

# EMERGENCE OF NAVI MUMBAI – A CITY OF 21ST CENTURY: HOUSING POLICY, DEMAND AND PUBLIC-PRIVATE PARTNERSHIP IN LAND USE

By

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## **Need for the New City:**

Many metropolitan centers accommodate more than ten million and are increasing by up to 1,000 people a day, while many smaller cities are doubling in population every decade or less. It has been estimated that in India alone, approximately 600,000 hectares, or enough to accommodate twenty more cities the size of Mumbai, will be needed within the next twenty years to accommodate the projected increase<sup>1</sup> 37% of the population of the India stays in million plus cities. Navi Mumbai, a satellite township of Mumbai - the financial hub of India, is only 38 years old. It is a planned city adjacent to Mumbai is the largest planned township in the world<sup>2</sup>. Its development in vicinity of the mega city was considered obligatory by the Government of Maharashtra to ease the population pressure on Mumbai. Restricting further growth of Mumbai metropolis was proposed by different alternative urban management systems including upgrading the old city, planned expansion of existing towns around Mumbai. It was decided to develop a single large metropolis model for the new town as it can absorb large number of tertiary sector jobs. The development of a new city always poses challenges to planners and administrators particularly when the city is to be built within a fixed time frame and with some specific objectives. **The background and the rationale behind the decision to set up Navi Mumbai was to achieve a common objective<sup>3</sup> which is given below:**

- To reduce the growth of population in Mumbai city by creating an attractive urban centre which will –
- Absorb the immigrants who will otherwise go to Mumbai
- Attract some of Mumbai's present population so that overall population of Greater Mumbai can be contained within a manageable limit
- To support the state-wide industrial location policy which will eventually lead to an efficient and rational distribution of industries over the state and a balanced development of urban centres in the hinterland
- To provide physical and social services, raising the living standards and reducing the disparities in the amenities available to the different sections of the population

- To provide an environment which would permit the citizens of Navi Mumbai to live fuller and richer lives in so far this is possible, free from the physical and social tensions which are commonly associated with urban living

The strategies used to accomplish the vision were

- a. Public ownership of land by government compulsorily acquiring all the private lands by paying monetary compensation
- b. Self financed city, using land as the resource for financing the development (Government did not provide money for the Navi Mumbai project except a small seed capital)
- c. Creation of a single nodal agency 'CIDCO' to plan and develop the new city

### **Land Assembly Mechanism**

The private lands in Navi Mumbai consisted of small fragments and of irregular shapes with only 12% of the total holdings bigger than 500 square meter. Inherent value of the land was also low, making value addition to the land a major task so as to use it as a resource. Though land was notified under the Land Acquisition Act, there was opposition to the taking over possession of lands, resulting at times, in law and order situation. Delays in acquisition are also caused by the amendment to the Act 1984, which allowed lapse of notification if lands are not acquired by 1986. As on 1995, over 20% of the private lands remained un-acquired. The enhanced compensation rates have also delayed the process by increasing the administrative work. Experiencing the resistance to wholesale land acquisition, and keeping in view conditions that may not permit such a solution<sup>4</sup>.

Land was the key asset in the development process of Navi Mumbai. Land being the prime resource for financing the multifaceted development activities in Navi Mumbai, pricing of land becomes a critical aspect to ensure full cost recovery. While setting up CIDCO (City and Industrial Development Corporation) in early 1970, it was made clear that CIDCO would undertake development of all infrastructure works to attain the objectives of the New Metro City planned on the mainland across the harbor. It was also directed that CIDCO will recoup all expenditure it would incur on development inclusive of establishment and administration cost from land sale. A large part of the land was low lying and unproductive and therefore was not in a form to be used as a resource for raising finance. Out of total land nearly 50% of land was reserved for open space.

### **Development of Navi Mumbai**

Navi Mumbai spread over an area of 344 Sq. km., which was interspersed with 95 villages, and 2 municipal towns, which housed 100,000 people in 1970. It is a series of 14 self-contained townships called 'nodes'; each developed at a different point of time and with independent physical and social infrastructure system, but linked by mass transport rail system and trunk roads. This was a strategy adopted to bring development progressively, as a consequence, a part of Navi Mumbai is today referred to as 'developed nodes' and the others 'developing nodes'. The characteristics of the developed nodes are older housing areas, higher property values, better amenities and administration handed over to the Municipal Corporation where property tax is levied. In these nodes, change of land and building use is permitted within allowable limits.

