

# Sustainable Urban Development in Dhaka

A. S. M. Abdul Quium

## Introduction

The rapid growth of population, increased level of economic activities, rising incomes and accelerated motorization have led to massive demand for social and physical infrastructure provisions in Dhaka City. Although Dhaka has remained the main catalyst of economic development of the country, unfortunately like many other rapidly growing cities in the region, the growth of demand for infrastructure and services has not been matched by sufficient development in these sectors. Consequently, the overall quality of urban environment in Dhaka has seriously deteriorated. Although some steps have been taken in recent years under the DUTP project and other initiatives (such as the introduction of CNG run public transport), they fall far short of what is required to be done, particularly with respect to providing a general guideline to accommodate the on-going growth in a sustainable way.

Our failure to manage the negative impacts of urban growth is threatening the health, safety and environmental quality as well as productivity of the city. Deficiencies of basic services and amenities, severe traffic congestion, and unmanaged densification and urban expansion and their wide impacts are some of the pressing problems. They are affecting efficiency of the city, limiting access to economic opportunities and social services by the poor and other disadvantaged groups, effecting environmental degradation, raising serious concerns for health and safety issues and as such are considered a major challenge for sustainable development.

In a rapidly globalizing world, major cities have become the main catalyst of economic development. However, there are trade-offs between higher productivity of cities and increasing costs of providing environmental infrastructure and managing spillover effects into and beyond their neighbouring regions. The challenge of rapid urbanisation will be to sustain urban growth while solving the environmental and social equity problems arising from the negative impacts of spatial concentration of a variety of urban activity systems. Failing which the costs of these problems will fall most heavily on current generations, particularly on the urban poor, in terms of poor health, lower productivity, and reduced real income and quality of life.

However, a balanced response to these complex issues of rapid urbanization, urban productivity, poverty, and environment involves difficult political and economic trade-offs for decision makers. For example, even when there exists a political commitment to environmental improvement, budget constraints may make it a difficult choice to set aside more pressing demands like investment in education or health in favour of improvement

in existing overall environmental quality. The environmental problems generally increase with urban growth if not properly managed from the beginning and are linked to the use and degradation of non-renewable natural resources. If they remain unattended, they can lead to a state that is not sustainable. It is also important to remember that complementarities exist between the objective of environmental amenity, and economic efficiency, equity and growth. In this situation what can be our response from urban planning considerations?

The purpose of this paper is to consider our urban development strategy for sustainable urban development in the future. It examines the objectives of sustainable development, considers the limitations of the present approach towards achieving these broad objectives, discusses some of the promising options available, and finally suggests actions needed to meet the challenges of rapid urbanisation.

### **Objectives of Sustainable Urban Development**

The World Commission on Environment and Development (1987) has defined sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. In case of urban development this means creating urban areas where various activities like living, work, schooling, shopping, recreation, etc. and the movement of people and goods, can be carried out safely, efficiently and with amenity, and that ensures optimum utilization of scarce natural resources, and where any negative impact arising out of these activities are within the capacity of the environmental system to absorb them. In more explicit terms these conditions require :

- Efficient use of scarce natural and physical resources
- Minimisation of capital resource requirements
- Management of the different forms of negative impacts on the environment
- Reduction of adverse impacts on safety, public health and other social concerns
- Conservation of energy
- Ensuring social equity
- Implementation of good governance, and
- Improvement in overall quality of life

What these requirements could mean to achievable broad objectives of sustainable urban development is now explained.

### *Economic Efficiency*

Economic efficiency does not mean opting for the cheap. It means efficient utilization of resources and being realistic with budgets. It also means that quality and reliability must be maintained to a satisfactory standard in keeping with the overall objectives. Pricing should reflect the true cost of facilities and services so that distortions in choice, generation of externalities and misallocation of scarce resources can be avoided. However, targeted subsidies may be required to make the basic services accessible by the marginal groups in society.

