

## URBAN LAND MANAGEMENT MODELS AND TECHNIQUES

SEJAL S. BHAGAT

Sarvajani Engineering Collage of Engineering and Technology, Dr. R.K. Desai Marg, Athwalines, Surat, Gujarat, India

### ABSTRACT

Land is a resource and at the same time it is non renewable. So it should be utilized very carefully. Land is a base for all the development activities. Land can be broadly classified as urban and rural land. The urban land is more valuable than rural land, because concentration of activities is relatively higher than rural areas. There is competition between activities for space and therefore the supply of land is relatively inelastic in urban areas. Urban land management means organization of land survey, zoning, classification in to type & create a land use pattern to do the town planning in the batter manner. This paper focus on the various land management techniques like master plan approach, development plan, land acquisition, and land pooling and readjustment methods. At the conclusion authors has specify that out of these methods which method is more suitable and convenient for the better development.

**KEYWORDS:** Land Development, Land Management Town Planning Scheme, Urbanization

### INTRODUCTION

Urbanization is rapidly increasing with the advancement of science and technological development. Urbanization is an important aspect in a process of economic and social development and is closely connected with many other problems such as migration from villages to towns, level of living in urban and rural areas, relative cost of providing economic and social services in town of varying size, provision of facilities like water supply, sanitation, transport and electricity pattern of development etc.

The rapid urbanization is a great threat when the quality of life in urban areas is deteriorating. To facilitate and sustain this growth, cities have to provide both a high quality of life and an efficient infrastructure for economic activities. The Town Planning Scheme is being followed as an alternative method to assemble the land for urban development activities in a faster and financially affordable manner without taking recourse to compulsory acquisition of land. It is basically an area planning technique patterned on the concept of land pooling with land adjustment and land reconstitution. The Town Planning Scheme is the unique feature of the land development at micro level planning under the provisions of GTP & UD Act-1976. Town planning scheme is a legal document that is basis for assessing and determining proposals for the use and development of land in town. The state of Gujarat practicing the land acquisition method and land pooling – readjustment method since 20th century to manage the process of new growth in fairly successful manner. This is called the town planning scheme.

### LAND MANAGEMENT TECHNIQUES

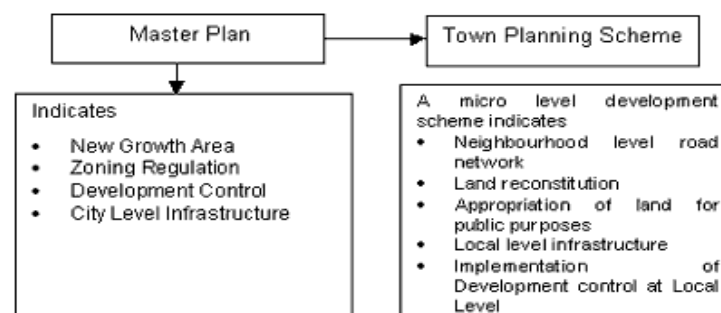
“Land management” is defined as an activity on the ground, using appropriate technologies in the respective land use systems. Supply of urban land as a resource not only limiting but also localized and at the same time every activity needs urban land. Therefore land management is required to create healthy growth of towns and cities. One of the greatest

challenges to engineers, planners and decision-makers is the assurance of Sustainable Land Management (for both Urban and Rural Lands). This concerns exploration and exploitation of a Nation's natural and Environmental resources, provision of food, social services, education, health, infrastructure development, transportation (road and railway networks), communication and telecommunication, industrial development, population control and protection of the environment for the accelerated and orderly development of a country and its economic recovery efforts without destroying the environment for the generations to come. Land management aims to secure the legal rights to land, while simultaneously upholding the social and productive functions of land. Problems related to land are very complex. Land has always been the prime resources for planning and development of any area. Land is such a resource, which is constant and cannot be created. Therefore the importance of optimum usage of land in a developing city is obvious. The main challenge of physical planners is the proper and effective land use planning with the allocation of all the physical and social amenities for existing and the growing population of the area and its hinterlands. The requirements are definitely guided by the UDPFI and other guidelines.

