

## 8.1 Introduction

**8.1.1** One of the most visible problems of Mumbai is the squatter settlements. This is on account of persistent gap in the annual housing needs and supply - particularly the formal supply. In addition, a significant proportion of housing stock is old, dilapidated and inadequately serviced. The long term shelter strategy therefore has to deal with three inter-related issues,

1. increasing the shelter supply,
2. improvement of slums; and
3. maintenance and upkeep of existing stock.

**8.1.2** The principal findings and recommendations of the Regional Plan 1973 (BMRPB, 1974) were,

1. The Region over a decade 1971-81 would require 7,57,000 units of which 88% would require some kind of financial assistance.
2. Recognising the crucial importance of land in housing, the Plan recommended 'social control on urban land values', and as an interim measure proposed bulk land acquisition of large areas by public authority.
3. Decentralisation of economic activities was recommended for opening up of new - less expensive - lands for housing.
4. Rejecting the idea of diluting the minimum area standard for permanent tenements, the Plan expressed 'no objection' to such dilution to some extent only for semi-permanent structures.
5. Continuous research for lowering cost of construction, including prefabrication and mass production of housing components.
6. Public housing programmes should shift from construction of pucca housing to provision of environmental hygiene where houses are built by self-help or aided self-help as a transitional measure.
7. Exemption from rent control for new buildings constructed after a certain date on the lines of Vidarbha legislation.
8. Tax incentives in Income Tax Act on income earned through rentals and expenditure on repairs. Measures to mobilise unaccounted money for housing.
9. Conversion of rental units to ownership units of Housing Board particularly those under Subsidised Industrial Housing and Slum Clearance Housing schemes.
10. In-situ improvement to be preferred to eradication of slums. However, for achieving high density through ground storeyed structures a rigid layout pattern has to be imposed and for that all the huts have to be demolished and re-erected.

11. A new legislation enabling compulsory land acquisition for slum improvement may be enacted.

12. Construction of night shelters.

These recommendations were however not translated into any concrete investment programme. Some actions and projects of later period appear to be follow-up of these recommendations, but their origins are not necessarily in the Regional Plan.

## 8.2 Shelter Needs

8.2.1 Shelter needs are determined by the rate of new household formation, aging of old buildings requiring reconstruction and the need for redevelopment or improvement of environmental conditions in both existing and new slums.

## 8.2.2 Household Formation

Annual need for new housing for incremental households in MMR has grown from 46,000 units during the 60's to about 60,000 in the 70's and 66,000 during 1981-91. Applying household sizes obtained from 1991 Census of population, households in the entire Region are estimated to increase by 4.27 lakhs during 1991-96. The five yearly increase in number of households would gradually increase to 4.95 lakhs by 2016-21. While carrying out these estimations, however, a 2.27% decrease over each 5-year period is assumed in the size of households in view of the probable increase in the proportion of nuclear families and reduction in family size. Although actual accretion of households is estimated by applying the household sizes for yearly population increase, simple averages for 5-yearly periods are also estimated for convenience of interpretation and use. Summarised in Table-8.1 are estimates of incremental households worked out for Greater Mumbai, Rest of MMR and for entire MMR. Details are given in Table-8.2.

The annual average of incremental households during 1991-96 would be 85,000 for the MMR. This would gradually increase to 99,000 during 2016-2021. The geographical distribution of incremental households would change considerably during this period. During 1991-96 37% of growth, or 32,000 households per year, will take place in Greater Mumbai. During 2016-21, however, Greater Mumbai would still account for about 35,000 households forming only 35% of total growth.

