

## AN ANALYSIS OF PREVAILING URBAN PLANNING PRACTICES AND ALTERNATE PLANNING STRATEGIES FOR GREATER DHAKA REGION

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### ABSTRACT

*Top down planning practices, failure to protect ecologically sensitive areas, disconnect between land use and transportation planning, ignoring the informal city and affordable housing are products of the prevailing planning practice which is essentially is biased towards the needs of the privileged class.*

*This paper aims to critically analyze the appropriateness of the prevailing key urban planning strategies and practices which produced the Masterplan for Dhaka 1959, Dhaka Metropolitan Development Plan 1995-2015 and the Strategic Transport Plan 2005 ( STP). It will also propose appropriate strategies for urban planning which will address the issues which are critical to greater Dhaka Region with special focus on urban congestion, informal urbanization, affordable housing and urban dispersal.*

**KEYWORDS:** *Urban Congestion, Urban Dispersal, Affordable Housing, Informal Urbanization*

### INTRODUCTION

The very economic growth that has lifted millions out of abject poverty in Bangladesh has resulted in the consequent explosive growth of urbanization on the fragile flood-prone deltaic eco-system mostly in a spontaneous manner with very little heed to the necessity of urban planning.

This paper will critically review the urban planning practices and urban issues prevalent in Bangladesh with special emphasis on the Dhaka region as documented in the Master plan for Dhaka 1959, Dhaka Metropolitan development Plan 1995, Strategic Transport Plan 2005, Draft National Housing Policy 2004, and the Draft National Urban Sector Policy 2011. It will also examine alternate techniques and practices that can be used for sustainable urban planning for Bangladesh.

### Extent of Urbanization

At present urban dwellers constitute about 26 percent of the total population of the country, but their contribution to GDP is more than 45 percent. Even at 26 percent level of urbanization the total urban population of Bangladesh is already over 36 million and this population is growing at a very rapid rate of nearly 4 percent per annum while the capital and premier city, Dhaka and the port city, Chittagong are growing even faster. (3)

Dhaka is the fastest growing mega-city in the world, with an estimated 300,000 to 400,000 new migrants, mostly poor, arriving to the city annually. Its population is currently around 12 million and is projected to grow to 20 million in 2020, making it the world's third largest city. (4)

### A Critical Overview of the Urban Planning of Dhaka as a Case Study

Before examining the urban Planning of Dhaka, a brief overview of the various government agencies involved in the urban planning, development control and governance is presented in Table 1.

As is evident from the list there is no single agency responsible for urban planning on a regional scale. There is little effort to combine the spatial and sectoral policies. Coordination between the agencies involved in urban planning is poor, making the task even more daunting.

**Table 1: Agencies Involved in Urban Planning, Transport and Implementation. (Source: Authors)**

Agency	Parent Ministry	Key Responsibilities
Dhaka Transport Coordination Board (DTCB) reconstituted as Dhaka Transport Coordination Authority Agency	Ministry of Communication	<i>Coordinating and authorizing Transportation Planning and Policy between key organizations involved</i>
Dhaka City Corporation (DCC)	Ministry of Local Government, Rural Development and Cooperatives	<i>Urban Governance and planning</i>
Rajdhani Unnayan Kartipakkha (RAJUK):	Ministry of Housing and Public Works	<i>Land use planning and transport planning. Implementation of land use planning except Dhaka, Chittagong, Rajshahi and Khulna.</i>
Urban Development Directorate	Ministry of Housing and Public Works	<i>Developing Master Plan/Land Use Plan for small, medium and large town and cities</i>
The National Housing Authority (NHA)	Ministry of Housing and Public Works	Engaged in solving the enormous housing problem of the country, particularly for the poor, the low and the middle-income group of people.
Local Government and Engineering Department (LGED)	Ministry of Local Government, Rural Development and Cooperatives	Transport planning, focusing on roads outside the boundaries of DCC
Bangladesh Road Transport Authority (BRTA)	Ministry of Communication	Regulatory body for vehicle driving license, road permits etc.
Bangladesh Inland Water Transport Authority (BIWTA)	Ministry of Shipping	<i>Agency for planning and implementing of for water transport</i>