### **Institutional arrangement**

In 1992, the state government established Navi Mumbai Municipal Corporation (NMMC) as a local authority, whose jurisdiction is confined to the developed parts of Navi Mumbai. NMMC elected its first members in 1994. The transfer of powers and responsibilities has always been a disputed ground between CIDCO to NMMC, particularly revenue sharing and maintenance functions. The present arrangement is that while CIDCO has the responsibility for capital costs of infrastructure development in the entire city, granting development permissions, collecting taxes and maintaining services is NMMC's responsibility. However, the area under NMMC is a little over one third of Navi Mumbai. For the rest of new town CIDCO continues to play the overall role including that of planning authority, until they reach a stage of development where NMMC can take over.

## Housing

Housing being the basic need plays an important role in overall improvement of life style and economic development of country, a city or a person. Large urban centers in India as in many parts of the world are literally exploding with the population growth during the last three decades. The housing crisis is growing at an alarming rate and the government's role would be to involve private and public partner to fulfill the demand. In 2001, the new city housed 1.1 million people, and presently 2 million, only 50% of its holding capacity. Apart from land development CIDCO initially built packaged housing to act as a "catalyst" for the city development before transferring this role to private and co-operative sector at a later stage. Between 1970 and 1990, CIDCO was prime supplier of fully constructed affordable houses under conventional approach to the economically weaker section, low income group, middle income group and to some extent higher income group. This has facilitated the faster development of Navi Mumbai and also helped people to own a house either on hire purchase basis or on self financing basis. This has also attracted the public and private sector organization including cooperative housing societies and individuals to enter into field of construction of house. CIDCO provided mass housing using two specific developments types namely "Site and services" and "Apartment". The focus was on creating mixed income residential clusters with necessary amenities so as to achieve social balance.



*LIG and MIG Housing in Navi Mumbai*

The primary objective was to make the land affordable to all income groups and to allow all land-uses. The instrument used to achieve these objectives was reserve price. This is being used to achieve cross subsidization. Households in India are divided into various income categories,



especially for the purpose of housing calculation (EWS is the economically weaker section, LIG is low-income group, MIG is the middle income group, and HIG is the high-income group).

*HIG Housing in Navi Mumbai*

EWS and LIG together are referred to as the lower income groups). The industrial worker, labour, quarry worker, domestic workers and hawkers constitute the low-income groups in Navi Mumbai. The private sector built mainly for the higher end of MIG and HIG. The average accommodation trend in the formal sector is 50 sq.m. per dwelling unit with the minimum and maximum ranges between 18 sq.m. and 200 sq.m.

By 2009 CIDCO has constructed about 122,000 of housing stock in the city, half of which is for lower income group. In India, share of low income group housing in private sector is minimal. Housing in Navi Mumbai can be categorized as formal and non formal sector. Formal sector comprises Government (CIDCO)- built houses; private houses constructed by co-operatives, individuals, and the developers; corporate bodies building houses for their employees; and the serviced sites developed for the weaker sections. Non formal sector comprises Urban village, Traditionally housing and Squatter settlements. The details are given below

I) Formal Sector:

- i) Private housing by households: Individual households of building developing units for self-occupation and or part renting.
- ii) Private Housing by Developers: Private developers building apartments for any number of households depending upon the plot, plot size and market demands, both low rise and high rise.
- iii) Co-operative Housing: Co-operative buildings are built by a group of at least 10 households.
- iv) Employees Housing (Staff Housing): Large companies in public and private sectors construct mass housing and provide the same on rental basis to their staffs. This type also includes rental stock created by Central Government and various State Governments and municipalities for their employees.
- v) Public housing: Generally provided by the state level agencies like the Housing Boards, the urban development authorities, municipalities or any other such state level authority. Delivery system is in the form of mechanized income group housing or economically weaker section housing or for any special target groups such as socially backward classes. These kinds of houses are available with CIDCO being the sole provider of this form of houses.

At later stage CIDCO has encouraged local villagers to participate in development of new city.

## II) Non-formal Sector:

- i) Urban village: Where the ownership as well as house construction were legal at the time when they were rural, but these structures do not conform to new regulations imposed if they become part of urban area and hence, become non-formal. These settlements become island of congestion with poor services, through a political leadership hold surrounding development to ransom.
- ii) Traditionally housing: Same as above, the older part of the urban area. Non-formal for the reason cited in above.
- iii) Squattered settlements:- Where land ownership as well as construction of structures are illegal, but where consolidated settlements are provided with various degrees of tenure security under the slum act.