Incremental Households in MMR									
	Greater Mumbai			Rest of MMR			MMR		
	2001	2011	2021	2001	2011	2021	2001	2011	2021
Household size	4.62	4.42	4.22	4.48	4.28	4.09	4.53	4.33	4.13
Incremental Households for preceding five Years (in Lakhs )	1.63	1.70	1.75	2.72	2.89	3.20	4.35	4.58	4.95
Average Yearly Accretion for preceding five years	32563	33933	34983	54362	57709	64047	86925	91642	99030
Marginal Accretion in the year	43049	46459	49706	60280	66490	76017	103329	112949	125723

Table-8.1

<b>Accretion of New Households Gr. Mumbai</b>							
	1991	1996	2001	2006	2011	2016	2021
Population	9925891	10677341	11430000	12181802	12931000	13675368	14413000
Household Size	4.84	4.73	4.62	4.52	4.42	4.32	4.22
5-yearly Incremental Households		158864	162816	166426	169665	172506	174915
Average yearly Accretion of Households*		31773	32563	33285	33933	34501	34983
Marginal yearly Accretion of Households**		41300	43049	44771	46459	48106	49706
<b>Rest of MMR</b>							
	1991	1996	2001	2006	2011	2016	2021
Population	4608473	5838993	7056559	8275457	9509973	10774392	12083000
Household Size	4.69	4.58	4.48	4.38	4.28	4.18	4.09
5-yearly Incremental Households		268465	271809	278427	288544	302398	320235
Average yearly Accretion of Households*		53693	54362	55685	57709	60480	64047
Marginal yearly Accretion of Households**		58258	60280	63003	66490	70805	76017
<b>MMR</b>							
	1991	1996	2001	2006	2011	2016	2021
Population	14534364	16516334	18486559	20457339	22440973	24449761	26496000
Household Size	4.79	4.64	4.53	4.43	4.33	4.23	4.13
5-yearly Incremental Households		427330	434625	444852	458210	474903	495150
Average yearly Accretion of Households*		85466	86925	88970	91642	94981	99030
Marginal yearly Accretion of Households**		99558	103329	107775	112949	118912	125723

**Table-8.2**

Note : 2.27% decline over 5 year period assumed in the Household Size estimated from 1991 Census.

\* Simple average of households estimated for 5-yearly period.

\*\* estimated by applying household size to yearly population projections.

### 8.2.3 Income Distribution

Estimation of shelter needs has to be translated into effective demand. This depends upon household incomes and savings, ability and willingness to pay for shelter, tenure and locational preferences, and availability of housing finance. Commonly used methodology defines affordability as a function of household income. The income distribution of MMR households was obtained from the Multi-purpose Household Survey (MMRDA & ORG, 1989). The 1989 income distribution projected upto the year 2021 is given in Table-8.3. It is observed that with the increase in per capita income the income

distribution is becoming more equitable. The methodology adopted for projection of the household income distribution and the detailed 5-yearly income distribution is given in Chapter-4.

Similarly, the income distribution of slum households and households staying in old tenements constructed prior to 1950 is projected (Table-8.6 & 8.7). A summary is produced in Table 8.5

## 8.2.4 Affordability

The household income distribution presented earlier is translated into 'Affordable Housing Budget Profiles' by estimating credit raising capacity of households of different income groups based on the monthly loan repayment ability and credit

Projected Income Distribution in MMR (% Households)												
Income (199 prices)	Greater Mumbai				Rest of MMR				MMR			
	1989	1991	2011	2021	1989	1991	2011	2021	1989	1991	2011	2021
Upto 1290 (Poverty line)	23.24	21.24	2.74	0.00	35.06	33.06	13.06	4.63	26.97	25.08	7.19	2.15
1291-3230	46.46	47.71	52.21	46.45	43.40	44.65	52.65	53.50	45.50	46.73	52.40	49.75
3231+	30.29	31.04	45.04	53.54s	21.53	22.28	34.28	41.78	27.53	28.20	40.04	48.10

Note: Detailed Five -yearly income distribution is given in Chapter-4 and income group wise incremental Households are given in Table-8.4