### Dhaka Master plan by Spencer, Minoprio and Macfarlane in 1959

Before the British rulers left in 1947, there was no comprehensive urban planning undertaken by the city authority of Dhaka, apart from some residential areas. (Golam, 2008). The Masterplan of Dhaka by Spencer, Minoprio and Macfarlane of 1959 done under the guidance of the then Dhaka Improvement Trust (later became Rajdhani Unnayan Kartipakkha or Capital Development Agency) shaped the urban planning of the city till 1995 without much revision although it was designed to be valid till 1979. The population growth of Dhaka was assumed to be 1.75% with a population of 1 million, whereas the actual growth was 3.2% and the population became 3 million in 1979.

DIT followed the plan quite diligently and developed the road network, residential, commercial and industrial areas according to the guidelines. However, plan and the population projections could not cover growth after 1971. This

master plan formed the basis of many planned residential areas were demarcated and planned residential areas of Dhaka city today. (Shafi, 2010).

Although the scope of the 1959 Master plan was quite comprehensive, it did not envisage a proper public transport network. During the eighties, only a few more major roads were added in a piecemeal manner to the city. There was no comprehensive plan to upgrade the transportation network in tandem with the population growth.

Housing for the lower income group, slum improvement and rehabilitation was a cause of concern for the planners. The government’s role was envisaged as provider of serviced land for a broad spectrum of citizens, enabler and regulator of urban growth. However the consequent planning practice was deeply influenced by the top-down approach, disconnect with public transport and bias for road network for automobiles, preference for horizontal zoning as opposed to mixed use development and pronounced neglect for the vital riverine boundary edges, use of canals and waterways for transport and natural drainage and acquisition of enormous tracts of land for various government agencies such as the Cantonment and Airport with very little consideration for the continuity of urban fabric.

The lack of political will in the post liberation phase is quite evident in the fact that monitoring urban growth was given very low priority. Capacity building of agencies involved in urban planning was also not given due emphasis.

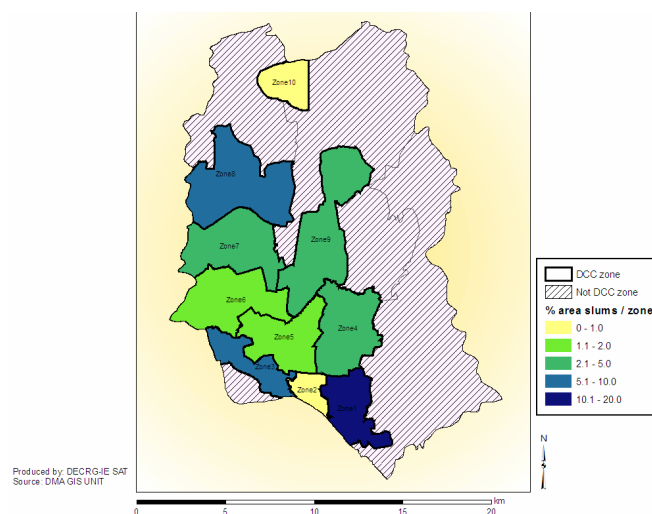
In the post liberation phase, distress migration and lack of employment opportunities resulted in massive urbanization in the core and peri-urban areas as shown in Table 2.