Illegal lands and subdivisions: In this case a parcel of land owned by Government or private individuals is divided into plots without any statutory approval and sold illegally to households. The individual households in-turn developed housing on these plots without any further permissions and later form pressure groups to get the development regularized and to get excess to all services such as water supply, sanitation, electricity etc. People in illegally subdivided layouts are less poor than those in the slums and have means to take initial investigations on the plots.

### **Housing Policy:**

Besides making a city, the most challenging task was to offer good housing and a better quality of life in a pollution free environment, to all the inhabitants of the new city. CIDCO framed its housing policy incorporating self-financing principle using land as a prime resource in development of housing sector to meet the fast growing demand for all sections of society<sup>5</sup>. The national housing policy provides guidelines to various states to work out their future housing strategies. According to this policy, States should act more and more as 'facilitator' of housing rather than as 'provider' except for a limited role in the case of EWS & LIG categories. The states/Public Authorities should encourage participation of people and local agencies including private sector, co-operative societies, NGOs in housing construction. The main thrust areas in future would be –

- Reduce houseless ness by targeting particularly the weaker section and low income group
- Provide increased quantum of developed land and finance to different income groups
- Promote the use of appropriate and energy saving construction technology including building materials which are cost effective, incrementally up gradable and environmentally appropriate.
- To provide the minimum level of basic services and amenities to ensure a healthy environment within the framework of integrated settlements.
- State should also provide on-site and off-site infrastructural services in time.

The state agencies like housing boards and development authorities are expected to adopt progressively the new guidelines initiated in the National Housing Policy and prepare action plan to achieve the objectives of 100% housing by the turn of the century<sup>5</sup>. In response to NHP, CIDCO had strengthen some of its housing projects which had serve the poor, designed some innovative strategic programme and made appropriate changes in some components of policies. In 1995, the overall pattern of distribution of total housing in Navi Mumbai considering construction by CIDCO and private sector, it was observed that it is heavily in favor of MIG and HIG groups accounting 65% of total housing whereas share of EWS/LIG in the total was only 35%. Therefore, in order to

reach a proportionate of figures around 50% for EWS/LIG, it was proposed to introduce much larger programme for EWS/LIG in future years and some what lesser component for MIG and HIG houses. In view of this, it was proposed to adopt 60% for EWS/LIG, 30% for MIG and 10% for HIG.

The income mix in Navi Mumbai was taken as 50% for EWS/LIG, 30% MIG and for 20% HIG<sup>5</sup>. For making housing affordable to EWS and LIG groups, efforts were made in terms of different patterns of payment. It is established that housing for the urban poor requires subsidy of some form or the other. The financing agencies have offered loans at lesser interest rates, and CIDCO has offered lands at below the break-even rates

The National Urban Housing & Habitat Policy 2007 (NUHHP-2007) has been formulated keeping in view the changing socio-economic parameters of the urban areas and growing requirement of shelter and related infrastructure<sup>6</sup>. The Policy seeks to promote various types of public-private partnerships for realizing the goal of "Affordable Housing for All" with special emphasis on the urban poor. Given the magnitude of the housing shortage and budgetary constraints of both the Central and State Governments, the NUHHP-2007 focuses the spotlight on multiple stake-holders namely, the Private Sector, the Cooperative Sector, the Industrial Sector for labour housing and the Services/ Institutional Sector for employee housing.

### Housing stock and supply

The following table presents housing stock and population in Navi Mumbai It also provides details of the housing demand and supply during the last 8 years.

Housing supply Systems	Population(2008-2009)*		Housing* Units in 2009	Housing Units added between 2001-09	Annual* rate of supply
	Nos	%			
Formal sector	12,90,000	66%	3,40,000	1,60,000	20,000
Non-formal	6,60,000	34%	1,30,000	35000	4,375
<b>Total</b>	<b>19,50,000</b>	<b>100%</b>	<b>4,70,000</b>	<b>1,95,000</b>	<b>24,375</b>

\* Estimated

As can be seen from the above table, about 1, 95,000 new households needed in the last 8 years 2001-2009. While formal sector supplied about 82% of this, informal sector by way of slums and encroachments provided the rest.