### MASTER PLAN APPROACH

The concept and methods of Master Planning in India owe their origin to the British town planning laws. The Master Plan, which was perceived to be a process rather than a conclusive statement, provides guidelines for the physical development of a city or town and guides people in locating their investments and residences in the city. In short, Master Plan is a design for the physical, social, economic and political framework for the city, which greatly improves the quality of urban governance also. A Master Plan is concerned with land uses for public infrastructure, which should overlap with national socio-economic development priorities.

Master Plan approach currently in vogue is an important instrument of spatial planning process which aims at channelizing the built urban form and directing the growth of urban areas, implementation of Master Plan for various towns and cities may not be very encouraging on the whole but certain development schemes taken up as part of Master Plan or as prelude to development are successful experiments in many states. Town Planning Scheme on land pooling technique has been successfully used for plan implementation in Maharashtra, Gujarat, Tamil Nadu, Punjab and some other states. This facilitated assembly and development of urban land without resorting to compulsory land acquisition under Land Acquisition Act 1894. Through the mechanism of Town Planning Scheme urban local bodies launched land pooling and redistribution process in urban areas. Scope of Master Plan has clearly defined in various Town Planning Acts and other relevant legislation. Basically it is a statutory instrument for controlling, directing and promoting the sound and rational development and / or re-development of urban areas with a view to achieving maximum economic, social and aesthetic benefits.



**Figure 1: Relationship between Master Plan and Town Planning Scheme**

The Master Plan is followed by preparation of Zonal Development Plan, Development Schemes, Town Planning Schemes, etc. which indicates details and specific location of various activities, facilities and services as suggested in the Master Plan. Such detailed plans and Town Planning Schemes are necessary for smooth enforcement and implementation of Master Plan. The concept of Accommodation Reservation (AR) and Transfer of Development Rights (TDR) are the new policy instruments for resolving the problems of land acquisition / land assembly to some extent.

### **DP-TP APPROACH**

There is Development plan approach to understand town planning scheme mechanism and build urban infrastructure. Cities in India are facing three distinct challenges in the development of urban infrastructure. The first challenge is to adhere to a development plan in the face of a strong tendency towards unplanned growth. Second, when land is acquired under the Land Acquisition Act, 1894, a major equity issue arises relating the disparity between those who lose land for a given project and those who do not. Finally, city authorities do not have adequate resources to finance infrastructure.

The Gujarat Town Planning and Urban Development Act (GTPUDA), 1976 provides for an effective mechanism that addresses these challenges through a process called ‘Development Plan–Town Planning Scheme’ mechanism. Managing urban expansion in the periphery of cities is only one use to which the DP–TP mechanism can be put. The DP–TP mechanism Promotes and enables the Development Authority to think and plan at both the macro level and at the micro level. The bane of a lot of infrastructure planning is a geographically focused view. The DP–TP mechanism requires planners to think at a city- wide level and then allows them to undertake very detailed planning.

This mechanism is a spatial planning tool that promotes a comprehensive approach. When developing a spatial plan, a planner is forced to simultaneously deal with all the complexities of an urban area—roads, variety land uses, buildings, infrastructure, traffic, rights of way, and so on. Thinking in a sector-based engineering fashion in the urban context and not anticipating how one piece of infrastructure is linked with the rest and how all the infrastructure connects with living environments in an area.

### **LAND POOLING AND READJUSTMENT TECHNIQUE**

In this method, the public planning agency or development authority temporarily brings together a group of landowners for the purpose of planning, under the aegis of the state-level town or urban planning act. As there is no acquisition or transfer of ownership involved, there is no case for paying compensation. A master plan of the area is prepared, laying out the roads and plots for social amenities. The remaining land is reconstituted into final plots for the original owners. The size of the final plot is in proportion to the size of the original plot, and its location is as close as possible to the original plot. A betterment charge based on the cost of the infrastructure proposed to be laid is levied on the landowners. Infrastructure is then provided utilizing these funds.

