baer, 1996). During the monsoon season, dengue fever is prevalent in the area as stagnant bodies of water are breeding sites for *Aedes* mosquitoes. The dirty water of the River Balu helps pests and parasites thrive and that is why scabies has become a regular feature of life for the residents. Modernization has many negative health effects when countries try to optimize natural resource collection without considering the social and environmental aspects of development (Baer, 1996).

Case Study: My Son Looks Older than Me

Karim Uddin, 60 years old, asserts that: “Once upon a time, the air was fresh, and we breathed freely. Now, the air is polluted, and people suffer from many respiratory diseases. Last year, my wife and I were sufferers of dengue fever, and the feelings at that moment were horrible, with both body pains along with other difficulties. It was not only us but also other residents who were the bearers of this fever as it is common in the monsoon season. Apart from that, other diseases afflict the body's structure, and that is why the young generation is feeble and cannot do much physical work. The most important thing is that I am 60 years old, and my son is only 38, but he looks older than me as he is suffering from asthma and other health difficulties due to the negative impacts of urbanization.

Box 3. An Example of the Prevalence of Asthma in the Study Area; source: Fieldwork, 2023

Noise pollution in the study area is common as vehicles from Sylhet and Narsingdi often use the Purbachal expressway as their route. Moreover, riders frequently ride motor bikes with loud horns at night; this is an area that is very suitable for night rides. As a result, noise pollution causes migraines and sleep disorders among the residents. As the residents are deprived of sound sleep, obesity and indigestion have become quite common among them. Respondents stated that they often had to take painkillers and digestion pills to overcome migraine headaches and indigestion. In the study area, the condition of mental health is as deplorable as physical health. Robbery and bag-snatching are routine hazards in several parts of Purbachal, creating mental pressure among the local people. Owing to the fear of robbers, shoppers close their shops in the evening. Now, this place has become famous for dumping dead bodies, especially murdered ones. In the last seven years, police have found seventeen dead bodies in Purbachal (Ahmed, 2023). Apart from that, economic uncertainty and fear of the future create severe depression among some of the residents.

4. Discussion

Bangladesh is one of the fastest growing and developing countries in terms of urbanization and industrialization. In most cases, urban plans and policies do not consider the potential threats of the results of unplanned urbanization. The conventional approach of the urban master plan in Bangladesh is invalid now, which is why it creates environmental problems, health problems, poverty, and income disparity (Hasan, 2022). Many authors have recorded the negative impacts of urbanization. Air pollution is the main factor of environmental degradation in cities, while the unavailability of safe drinking water leads to water-borne diseases (Boadi *et al.*, 2005). There are many challenges Dhaka is facing now - inadequate green spaces, overcrowding, and poor living conditions, which adversely affect the residents (Rahaman, Kalam & Al-Mamun, 2023). In my study, residents reported that ongoing urbanization activities have hit them negatively. Air pollution is one of the main problems the residents face as brickfields emit black fumes that pollute the air and, indeed, are unbearable to breathe. Moreover, the construction site is another big culprit in Purbachal, discharging its black fumes. Green spaces are virtually zero in the area as developers cut down trees for more space to build apartments. As a result, residents are deprived of green spaces for walking and breathing fresh air.

The River Balu was once the primary income source for the residents after agriculture, but damage to the river has taken away this source, which has resulted in poverty. As river filling diminished the ample places that hold the rainwater, waterlogging is a common incident in Purbachal during monsoon. Moreover, river water is polluting as industrial discharge and waste are dumped into the river. Ten lac cubic meters of sewage is entering the Balu River regularly (Shikder, 2023). River water is polluted, and residents are unable to drink it and use it for other purposes. However, this river was the primary source of drinking before these unplanned activities. Residents suffer from respiratory and water-borne diseases. Poor sanitation systems and the shortage of safe drinking water leads to water-borne diseases. In the rainy season, dengue is common among the locals as stagnant water bodies enable mosquitoes and other pests to thrive. Apart from water-borne diseases, respiratory diseases are also endemic. The main agents of respiratory

diseases in Purbachal are emissions from vehicles, industry, and construction sites. Many people in Purbachal experience migraines due to intolerable sounds from brickfields, construction sites, and vehicles. Dhaka city's speedy and wayward expansion, notwithstanding the residents' perspectives and other potential issues, has brought about various problems that damage the biodiversity and living conditions of the citizens (Rahaman *et al.*, 2023). The land acquisition process did not bring any positivity among the residents; instead, it created poverty; people are barely able to meet their daily needs. Reducing agricultural lands for urban expansion has profound social implications (Satterthwaite, McGranahan & Tacoli, 2010). People had been affluent in that they were able to obtain everything that a household needed on an everyday basis, but the land acquisition process changed this as arable lands were transformed into apartments. Brokers were able to take advantage of residents and, in some cases, forced them to sell lands at minimal prices; now they are selling them at much higher prices. As cultivation is wiped out due to urban encroachment, they enroll themselves in small businesses, which are not enough to lead a family.

5. Conclusion

The study shows how urbanization has impacted the lifestyles of the local people. Once, people were able to rely entirely on natural resources, from river water to land crops. Continued land encroachment made people destitute as it lessened their access to natural resources. In fact, the whole urbanization process of the Purbachal project is unsustainable and happening without consideration of the impact on the existing population. Moreover, the area's biodiversity is hampered by unfriendly environmental activities, such as the air pollution, river pollution, and deforestation that developers have caused. The air condition of the area is not good at all, which means people are more susceptible to respiratory diseases. The study finds that local governments are apathetic to proper monitoring to conserve the river and environment. However, to address the effects of urbanization and the overall vulnerable conditions of the residents, much more research is needed in the study area. Finally, the government should be able and willing to intervene in order to conserve the area from unplanned activities.

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