### *Ecological and Environmental Sustainability*

Urban development should encourage most productive use of natural resources and at the same time minimise their total consumption. It should also promote truly sustainable modes of transport, which do not consume commercial energy or use renewable energy, and more energy efficient modes.

### *Aim for Variety*

It means providing a choice of alternatives for a variety of living needs for the different sections of urban community. This would require encouraging mixed land uses within certain limits at higher densities so that people have the opportunity of living closer to their places of work, and other daily essential activities. In transport terms this means aiming for accessibility rather than mobility. This can reduce the need of long-distance travel by mechanized modes and people can be more dependent on ecologically sustainable non-motorised modes.

### *Provide a Human Scale*

The prime element of any urban system is its people. It is important that urban development takes everything in human scale. Whether people feel welcome or alienated contributes much to the vitality of an area. Urban development should aim at creating areas where various activities like living, work, schooling, shopping, recreation, etc. and the movement of people and goods, can be carried out safely, efficiently and with amenity.

### *Social Equity*

Personal attainment and welfare of the poor and other disadvantaged groups in society depend much on their access to transport and basic services. As such, their basic needs should be an important consideration in urban development and need to be carefully balanced against affordability and environmental factors.

### *Improvement of Governance*

Introduction of wide participation of all stakeholders including the community and all sections of the people is needed to bring qualitative improvement in planning and decision-making by ensuring transparency, accountability and equity which are some of the core principles of good governance. Participatory approaches to planning can deal with the various issues of cross-cutting nature and accommodate controversial complex interests and opinions from diverse layers of society. Genuine participation can also lead to a greater vitality. In fact, without participation of all concerned actors it may not be possible to implement important urban development projects or introduce new innovative ideas in urban management. Education can assist in changing community attitudes. Professionals can take a lead role to mobilise community support for objectives designed to achieve a sustainable future.

*Comprehensiveness*

Some of the above objectives could be conflicting in nature. Their resolution will require a creative approach to develop an integrated plan for the whole urban system and its articulation with the overall urban development process. However, in Dhaka and elsewhere, an institutional mechanism and capacity building of urban local governments is badly needed to prepare such a comprehensive and integrated plan.

**Limitations of the Conventional Approach to Urban Planning**

Let us now examine whether these objectives can be achieved through our present planning practices. If not then what alternatives are available to us and what should constitute our major action areas towards creating a sustainable urban future?

In Dhaka, as in other developing cities, rapid urban growth is accommodated mainly by peripheral expansion of existing urban limit through the conversion of rural land into urban use. Although the government is essentially involved in urban expansion by its land use planning and regulatory controls and by its direct investment in creating social and physical infrastructure, government actions have failed to keep pace with the fast growing demand for such expansion. As most of the land is privately owned, developed and used, the conversion is done mainly by the private informal sector. As a result, the largely uncontrolled organic growth is not conducive to creating a resource efficient sustainable urban environment. At most all the areas developed through this informal approach by small land owners, owning mostly irregular shaped land parcels, remain deficient in social and physical infrastructure, and ultimately this results in a poor quality of urban environment.

Experience in Dhaka suggests that it takes 15-20 years or more to plan and implement a major urban development project if one is considered at all. But the incremental organic growth is inevitable and does not wait for the conventional planned growth. This process of invading peripheral land by new settlements remains unabated in Dhaka. Profits from land speculation are potentially too large to overshadow the productive use of land and influence the actions of administrators. Some recent studies have confirmed our apprehensions regarding the high social costs of this kind of unguided development that results in depletion of scarce resources, creates a poor urban environment, and also may develop other serious environmental hazards.

The conventional planning approach to accommodate growth by new community building is of little relevance in the present context. Resources required for these solutions are far beyond our affordable limit in both financial and economic terms. The conventional approach has become increasingly unacceptable in social and political terms also as experienced in Badda and other peripheral areas of Dhaka in the recent times. These solutions are not primarily concerned with conserving scarce natural and capital resources and preserving the interest of the original inhabitants of the area.