The Merits are as Follows

- Infrastructure development and social amenities are provided.
- The increment in land value resulting from the development accrues to the original owner whenever the land is sold and developed for urban use. Thus the benefit of development goes to the original owner instead of the development agency.

- The original owner is not displaced in the process of land development and continues to enjoy access to the land resource.

The Demerits are as Follows

- This method is time consuming, since the procedure prescribed for preparation and implementation of such land pooling or readjustment schemes is complicated.
- Betterment charges are assessed at the beginning of the land pooling or readjustment scheme preparation. Due to the inordinate delays in finalizing schemes, the betterment charges levied on finalization of the scheme do not meet the cost of the infrastructure provided.

## **LAND ACQUISITION METHOD**

In this method, the public planning authorities/development agencies acquire large areas of land from agricultural landholders (farmers) under the Land Acquisition Act of 1894. Compensation paid to farmers is based on prevailing agricultural land prices. To minimize opposition to acquisition farmers are paid prices marginally higher than agricultural land prices. Then a master plan of the area is prepared, laying out the roads, plots for social amenities, and plots for sale. Roads and infrastructure are then built, using government funds or loans. Serviced plots are then sold for urban uses at market rates, which are most often much higher than the rate at which land is acquired.

The Merits are Listed as Follows:

- Adequate amounts of land for urban uses can be rapidly generated.
- There are very few constraints in preparing the master plan.
- The benefit of appreciation of land value on its being converted to urban use accrues to the development authority.

The demerits of this method are as follows:

- Original owners or farmers don't share this benefit in any manner.
- In this method, farmers are essentially thrown off their land.
- Unable to wisely invest the money received as compensation for their land. This process adds to familiar urban problems—growth of slums, increase in crime rates, and increased informal-sector economic activity.
- The development process is slow. Any person who needs land for urban use has to approach the urban development authority.
- Development agencies using the method of bulk land acquisition end up being powerful large-scale land developers, controlling vast urban resources.
- This is likely to breed corruption

## **TOWN PLANNING SCHEME**

The Town Planning Scheme is being followed as an alternative method to assemble the land for urban development activities in a faster and financially affordable manner without taking recourse to compulsory acquisition of

land. In Gujarat, Town Planning Schemes as an instrument for urban development has a long history. The first Town Planning Scheme was taken up as early as in 1917 for Jamalpur area of Ahmedabad city. Jamalpur area Town Planning Scheme was also the first TPS in the country. Success of Town Planning scheme can be accessed from the fact that in Gujarat as many as about 150 Town Planning Scheme are in operation and T.P. Schemes have become a very useful tool for implementing D.P. proposals.

Town Planning Scheme (TPS) is in operation in some of the states of Indian Union in the form of plot reconstitution. It is basically an area planning technique patterned on the concept of land re adjustment. In the state of Maharashtra, which is a pioneer in the field of TPS, it is implemented under the Maharashtra Regional and Town Planning Act, 1966. In Gujarat, it is implemented under the Gujarat Town Planning and Urban Development Act.1976.

Gujarat adopted the Town Planning Scheme (TPS) to expedite the process of land development, which was constrained by the then existing method of land acquisition and development as it was both time consuming and expensive because of legal problems and the heavy compensation the local authorities had to pay to land owners. To overcome such difficulties the state adopted the technique of land pooling (followed in Eastern Asia by Japan, South Korea and Taiwan), whereby irregular plots of land are pooled together, serviced and reconstituted into systematic plots before returning a proportion of improved land to the owners. A fraction of the retained land is used for public use, and another portion is sold to buyers to generate funds for development. The method, thus, becomes a self-financing technique and is less costly for the local authorities, as no payment has to be made for land acquisition. Besides, a portion of the cost of infrastructure is realized from the land owner. It was believed that with less of financial transactions, this technique of land development would work out to be faster and cheaper. For the satisfaction of the land owners, the method involved a kind of community participation in which the judgment of the owners was sought at all stages of development.

