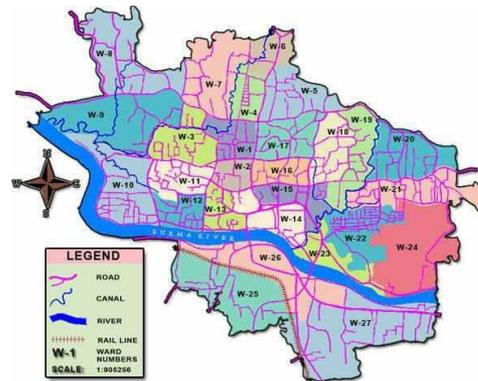


Urbanization and Climate Change: Urbanization Strategies of Baluchar induced Climate change.



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Abstract

Urbanization is a process by which people are shifting from rural to urban. But unplanned urbanization induced climate change roughly. The aim of the paper is to examine the urbanization strategies of Baluchar in Sylhet. The study has been carried out using a combination of ten in depth interviews, two focus group discussions, and observation notes to explore the urbanization strategies and how it is induced climate change. The result shows that the hilly area of Baluchar become urbanized through hill and forest destroying, filling low land and canals, creating slum and multistoried building, Inappropriate solid waste disposal system and water logging state etc. It is also founded that violence and socioeconomic insecurity are also increased. It is high time to take proper steps for unplanned urbanization and conserve natural resources for healthy climate.

Study Area

The study area of *Baluchar* is located at Sadipur-1 Mouza in Sylhet. Baluchar is divided into two parts- Baluchar South and Uttar Baluchar. Baluchar South is located in Ward NO-20 under the Sylhet city corporation and Uttar Baluchar is located in Union Porishod. Whole Baluchar area is divided by four clubs where Puspayan is situated Ward NO-20 and rest of the clubs are Fucous, Al-islam and Junaky in Union Porishud. According to Sylhet Settlement Office, Sadipur-1 Mouza with in area of 1.20 sq km which old J.L NO was 93 and new J.L NO is 65, Seat NO-38. Sylhet city is located in the Northeastern corner of Bangladesh at 24°32'0" N, 91°52'0" E, and Baluchar area is also located in northeastern corner in Sylhet.

Hill cutting for extended urban area

- Many big firms are grown up for the purpose of producing different types of crops by destroying hills. In this form of destruction, they are mostly destroying the forest over the hills, and planting it with different crops. It is observing that some of the business men are cutting hill simply for collecting soil for land fill or construction purposes and for filling up lakes and water bodies to recover land.
- Depending on the topography, land use and hydro-climatic features of Sylhet, major effects of cutting hills can be grouped as follows: deforestation, desertification and biodiversity; ecological imbalance and climatic change; chances of earthquake will increase; destroying natural beauty; soil erosion and landslide; siltation in rivers and canals; change in catchment drainage and flush flood.

Biodiversity

- Biodiversity is under serious threat as a result of human activities. The main dangerous factors are population growth and resource consumption, imbalanced density of the population for internal migration, climate change and global warming, habitat conversion and urbanization, invasive alien species, over-exploitation of natural resources and environmental degradation.
- In Baluchar area, Tigers are almost lost besides that Jungle fowl, Hare, Fox and Monkey are rarely seen in the region. Different types of monkeys were also endangered.
- In Baluchar hill area had many species of plant that are now cut like Dayowa (local name), Lukluki (local name), Jack fruits garden

Deforestation

- Deforestation is the conversion of forest to an alternative permanent non-forested land use such as agriculture, grazing or urban development.
- Deforestation can change the global change of energy not only through the micrometeorological processes but also by increasing the concentration of carbon dioxide in the atmosphere because carbon dioxide absorbs thermal infrared radiation in the atmosphere. Moreover deforestation can lead to increase in the albedo of the land surface and hence affects the radiation budget of the region.
- Deforestation affects wind flows, water vapour flows and absorption of solar energy thus clearly influencing local and global climate
- Deforestation on lowland plains moves cloud formation and rainfall to higher elevations.
- Deforestation disrupts normal weather patterns creating hotter and drier weather thus increasing drought and desertification, crop failures, melting of the polar ice caps, coastal flooding and displacement of major vegetation regimes.

The temperature data from 1971 to 2000 and Annual rainfall data of Sylhet city from 1957 to 2002 is given below for easy understanding of the climate of Sylhet city. The data is collected from BMD.

Table-1 : Maximum and Minimum Temperature data of Sylhet city

Year	Maximum Temperature	Minimum Winter Temperature
1971-1980	36.6	9.7
1981-1990	37.3	6.4
1991-2000	38.8	6.9

Table-2 : Annual Rainfall data of Sylhet city

Year	Annual Rainfall(mm)
1957-1977	4177.1
1981-1991	3880.0
1992-2002	3856.2

Filling low lands, ponds, canals and Water logging state

- Sixteen canals and nine sub canals (locally called “Chhora”) pass through the structure plan area that serves as the primary drainage channels of the town. These canals apart from storm water carry waste water from the town and discharge it into the Surma River without any treatment .
- SCC poses a serious threat due to ponds and canals filling and drainage congestion as a result make water logging situation in the monsoon.
- One decade ago there were about 17 ponds in SCC which was used to carry a huge amount of rainwater. But now many of these have been filled for various purposes.
- Baluchar area gets two chhora one is Khanachhora and another is Bualchara.
- From khanachhora water is going on Khushighat then it fall on Surma river. Day by day the Surma River is becoming polluted by different chhora’s water which are contaminated with bad garbage. Not only it waste river water but also hampers the life of fishes and diversity of the water plant.

Solid Waste Disposal System

In Baluchar area Puspayon gets the facility from SCC to give their garbage. But rests of the clubs do not get the chance because of they are situated in union. These clubs people use hole for garbage which are made beneath of the hills. From these holes bad odors are spreading and air are polluted by it. Garbage is collected by garbage collector from buildings but slums people use empty plots or lands. They throw garbage here and there and this type practicing are created problem to the environment

Socioeconomic insecurity and violence

- High rates of urban population growth in the city have created serious problems of insufficient employment opportunities, pressure on social services, particularly education, health and housing and a rise in urban crimes.
- At night, some people are cut and taken soil from hills by track. Interviewers informed that during day time hill cutting is not occurred but at night.
- Local people of Baluchar area they seem that administration knows everything but they do not take any steps against the hill cutter. If any people are arrested or attacked by police for hill cutting then they are also rid of by money. And indifferent attitude of administration is one of the main reasons of hill cutting.

Unplanned urbanization is the main cause of environmental degradation of the study area. For this reasons many impact are observed that are deforestation, desertification, threaten condition of biodiversity, increase in flood frequency, water logging state by drainage pattern etc. Besides that this region are losing its natural beauty through hill cutting and these purposes.

Some suggestions-

- government should to concern seriously for rural development through policy implementation
- People also have to follow the law's rules and regulation when they will use natural resources
- who are concerned about the condition they have to come forward and take necessary steps for the upcoming problems
- Planning urbanization and sustainable development may be solution of the situation
- Administration should be strong against hill cutting and do not give the chance of hill cutter of any cost

Climate-resilient Bangladesh

This research work maybe helps to stop the wrong way directions of unplanned urbanization through policy making of government. Because it is tried to identify the problems which are causes for climate change and solution of these problem able to bring “Climate-resilient Bangladesh”.

The message

Through this research work, it is tried to explore the real condition of the study area where it is conscious to show how unplanned urbanization process is responsible for climate change.

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