A fundamental change in the present approach is essentially required. The present planning practice has remained basically blue print oriented and is directed more to regulating urban land use than to guiding urban development. There is little coordination and cooperation among urban planning and the infrastructure development agencies in

planning the land use pattern and network layouts for the growing urban peripheral areas. A significant improvement in the current dismal situation can be achieved through coordination of land use planning and infrastructure provision activities by different agencies. This is explained in the following section.

### **Provision of Network Infrastructure**

Network infrastructure is critical in founding sustainable urban development. The government sector can manage its planning, investment and regulatory activities in urban expansion so as to guide the urban expansion that can help establish a sustainable urban development process. Management of these activities can be designed to establish a physical and legal framework to guide the private sector land subdivisions and building projects being undertaken by the land market. Land management can be designed to achieve planned urban expansion that ensures sustainable urban development and adequate supply of land.

The land development and management system can operate as explained below. The planning authority designates an area for future urban development considering various strategic issues for such development. The existing Structure can serve this purpose well. It can then plan and zone these future urban areas and take up projects for the provision of various network infrastructure like road and utility services at the primary and secondary levels. By doing so, the public sector converts the designated rural land into subdivision land. The private sector then may come forward to convert this subdivision land into urban land. The public authority can still impose subdivision regulations to ensure sound layout and construction of network infrastructure at the local level within each subdivision project. They can also impose development controls so that capacity of the network infrastructure serving the area is not exceeded.

The key elements in this type of urban development strategy are sharing responsibility for the provision of network infrastructure and thus reducing demand for public funds, optimum utilisation of infrastructure from the beginning, ensuring physical quality of urban environment, keeping away growths from areas where likely negative impacts are very high, and avoiding large scale public acquisition of private land.

The network of roads and utility service lines provides the means of efficient road transport and public transport, reduce energy usage, and minimise pollution and limit it to the capacity of the natural system to absorb it. The network infrastructure would enable urban dwellers and business firms to carry out their activities and movement with efficiency, safety and amenity.

Many new and promising techniques are now available to implement this type of development strategy through public-private partnership. They have been tested in many Asian countries. Two of them that appear to be more promising are now discussed.

### **Land Readjustment/Land Pooling**

Land readjustment is a comprehensive technique for urban area development that provides network infrastructure and other utility facilities and amenities in an integrated manner

together with serviced building plots. This technique is also known as land pooling or reconstitution of plots. It may be undertaken by a group of land owners or by a public authority. In this method all the parcels of land in an area are readjusted in a way that each land owner gives up an amount of land in proportion to the basis of the size and location of each site. The provision of public facilities enhance the land value and a sound urban area is created. The land contributed by the land owners is used to provide community facilities and amenities and can also be sold or leased out to meet the project costs including those for the infrastructure. This approach maintains the original inequalities of property ownership by giving benefits to existing advantages. This approach can supply serviced urban land for private development and also supports sound development of the urban environment. This technique can be applied at any scale and level ranging from metropolitan scale to land subdivision project level.

It is very important to mention here that land readjustment may not be viewed merely as a technique of urban development for a land scarce society. In Japan land readjustment is considered as the mother of town planning (Nishiyama, 1992). Historical evidence suggests that there are different approaches to urban planning corresponding to the different conditions of economic development of societies. A convincing argument put forward by Nishiyama (1992) is that the modern western urban planning is a product of a mature society while land readjustment can be an effective approach of urban planning during the period of growth of a changing society like ours.

### **Special Assessment Technique**

In this technique the beneficiaries of the project share the cost of laying the network infrastructure. Equity is the basis of sharing the total project cost over a repayment period. Private developers and land owners can finance the project from a combination of equity capital and loans, and then recover the project costs and repay the loans from their plot sales and revenues. The equity in cost sharing can be based on some agreed simple formula by the beneficiaries that may include factors like land area, length of road frontage, location and others.