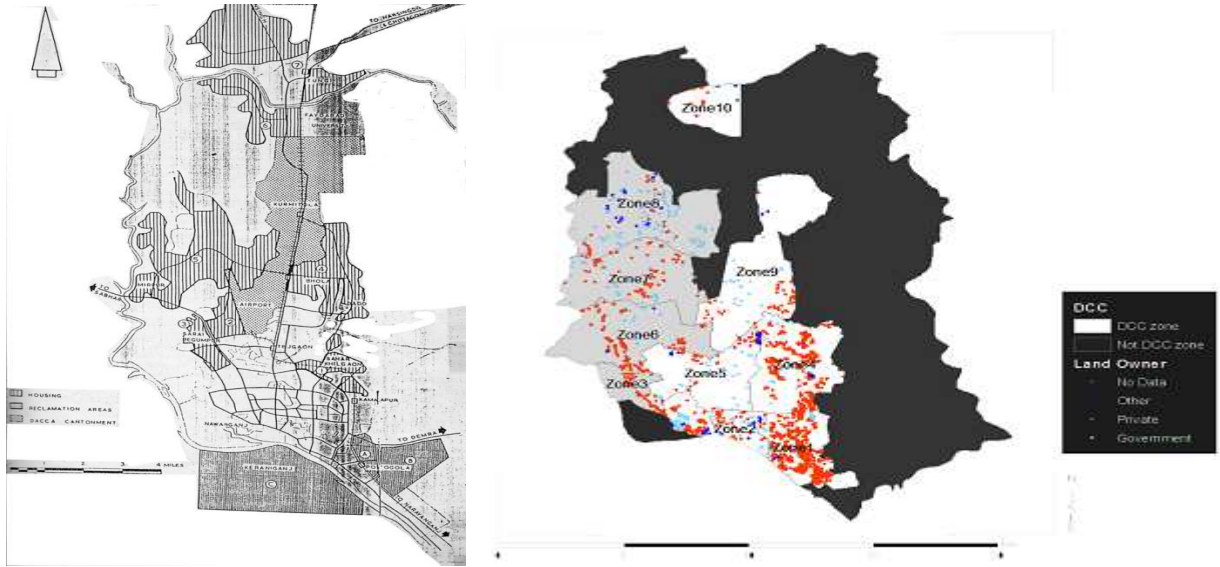
**Table 2: Population Growth Rate of Dhaka from 1951-2001**

Year	Total Urban Population	Total Population of Dhaka city	Percentage of Urban Population	Average Annual Growth Rate (%)	
				All urban area	Dhaka city
1951	1819773	411279	4.33	1.69	1.28
1961	2640726	718766	5.19	3.75	5.74
1974	6273602	2068353	8.78	6.62	8.47
1981	13535963	3440147	15.54	10.63	7.53
1991	20872204	6487459	20.15	5.43	6.55
2001	28808477	9912908	23.39	3.27	4.33

(Source: BBS, 1997 and BBS, 2001)

Urban Planning activities resumed in collaboration with donor agencies in 1980, but did not bear fruit till 1991 when the Dhaka Metropolitan Development Plan was initiated. (Shafi 2010)