Table-8.3

Income group-wise Incremental Households for 5-yearly Intervals Gr. Mumbai						
Income at 1991 prices	1996	2001	2006	2011	2016	2021
Upto 650	1907	0	0	0	0	0
651-970	3951	0	0	0	0	0
971-1290	19942	18305	11222	4653	0	0
1291-1940	33861	35517	35473	34467	31145	22834
1941-3230	45124	48688	51432	54130	56761	58428
3231-6450	42304	47426	52639	57905	63187	68442
6451-12900	11776	12883	15665	18515	21412	25210
<b>Total</b>	<b>158864</b>	<b>162820</b>	<b>166430</b>	<b>169670</b>	<b>172505</b>	<b>174915</b>
Rest of MMR						
Income at 1991 prices	1996	2001	2006	2011	2016	2021
Upto 650	15864	9266	2531	0	0	0
651-970	25569	21811	18165	9909	0	0
971-1290	33910	31614	29599	27789	26100	14830
1291-1940	53679	55706	85455	62021	63034	63549
1941-3230	71570	76539	82579	89908	98760	107788
3231-6450	53426	60887	69330	79063	90418	103758
6451-12900	14448	15987	17768	19856	23834	30043
<b>Total</b>	<b>268465</b>	<b>271809</b>	<b>278427</b>	<b>288547</b>	<b>302146</b>	<b>319968</b>
MMR						
Income at 1991 prices	1996	2001	2006	2011	2016	2021
Upto 650	17770	9266	2531	0	0	0
651-970	29521	21811	18165	9909	0	0
971-1290	53851	49919	40821	32443	26100	14830
1291-1940	87540	91224	93927	96488	94179	86384
1941-3230	116694	125227	134011	144038	155521	166217
3231-6450	95730	108313	121968	136967	153605	172200
6451-12900	26224	28870	33433	38371	45246	55253
<b>Total</b>	<b>427330</b>	<b>434629</b>	<b>444857</b>	<b>458216</b>	<b>474651</b>	<b>494883</b>

Table-8.4

terms; and the ability to pay the down payment, which depends upon household savings. The Affordable Budget Profiles for various credit facilities are given in Table-8.8 :

Projected Income Distribution in Slums and Old Buildings ( % Households )								
Income (1991 prices)	Slums				Old Buildings			
	1989	1991	2011	2021	1989	1991	2011	2021
Upto 1290 (Poverty Line)	44.64	42.64	23.14	14.14	26.62	24.62	6.12	0.00
1291-3230	47.91	49.17	56.17	58.17	48.35	49.60	54.60	52.72
3231+	7.44	8.19	20.69	27.69	25.03	25.78	39.28	47.28

Table-8.5

Income Distribution - Slums								
Income at 1991 prices	1989	1991	1996	2001	2006	2011	2016	2021
Upto 650	8.43	7.43	4.93	2.43	0.00	0.00	0.00	0.00
651-970	12.20	11.45	9.95	8.45	6.95	3.95	0.95	0.00
971-1290	24.01	23.76	22.76	21.76	20.69	19.19	17.69	14.14
1291-1940	26.98	27.23	27.73	28.23	28.73	28.23	27.73	27.23
1941-3230	20.93	21.93	23.43	24.93	26.43	27.93	29.43	30.93
6231-6450	6.45	7.20	9.70	12.20	14.70	17.20	19.70	22.20
6451-12900	0.99	0.99	1.49	1.99	2.49	3.49	4.49	5.49

Note : 5 point decline in lower income brackets assumed over a 5 year period for households staying in Huts.

Table-8.6

Source : Multi-purpose Household Survey, 1989 (adjusted to 1991).

Income Distribution - Old Buildings								
Income at 1991 prices	1989	1991	1996	2001	2006	2011	2016	2021
Upto 650	5.89	4.89	2.39	0.00	0.00	0.00	0.00	0.00
651-970	6.04	5.29	3.79	2.18	0.00	0.00	0.00	0.00
971-1290	14.69	14.44	13.44	12.44	10.12	6.12	2.12	0.00
1291-1940	21.88	22.13	22.63	23.13	22.63	21.63	20.63	17.72
1941-3230	26.47	27.47	28.97	30.47	31.97	32.97	33.97	34.97
6231-6450	21.78	22.53	25.03	27.53	30.03	32.53	35.03	37.53
6451-12900	3.25	3.25	3.75	4.25	5.25	6.75	8.25	9.75

Note : 5 point decline in lower income brackets assumed over a 5 year period for households staying in tenements constructed prior to 1950.