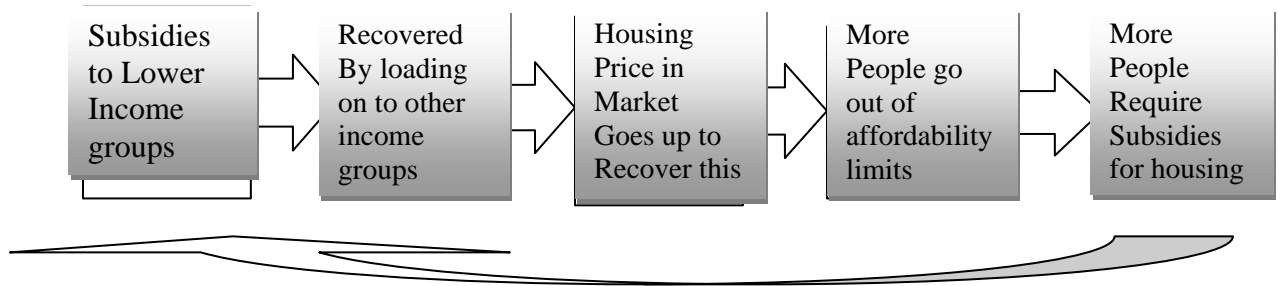
The following table presents income category wise housing units constructed by CIDCO and private sector.

#### Income group wise distribution of formal dwelling units in Navi Mumbai

Dwelling units	EWS/LIG	MIG	HIG	TOTAL
By CIDCO	61000 (50%)	32940 (27%)	28060 (23%)	122000 (100%)
By Private sector	37060 (17%)	135160 (62%)	45780 (21%)	218000 (100%)
<b>Total</b>	<b>98060 (29%)</b>	<b>168100 (49%)</b>	<b>73840 (22%)</b>	<b>340000 (100%)</b>

CIDCO provided 50% of the formal stock in Navi Mumbai for EWS and LIG, 27% for MIG and 23% for HIG. The contribution of private and co-operative sectors is 17: 62: 21 for LIG: MIG: HIG respectively. Some of low income units are taken over by the higher income groups, resulting in the loss of such stock. This created the need for LIG housing in the private market. The private developers in Navi Mumbai contributed marginally (17%) to the low-income groups.

The low income housing schemes are generally formulated matching the affordability of households with the housing costs, keeping in view the objectives. It is invariably subsidized. However, subsidies are sustained by resorting to cross subsidies with in projects at Navi Mumbai level by loading the costs on other income groups. This in turn increases the cost of land in the general market which pushes more people out of affordability thereby leading to subsidies for greater number of people. This forms a vicious circle.



### Population Growth of Navi Mumbai

There was steep increase in the urban areas, Mumbai's growth from 9.9 million to 11.9 million in 2001 and currently about 14 million have put tremendous strain on the housing and urban services which failed to keep abreast with the increase in demand. Housing need in any town is a function of the present and the projected population. In the Development plan of Navi Mumbai, which was adopted in 1975, it was projected that city would acquire a population of 2 million by the year 1990, which was later extended to 2000. As of 1991, the population reached a level of 0.54 million only. Considering the trend of population growth and the possible changes in the variables, which affect population growth. The following table reveals that in every decade, the population of Navi Mumbai was almost doubled<sup>7,9</sup>.

Navi Mumbai	Population		2001
	1981	1991	
Nodes	21657	209676	549511
Villages	176638	265625	426500*
Municipal Councils	52241	59908	127285
<b>Total</b>	<b>250536</b>	<b>535209</b>	<b>1103296</b>

\*In census 2001, villages in NMMC were declared as urban population.

Beside the present population, which will experience natural growth, the population will increase as a result of overflow of Mumbai as well as due to the fresh migration from the

hinterland. Decelerated growth rate of Mumbai city means higher rate of growth of population in suburbs. This phenomenon was more pronounced in 1991-2001 decade due to scarcity of land in the main city and very high prices of land. In Mumbai, prices rose so fast that in early 1996 that the city could boast (if that is an appropriate term) the highest land prices in the world, even outstripping Tokyo, New York and Hong Kong. Although prices have fallen to a more sustainable level, they are still far higher than most local people can afford and many other cities are now finding that access to land is the greatest single obstacle to the improvement of urban living conditions<sup>10</sup>. Care was taken while projecting the Navi Mumbai population. Fresh migration from the hinterland was encouraged, by generating activities, jobs and also availability of social infrastructure in the city. Thus there are two factors which will determine the future population of Navi Mumbai; natural growth due to overflow from Mumbai and direct migration to Navi Mumbai from the hinterland<sup>11</sup>.