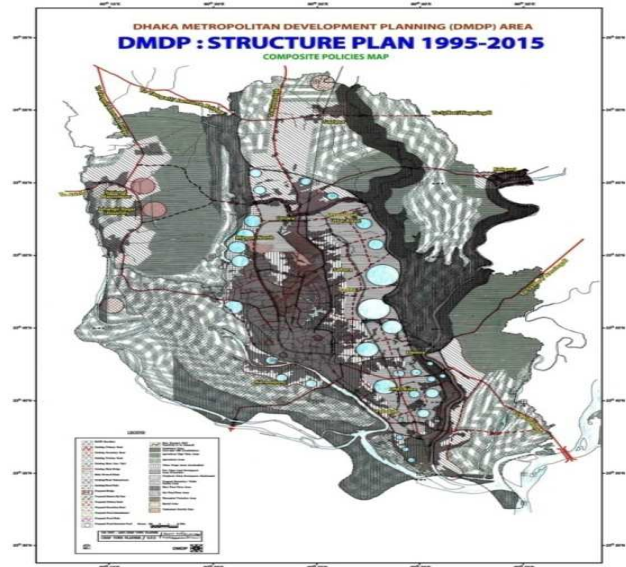
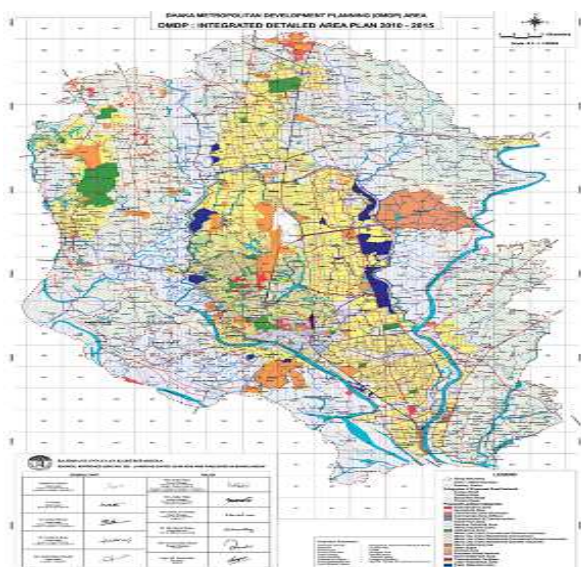
**Map 1: (Clockwise from Above) Masterplan 1959 Showing Areas Designated for Housing, Cantonment and Acquisition for Urban Use Source: RAJUK**

**Map 2: Percentage of Slum Area Source (4); Map 3: Ownership and Location of Slum Areas Source (4)**

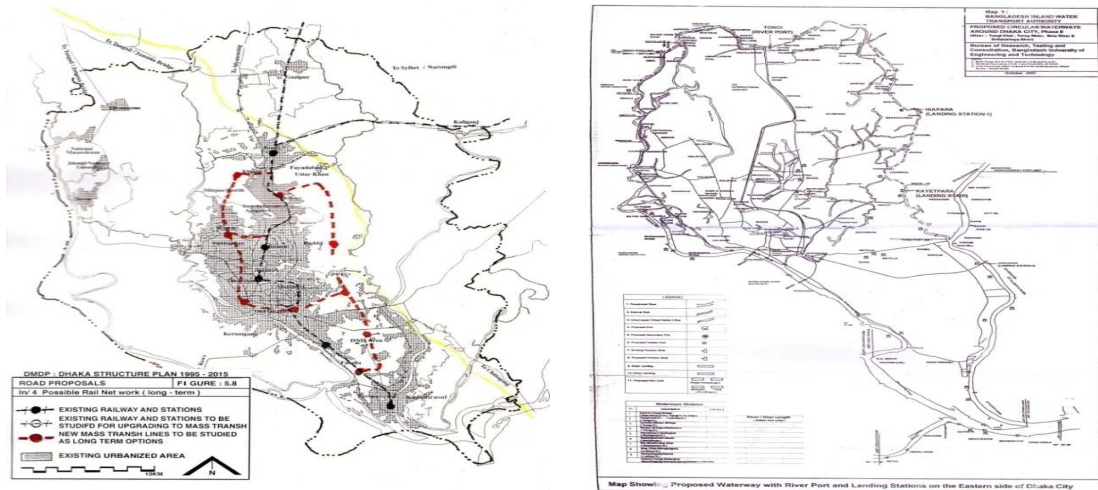
**The Dhaka Metropolitan Development Plan (1995-2015)**

The Dhaka Metropolitan Development Plan (1995-2015) addressed the issue of overcrowding with a strategy of creating satellite townships in the fringe areas with emphasis on Savar Dhamsona, Tongi-Uttara, as probable new locations. The structure plan also delineated areas to allow natural drainage by designating flood flow zones and sub flood flow zones.