Table-8.7

Source : Multi-purpose Household Survey, 1989 (adjusted to 1991).

## 8.2.5 Replacement Needs

Apart from the incremental households, the need for new shelter consists of households staying in old tenements which require replacement. In 1969, about 20,000 old buildings were identified in the Island City which required urgent repairs/reconstruction. 16,000 of these buildings were constructed prior to 1940 (as quoted in GOM, 1981). The total units in all these buildings could be around 4 lakhs, housing 20 lakh population. In the last two decades, many other old buildings are likely to have come up for replacements. The Multi-purpose Household Survey (MMRDA & ORG, 1989) shows that about 5.07 lakhs (27%) tenements were constructed prior to 1950.(Table-8.9)

Assumption of Affordability Estimates and Affordable Housing Budget Profiles (MMR-1991)							
Income Group	Average Income	Monthly Loan Repayment		Down payment as Multiple of Monthly Income			
		% of Income	Amount	Factor	Amount		
450 - 650	550	10	55	1.0	550		
651 - 970	811	12	97	1.5	1216		
971 - 1290	1131	14	158	2.0	2261		
1291 - 1940	1616	16	258	3.0	4827		
1941 - 3230	2586	18	465	4.0	10342		
3231 - 6450	4841	20	968	6.0	29043		
6451 - 12500	9676	22	2129	8.0	77404		
Income Group	Average Income	Credit Terms					
		Pvt. Housing Finance		HDFC		HIDCO	
		Int	R. Period	Int	R. Period	Int	R. Period
450 - 650	550	12	15	11	20	9	15
651 - 970	811	12	15	11	20	9	15
971 - 1290	1131	12	15	12	15	9	15
1291 - 1940	1616	12	15	14	15	12	15
1941 - 3230	2586	16	10	16	15	12	15
3231 - 6450	4841	16	10	16	10	15	15
6451 - 12500	9676	17	5	16	10	17	15
Income Group	% Households 1991	Savings	Pvt. Housing Finance	HDFC	HUDCO		
450 - 650	6.19	550	4495	5256	5320		
651 - 970	6.96	1216	7949	9294	9408		
971 - 1290	13.82	2261	12935	12935	15309		
1291 - 1940	20.13	4847	21126	19052	21126		
1941 - 3230	25.37	10342	26992	31137	38036		
3231 - 6450	21.26	29043	56149	56149	67930		
6451 - 12500	6.27	77404	83636	123457	135997		

**Table-8.8**

Assuming that these tenements would require replacement by 2021, the annual average requirement is estimated to be around 17,000 tenements. The details are given in Table-8.10.

### 8.3 Shelter Supply

**8.3.1** As against the annual need for 46,000 units in the 60's and 60,000 in the 70's, most of which was in Greater Mumbai, the supply of formal housing by public and private sector together has been only 17,600 and 20,600 respectively. Remaining 30 to 40 thousand households sought shelter for themselves in slums or through overcrowding the existing stock every year.

**8.3.2** From the data presented above it is observed that during 1984-91, the supply of formal housing has increased to about 47,400 units per annum mainly on account of increased private sector activity and provision of low-cost affordable serviced sites in bulk by public agencies under the BUDP (Figure-8.1). The BUDP supply mainly depended on availability of public land. In the absence of such land, sustained supply at that rate beyond the project period of 1994 appears difficult. The current total formal sector supply excluding BUDP is about 40,000 units per annum which is only about 47% of total need for new

Construction Period of Existing Conventional Tenements	
Construction Period	Number of Tenements
Prior to 1915	2.14
1916 - 1940	1.68
1941 - 1950	1.25
After 1950	13.67
	18.74