### Land Price Mechanism:

Navi Mumbai consists of a series of townships referred to as 'nodes'. The break-even cost known as Reserve Price (RP) is annually worked out for each node. The land acquisition and development cost (Past and Future) of a node is calculated and divided by the saleable area of the node to arrive at this break-even cost. The RP is revised every year, and presently varies from Rs. 2700 ((US\$ 54) /Sq. mtrs to Rs. 7000(US\$140) / Sq. mtrs. of land for different nodes. This method of pricing is adopted so that the project can generally break even in all situations. However this does not take into account whether this price is affordable to all people, or whether land has demand at this price. Therefore, a separate system of pricing land under various uses was developed based on the expected affordability of the end user, its desirability in Navi Mumbai, and the market value for the same. The policy adopted charges EWS/LIG housing between 25 to 50 percent of RP and social facilities (including health and educational use) at 10 to 50 percent of RP. The subsidy given to these groups is recovered by charging market price for commercial use and prices higher than RP for the MIG and HIG housing. Thus key factors determining the price of a land are land-use, infrastructure level, Reserve price, Land pricing and Land disposal mechanisms.

### Land pricing and Land Disposal policy in Navi Mumbai

No.	Category of Income Group Of Land-use	Percent of Reserve Price (Total cost/ Saleable area)	Method of Allotment
1	CIDCO construction		
1.1	EWS housing (Site& Services )	25 percent	Advertisement @ Fixed price
1.2	LIG housing & SS upto 25 sq.m.	50 percent	Advertisement @ Fixed price
1.3	MIG 26-40 sq.m.	100 percent	Advertisement @ Fixed price
1.4	HIG 41-75 sq.m.	125 percent	Advertisement @ Fixed price
1.5	HIG 76-100 sq.m.	150 percent	Advertisement @ Fixed price
1.6	HIG > 100 sq.m.	150-250 percent	Advertisement @ Fixed price
2	Sale of plots		
2.1	Housing Co-operatives	150-250 percent	Advertisement/application @ Fixed Price

2.2	EWS/LIG co-ops.	100 percent	Application @ Fixed price
2.3	Others	150-250 percent	Competitive tenders
3	Commercial plots	300-450 percent	Competitive tenders
4	Social amenity plots	10-50 percent	On demand @ Fixed price

Source: Land pricing and disposal policy, an internal documents of CIDCO

The commercial user pays at least 400% of reserve price whereas the social amenities only pay 10% to 50% of reserve price. Similarly low income group housing pays 25% of reserve price as land cost, while high income group pays 250% or more of the reserve price.

CIDCO has made an effort in popularity of trains as the major means of travel into and out of Mumbai to develop commercial projects above and adjacent to the railway stations and are recovering sufficient funds from selling these to pay for the capital costs of the infrastructure.

### **Participation of locals**

Any new town project's success depends on the rehabilitation measure for the support of the local people. Navi Mumbai spread over 344 Sq. kms., out of these 289 sq. kms. land was required to be acquired and to date nearly 210 sq. kms. land was acquired. Even though while acquiring land care was taken not to acquire residential premises of farmer and villages, still large numbers of people were affected by this acquisition. Approximately 19000 households were affected by this project. To make this affected families "partner in development" so that they can reap the benefit of urbanization. CIDCO adopted a scheme of returning 12.5% of their own land after development back to the Project Affected Persons (PAPs). This 12.5% land is fully developed and is an integral part of urban areas. However, Govt. guidelines directed to provide only basic amenities like WBM roads, stand post, water connection, kutchra drains, street light etc. considering nominal land cost of Rs. 70/M<sup>2</sup>(\$1.5). Normally, these plots are being developed by PAPs or sold to the builders or developers in order to fetch more financial benefit. However, this has created anomaly in the development pattern. Considering this, CIDCO has decided to provide all types of development work to the 12.5% scheme area also i.e. peripheral road, storm water drainage, water supply, street light etc. and in order to meet this new additional cost, by charging Rs. 1000/ M<sup>2</sup> ( about \$22/ M<sup>2</sup>) as "Transfer Charges".

### **Important features of 12.5% scheme**

1. The 12.5% land is allotted to PAPs for residential use with 1.5 FSI. In Navi Mumbai the permitted FSI is 1 for residential use except the scheme.
2. For commercial use up to 15% of land was permitted.
3. The land value on an average at the time of acquisition was Rs. 4 (\$0.08) to 30 (\$0.67) /M<sup>2</sup> and today land values has risen to a staggering Rs. 30,000 (\$667)/ M<sup>2</sup> to 60,000 (\$1333)/ M<sup>2</sup>, this reveals that 12.5% scheme made the **villagers real partners in development and progress** of new city.