The structure plan also made commendable efforts to improve the transportation network by creating new roads along the proposed embankments, a circular waterway along the surrounding rivers and a commuter rail network. The commuter rail network consisted of a new circular route and a central one running along the north south direction. (DMDP structure plan, 1995-2015)



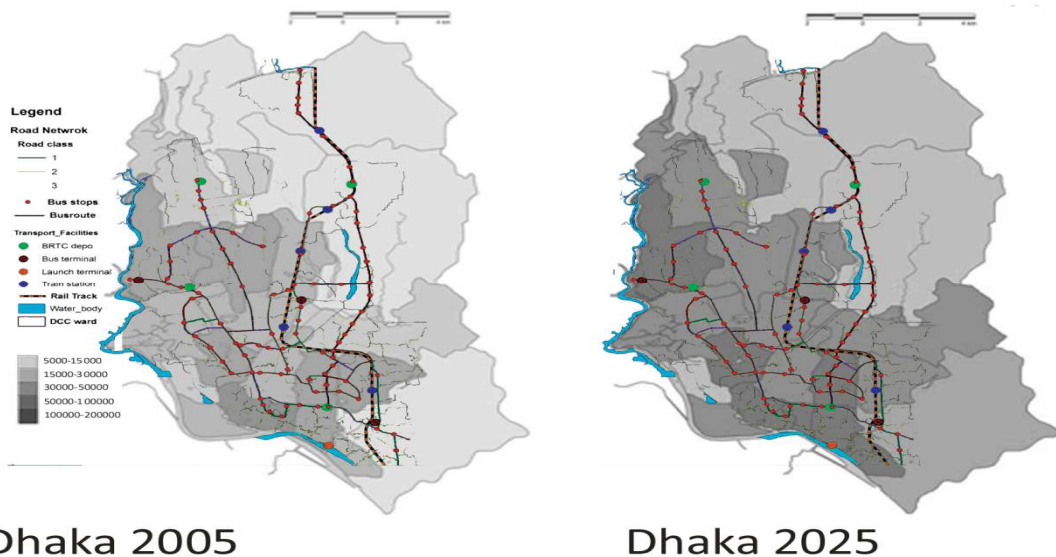




**Map 6: (Left) Transport Planning Diagram from DMDP Structure Plan 1995-2015. Map 7: (Right) Circular Waterway Feasibility Analysis Done by Bangladesh University of Engineering and Technology for Bangladesh Inland Water Transport Authority Inland Water Transport Authority in 1995. Source BIWTA**

These proposals were further consolidated in the Strategic Transportation Plan by Louis Berger in 2005 without major changes.

The structure plan was formulated in the 1990’s when the government and donor consensus was overwhelmingly in support of transformation of the government’s role from provider, enabler and regulator to enabler and regulator only. The agenda of slum improvement/rehabilitation and housing for the low income people fell off the table. The housing sector, mostly consisting of self help housing, squatters and slums was indiscriminately labeled as the informal sector and given the least priority. The public transportation gap has only widened over the years as is shown in Map 8. Reduced connectivity to the eastern and western periphery has resulted in the proliferation of slum housing due to low land prices. This has led to a spatial chasm between the city of the upper class and the city of lower class as is shown in Map 7.



**Map 8: Density Map of Dhaka City 2005 and Map Showing Projected Density of 2025 Juxtaposed with Existing Transport Network to Show its Inadequacy. Source: Authors Map Based on Thana Wise Population from <http://www.citypopulation.de/Bangladesh-Dhaka.html> retrieved on 09/05/2012 3 and Transport Network of Dhaka. Source: (Niger, 2011)**

### **Strategic Transport Plan (2005) by Louis Berger Associates and Bangladesh Consultants Ltd**

The Government has been implementing a major transportation improvement project for the Dhaka Metropolitan Area (DMA) - the Dhaka Urban Transport Project (DUTP) since 2004. The STP is the key planning document for the Dhaka Metropolitan Area that establishes a multi-modal transport plan based upon an assessment of the inter-relationship between land use and transportation. The primary objectives of the STP study is as follows:

The STP study is a comprehensive document. It includes some of the surrounding district headquarters as urban centers. It can be stated that the plan should have laid the framework for transportation planning on a larger regional scale considering that the existing railway network and waterways has the potential to integrate some major urban settlements. The STP confines the existing railway route to become the basis of a MRT system but confines it to Joydevpur to Narayanganj. As will be seen later in this paper, the existing railway infrastructure must be expanded to allow for urban dispersal.