The participants could also agree upon the relative weights of the factors included. In this type of projects some minor adjustment in plot boundaries may also be necessary for proper layout of the site. However, no large-scale readjustment of lot boundaries as required by the Land Readjustment Technique is required.

### **Major Barriers to Implementing the New Techniques**

The philosophy that a physical foundation for a sustainable urban development can be provided by supplying network infrastructure through public-private partnership efforts has not been duly recognized by our decision makers yet. The authorities do not attempt to manage their planning, control and investment functions so as to provide a physical and regulatory framework for the private developers. The government responsibility for producing and controlling private land subdivision has been overlooked.

Urban planning, development control and investment in infrastructure are carried out by a host of public authorities with very little or no institutional mechanism for inter-sectoral coordination among them. Unless a satisfactory mechanism for coordination can be devised and other institutional weaknesses (such as shortage of trained manpower, legal authority, etc) can be removed, any significant improvement of the existing dismal situation in the urban environment of Dhaka may not be expected.

Our urban planning efforts are directed more to regulating urban land use than to guiding urban development according to the need of the time. A fundamental change of direction and attitude in this respect is necessary. Shortage of funds is another barrier commonly referred to. This is, however, a paradox of urban development and is not a major problem for the mentioned techniques. The rising land values are the most obvious and appropriate source of funds to finance the land development project. The mentioned techniques can capture a part of these rising land values by internalizing the project costs.

### **Some Suggestions for Action**

To overcome the discussed barriers, immediate action areas with brief discussions on them are presented in the following paragraphs.

#### *Interventions through Public Policy*

Strong regulatory policies are needed to prevent serious environmental degradation by stressing appropriate and affordable standards and effective monitoring and enforcement systems. Land use regulations are needed to guide development away from ecologically fragile and hazard prone areas. Economic instruments and planning tools like Land Information System, Guided land Development, etc., can reduce excessive reliance on regulatory control.

#### *Urban Governance and Institutional Weakness*

The need of a strong local government is paramount in addressing the present problems. Without an effective mechanism for inter-sectoral coordination of activities it is impossible to face the present challenging situation. The present approach to planning must also be changed. Institutional weaknesses need to be removed through trained manpower and access to modern technology, particularly information technology. An integrated information management system for infrastructure management can go a long way to address many of the issues relating to urban governance. Legal enactments are necessary to apply modern planning tools. A change in attitude of the planners is also necessary.

#### *Public-Private Partnerships*

For the improvement of urban service delivery systems, public sector organizations should consider entering into partnerships with the private sector to secure finance, access to modern technology (information management is of special relevance), reduction of cost, and increased efficiency.

### *Guidelines for the Private Formal Sector*

The real estate developers in Dhaka are now quite active and have already made their mark by transforming vast tracts of peripheral rural land into urban land. Unfortunately, in the absence of general guidelines on large-scale development by the land developers and monitoring of their activities, many areas have been developed which would remain deficient in social as well as physical infrastructure for years to come. Furthermore, environmentally fragile areas have also been developed. The concerned authorities may consider formulation of a general guideline for the large-scale developers and develop a monitoring system to ensure that the areas can be developed by them following the basic principles of sustainable development as outlined above. The public sector should also consider forging partnerships with the real estate developers and other groups of the private sector to ensure provision of basic facilities and services.

### *Capacity Building*

Capacity building for both the public and private sectors is necessary. Special consideration should be given for capacity building of NGOs and CBOs in the areas of public education, consensus building, and organising public participation. Good examples of capacity building already exist in Dhaka. However, external support may also be necessary in some selective areas such as public-private partnerships.

### **Conclusion**

So far our planning and urban development efforts have not been much in the direction of creating a sustainable urban environment and has failed to meet the challenges of rapid urbanisation for various reasons. A departure from the conventional planning practices is necessary as they are more suited to a mature society. With serious institutional weakness and governance problems it is difficult to pursue the existing practices. We must look for new approaches appropriate for our current state of development and capitalize on the resources and expertise of the private sector to face the challenges of sustainable urban development.

### **References**

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