4. A minimum 40 sq. mtrs. plot allotted to each affected family
5. Of the 12.5% land 8.75% is used for construction purpose and 3.75% land should be used for physical and social infrastructure.
6. Efforts were made to offer the developed plots with in or around the same node/village from which the land was acquired.

In addition to this, PAPs were provided with Grant-in-Aid for building Schools, community Halls, Toilet Blocks, etc. This has given the villages' access to services of urban standards offered within the nodes of Navi Mumbai. The PAPs were provided with benefits of alternative employment, Contract jobs, allotment of shops, stalls, trade loan, quarry permission, free vocational training, stipend for education and training programme. The village (gaathan in the local language) expansion schemes (GES), were aimed at accommodating the natural growth of village families, making the PAPs reap the benefits of value addition to their lands<sup>12</sup>.

#### Public Private Partnerships in land use

Many examples of innovation in the relationship between public and private sectors currently exist in India and some have been operating for many years. These include Town Planning Schemes (TPS) based on British planning practice; Participatory Development Schemes (PDS), by which the private sector is permitted to undertake large scale land developments in return for the provision of a social housing component; land compensation schemes to benefit Project Affected Persons (PAPS); Transferable Development Rights (TDR), by which private land-owners in areas where development is restricted, are compensated by disassociating the development rights from their existing plots and awarded transferable development right certificates for use in other approved areas<sup>13</sup>.

Except in the initial years, CIDCO has encouraged participation of private sector in the provision of housing. This is by way of tendered plots to individuals and developers, allotment of land to housing co-operatives, row house and bungalow plots. Mass Housing Schemes are another way of partnership, where reputed planning consultants have designed the schemes that were supervised by the Project Management Consultants. The private sector participation is ensured in a large way in Navi Mumbai. Therefore public-private partnerships are a joint effort of Government (CIDCO) and public (as individual, cooperative societies corporate housing, developers and PAPs). The private sector partnership is mainly with nonprofit sector. The addition of nonprofit sectors has added another dimension to fulfill the housing requirement.

CIDCO's another important strategy was to encourage the participation of local villagers (PAPs) in the development of the new city. Instead of the traditional approach of offering compensation for their agricultural land under terms which have traditionally evoked

strong opposition, they offered a combination of cash payments at existing use rates, and a number of developed plots in the sub-divided urban development, according to the size and value of land acquired. So attractive were the terms offered that some farmers have become rich. The positive aspect is that the principle of the approach has now become very popular - the downside is that expectations have been raised and demands have increased as a result. Managing these expectations is therefore increasingly the critical element in managing the programme<sup>13</sup>.

Through 12.5% scheme, PAPs have played a major role in private sector housing. Nearly 25% of saleable residential land may be developed by PAPs/developers in coming years. This may increase the share of LIG housing in Private sector.

#### Conclusion:

The major achievements made by this newly born city in a short time of 38 years are laudable in many respects. I would like to conclude with three strategies, firstly right from the beginning with a start from scratch, the city had has SELF FINANCING concept using the concept of Reserve price and land pricing and disposable policy. This is the unique phenomenon, pioneer in the history of New towns in Asia. Use of land as a resource, investment in housing and infrastructure at strategic location and strategic time are the key factors for survival and sustainable development. Such a quick multifaceted development of infrastructural facilities in all sectors of economy has made the city a World-class model of planned development -- a fact corroborated when Navi Mumbai featured in National Geographic's super cities of the World Series.

Secondly, CIDCO has made the popularity of trains as the major means of travel into and out of Mumbai to develop commercial projects above and adjacent to the railway stations and are recovering sufficient funds from selling these to pay for the capital costs of the infrastructure.

Thirdly, involvement of private sector in building houses and participation of local villagers (PAPs) in the development of the new city.

Navi Mumbai -- today's satellite city, has a burgeoning future in commercial aspects. With development of IT Parks, the enormous Industrial belts (Thane-Belapur, Taloja, Jawahar and Panvel), it will soon complement the financial capital of India -- Mumbai, in all spheres. An international airport is on the anvil. Special Economic Zone projects, proximity of APMC - the largest wholesale market for fruits, vegetables and grains in Asia, affordable housing, planned infrastructure, and above all the raised quality of life of its inhabitants, the experience of CIDCO could be a role model for the development of other world-class cities.

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