The STP also mentions the role of Travel Demand Management as a tool to reduce the demand for travel. Such schemes must be tied into land use planning controls and policies where horizontal zoning is discouraged and vertical stacking of various functions are encouraged to allow densification, consolidation and renewal. The three land use scenarios that were used for are essentially biased on the existing road transport network only. The transport plan is not based on scenarios which take possible multimodal systems into account.

At present the government has undertaken a large no of large capital intensive infrastructure projects which will not address the issues of urban dispersal and development of multimodal systems.

### **The Detail Area Plan: 2008 (RAJUK & Consultants)**

The key strategies of the STP were incorporated in the Detail Area Plan, the last component of the DMDP in 2008. The DAP is essentially biased towards private land developers and retains little of the ecological measures, land use planning strategies outlined in the DMDP Structure Plan and fails to synchronize land use, transportation strategies and planning, slum improvement and housing for the lower income group to structure urban growth in an equitable and sustainable manner. It is more biased towards legitimizing the changes in land use throughout the entire region due to unprecedented urban growth that occurred during the interim period of preparing the structure plan (1990-95) and the DAP (2008). It fails to recognize the impact of land use planning and transportation planning on the urban fabric to disperse the city, contain peri-urban growth, consolidate urban development and allowing mixed use to enhance densification.

### **The Draft National Housing Policy of 2004**

The National Housing Authority has been engaged with the daunting task of meeting the housing demand which fell short by an estimated 5 million units in 2001. Barring a few piecemeal projects and schemes the efforts of the NHA falls far short of its task. The nation is yet to see a comprehensive housing policy. The draft housing policy of 2004 touches the key issues but does not have an effective action plan.

### **The Draft National Urban Sector Policy 2011, Local Government Division, Ministry of Local Government, Rural Development and Cooperatives**

This document is quite comprehensive in scope. It aims to address the issues related to the rapid urbanization although it does not have an action plan to synchronize sectoral planning and spatial planning.

Land speculation is a major obstacle for equitable development. The draft attempts to use taxation measures to curb it. It also mentions the distribution of under-utilized public land to the squatter settlements and recognizes the need for in situ slum improvement instead of eviction and rehabilitation which is a welcome move. It also recognizes the necessity of devolving a stronger local government which would be responsible for planning and implementation of urban strategies.

It also suggests that a hierarchical system of cities should be planned on a regional basis. It rightly emphasizes the need to address the wide gamut of issues inter-related with urban development to reducing urban poverty and plan sustainable cities.

### **AN APPRAISAL OF PLANNING PRACTICES IN BANGLADESH:**

***Euro-Centricity of Planning Models:*** Planning models which are used in Bangladesh are essentially euro-centric and have mostly failed in the cities of the south where urban poverty, rapid population growth, distress migration and growing urban economy feed unprecedented urban growth.(9)

***Governance and Political Culture:*** In such conditions the situation is further worsened by lack of governance or worse still governance biased towards the privileged class. Although there has been democratic form of government for the last 20 years accountability is a far cry. The bi-partisan culture which has evolved in this period has stifled equitable growth due to lack of consensus among the parties which has created a status quo. The overlapping of jurisdiction of ministries, competing attitude between the agencies and lack of accountability of the civil servants make long term urban infrastructure and urban planning projects difficult to plan and execute. Although the country has been under democratic rule since 1990 with two parties alternately at the helm, efforts to ensure an institutional framework for effective coordination between urban planning, sectoral planning, implementation and governance are yet to bear fruit. The essentially over-centralized prime minister biased parliamentary political system with very limited accountability is more than often at odds with the notion of an effective independent accountable elected local body for urban planning governance. There is also a tendency for the political governments to initiate projects which can be completed within the stipulated 5 year tenure. Rivalry between the members of parliament and local government on development issues is commonplace.