The Town Planning Scheme is the unique feature of the land development at micro level planning under the provisions of GTP & UD Act-1976. It is based on the concept of land pooling with land adjustment and land reconstitution. The T.P. Scheme is prepared by the authorities generally for an area of about 80 to 100 Ha. In nutshell T.P. Scheme can be explained as under. The unplanned area of about 100 Hectares is taken for planning. Planning this area in detail it may require about 40% of land for road network, public purpose like school, hospital, market, park, playground etc and for plots for sale and the remaining 60% area can be utilized to formulate final Plots for the allotment to land owners as plots. As a result of this planning exercise 40 percent of land is deducted from the ownership of all the land owners proportionately and allotted to the authority to undertake the respective development works for public as per the T.P.S. proposals. The remaining 60 percent land in form of plots is given back to the land owners on proportionate basis. The land owner will lose 40% of land and will get back 60% land in form of Final Plot. All the land owners will have this kind of adjustment.

The entire area is now well planned. It should be appreciated that nobody is deprived of his land. Everybody is contributing for the public purpose land proportionately. Every land owner is paid compensation for the land he is contributing (about 40% land area) and in turn he pays the incremental contribution authority for the betterment of his land by virtue of this planning. There is no land acquisition and nobody is deprived of his land. On the sanction of the preliminary scheme under section 67 of the Act, the land readjustment will come into force as per the scheme documents. Accordingly all the original boundaries of the Original Plot will be changed automatically to the new boundaries of the Final Plot. The roads, public purpose plots and the plots for sale will vest in the authority.

Through T.P. scheme land for public facilities and services are made available at right location and at right time. All such public purpose lands are equitably apportioned from the landowners. Planning efforts can keep pace with the growth and rapid urbanization thereby reducing scope for haphazard urban sprawl. TP Schemes facilitates decentralization of planned development activities in core as well as outlying areas of the city. Town planning scheme encourages optimum use of scarce developed urban land through efficient layouts and using of urban land as resource to check land speculation. By implementing TP Scheme the build ability of the reconstituted plot increases with regular shape, improvement in accessibility, increased potential of development, availability of social and physical infrastructure in the neighborhood, better linkage with other part of the city and improvement in living environment.

## CONCLUSIONS

After discussing all above approaches for land management it is evaluated that town planning scheme is an effective tool for proper development for the urban area. Because there is a public private partnership involvement. In T.P. scheme generally land ownership is not change and an infrastructure development is a part implementation thus land price goes high, this benefit directly obtain to the land owner. The landowners are involved in the process of planning and have ample opportunity to present their views on the proposals and place on record their objections. Infrastructure development and social amenities are provided in this method.

## REFERENCES

1. Afolabi A., (2008), "Improving Urban Land Use Planning and Management in Nigeria: The Case of Akure", Department of Geography and Planning Sciences, Adekunle Ajasin University, Nigeria.
2. Aribigbola A., (2007) "Urban Land Use Planning, Policies and Management in Sub Saharan African Countries: Empirical Evidence from Akure, Nigeria", Department of Geography and Planning Sciences, Adekunle Ajasin University, Nigeria.
3. Ballaney S. And Patel B., (2009) "Development Plan – Town Planning Scheme" Mechanism To Appropriate Land And Build Urban Infrastructure", a presentation for national conerence on dp-tp mechanism, Mumbai.
4. Ballaney B., (2008) "The Town Planning Mechanism in Gujarat, India, the world bank Wasington DC.
5. Ballesteros M. M. (2000) "Land Use Planning in Metro Manila and Urban Fringe: Implications on the Land and Real Estate Market" Philippine institute for development studies, Makati city, Philippines.