***Land Issues:*** Shortage of land is often cited as a crucial problem. In reality ineffective land use planning policy and governance makes the situation worse. It will continue to wreak environmental havoc and lead to failure to create a regional hierarchical system of cities. The inter-relationship between the urban and rural areas will be compromised. Along the arterial highways unchecked urban growth will lead to endless suburbanization and peri-urbanization as is already evident in many places in the country. Whether the open market system of land ownership, which is appropriate for larger countries where there is abundant land and the density is low is appropriate for Bangladesh, a land starved country is questionable.

***Disconnect between Spatial and Sectoral Policies:*** In such a difficult context the disconnect between sectoral and spatial policies is a luxury. The prevalent culture of indiscriminately acquiring agricultural land and wetlands for non-agricultural uses disregarding the hydro-geography and agriculture industry of the region by both the public and private agencies is detrimental to the hydrology, especially in the looming climate change scenario. In many cases such land use has been detrimental to the growth of cities. Industrial zones, large institutions, military installations etc. have been set up often with very little consideration for employee housing, health and education facilities and the impact on the urban fabric

of adjacent cities. The government has not expanded its social infrastructure especially in the education and health sectors in tandem with the population growth over the last two decades. As an overall consequence long commutes and further atomization of families have changed the social fabric.

***Failure to acknowledge Increase in Income and Changes in Demand:*** The Draft National Housing Policy (2004) fails to take into account the growth of income of the lower and middle income group. The rent in the slums and squatter settlements per unit area is often higher than in the “formally planned” residential areas. Such a situation may lead to giving more incentive to specific groups of people who need housing. Housing designed specifically for the garments workers/ students/ nurses/ may be made on better financial models.

***Bias towards Horizontal Zoning:*** The planning is still essentially biased towards horizontal zoning, contrary to vertical stacking of mixed use development which could allow densification, reduce commute to work places or social infrastructure. Such vertical stacking is common in older cities.

***Lack of Regional and Eco- Sensitive Visions:*** Urban planning in Bangladesh fails take into account the existing fabric of the cities and the hydro-geography of the region into proper account. . The threat of earthquake, flooding and water disasters stemming from climate change vary quite considerably across the region. There are new emerging city regions, megacities, industrial centers, older trading centers, multimodal transit centers, education institute based cities, tourism-oriented cities. In such a dynamic context the formulation and application of a general urbanization strategy seems superfluous. Effective regional planning based on the demography, economics, existing infrastructure, future trends and environmental characteristics has no alternative. There is no nationwide effort to plan a hierarchical system of cities in unison with rural and semi-urban and peri-urban zones. Transport network is often improved without projection of the impact of increasing connectivity on the land use pattern.

***Public Participation:*** The planning and governance is essentially top down. For urban planning to become effective, public participation is a prerequisite. Planning also should be done by local governments who are accountable.

***Inadequacies and lack of coordination of Govt. sponsored Urban Planning Agencies:***

As Nazem (2013) points out , neither the government machinery or the planning profession is equipped to deal with the huge task of urban planning. Many initiatives have been shelved due to lack of political will.

**ALTERNATE URBAN POLICIES AND STRATEGIES:**

***Strategies to Combine Sectoral and Spatial Planning: Establishing an Urban Planning Agency.***

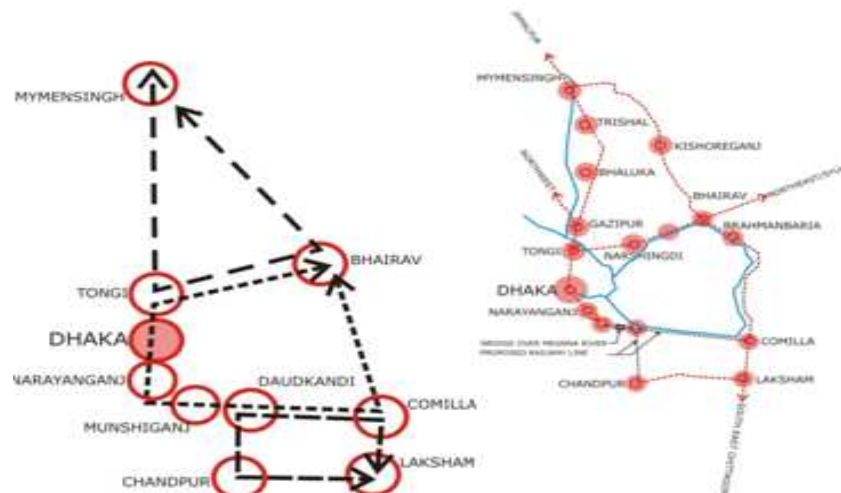
The Ministry of Planning must work in tandem with an urban planning agency of similar jurisdiction to synchronize sectoral and spatial planning. A separate Ministry of Urban Development/Physical Planning may be set up for the purpose to coordinate multi-sectoral activities. It may be recalled that the pioneering modern architect Muzharul Islam attempted to do so in the early 1970’s. India and Nepal have such ministries. It is extremely difficult to coordinate urban planning under the present framework.

***Strategies to Reduce Urban Congestion:***

The key strategy to reduce urban congestion in Dhaka is to plan for urban dispersal. Contemporary urban planning aims to foster better public transport, compact cities and reduction of dependence on fossil fuels and densify to enhance cohesion in the urban fabric.



An integrated urban planning scheme for Greater Dhaka and surrounding regions based on Transit Oriented Development exemplifies the potential of developing an integrated transport and urbanization scheme by upgrading the existing railway network and connecting it to a hierarchical network of new circular bus routes, water transport routes and more informal lighter modes of public transport for the greater Dhaka region. As shown in Map 9, the key railway junctions connecting the capital to the northwest, northeast and southwestern cities must be shifted to Joydevpur, Bhairav and Comilla respectively. This single act can create the potential for growth of new urban centers and revitalize old ones in the entire region.



**Map 9: Showing How the Transit Oriented Development Can be Used to Disperse Dhaka and Create New Urban Centers Using Transit Oriented Development Source: Khan and Maher 2012 Strategies to Address Slums, Squatter Settlements and Informal Urbanization**

***Strategies to Address Slums, Squatter Settlements and Informal Urbanization:***

The city must understand the role the residents of slum and squatter settlements play in the city. For slums, encouragement of land re-adjustment schemes where smaller unserviceable lands are consolidated and better housing with proper social and network infrastructure is built is a probable option. Such schemes may be given tax benefits. Urban dispersal is also a tool which can relieve the slum dwellers of the acute shortage of proper housing.

Land developers may be required to allocate a percentage of service lands for the low income people. Industry owners who provide housing to their workers may be given tax incentives.

***Role of Research and Development:***

There is a huge scope for research and development in urban planning techniques, finance, construction technology for housing, integrated water management, urban agriculture and urban planning, disaster management, waste management, and allied fields.

**CONCLUSIONS**

Planning sustainable urbanization is an interdisciplinary task. In the age of the megacities and unprecedented urbanization innovative planning policy and implementation is a pre-requisite for sustaining cities in order to ensure the well being of the citizens.

The paper establishes the necessity for critical rethinking of current urban policy and planning practices. To avert widespread failure of urban systems urban governance must be tailored to fit our context which has its own issues to resolve and potential to overcome.

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