Table-8.9

Replacement Needs - Formal Housing								
Construction	No. of Tenements (1991)	No. of Tenements to be Replaced						
		1991-96	1996-01	2001-06	2006-11	2011-16	2016-21	Total
Prior to 1915	214163	107081 50%	42833 20%	32124 15%	21416 10%	10708 5%		214163 100%
1916-1940	167695		50309 30%	41924 25%	41924 25%	25154 15%	8385 5%	167695 100%
1941-1950	125162			12516 10%	15645 13%	37549 30%	59452 48%	125162 100%
1951-1960	179125							
1961-1970	333891							
1971-1980	430012							
1981-1985	242455							
1986-1990	180998							
<b>TOTAL</b>	<b>1873502</b>	<b>107081</b>	<b>93141</b>	<b>86564</b>	<b>78985</b>	<b>73411</b>	<b>67837</b>	<b>507020</b>
Average Annual Replacement Demand								16901
Investment Requirement @ Rs. 65000/ tenement Rs. in Lakhs		69603	60542	56267	51340	47717	44094	329563
Backlogs with current Rate of public Reconstruction		103981	90041	83464	75885	70311	64737	

Notes : 1. Age of tenements is obtained from Multi-purpose Household Survey of BMR. **Table-8.10**  
 2. Tenements constructed prior to 1950 are only considered for replacements.  
 3. Current rate of reconstruction by public agencies is 620 tenements/year.

housing units. Thus an annual deficit of 45,000 units persists. Information on total supply from the private and co-operative sector for areas outside Greater Mumbai, Kalyan area and Navi Mumbai is not available. This supply could vary between 5,000 to 15,000 per annum. The lower estimate is adopted here since it is not possible to arrive at any meaningful estimate of such supply.

**8.3.3** It has been very difficult to obtain information on the extent and nature of shelter supply by the private as well as public sector in the absence of any information system built and maintained by the concerned agencies. The shelter supply figures given above are consolidated and are based on whatever scanty data was available from various sources. Private sector supply in the areas for which data is not available is estimated in order to present a more complete picture of the shelter supply situation in the Region. The detailed analysis of available supply data is given in Annexure-A.8.1

About 89% of the total shelter needs are satisfied by the private formal and informal sector together. The nature of private supply is discussed below. Details of public supply are given in section 8.4 on Review of Policies.

### Formal Supply

On account of the density, FSI and construction standards prescribed in the development control regulations and building bye-laws operating in most parts of MMR during 1964 to 1991 (The

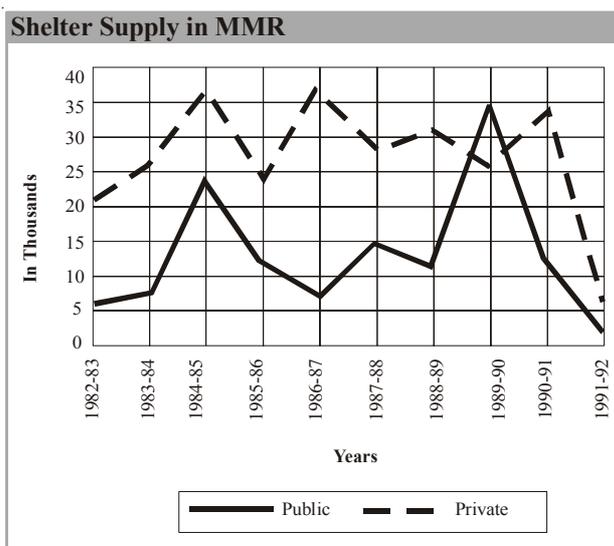


Figure 8.1

Shelter Supply									
Average Annual Supply of Housing in Greater Mumbai and Navi Mumbai									
Period	Housing Board	Employers for Employees	Private Sec. & Co-op. Soci.	Total	Navi Mumbai				
1956-66	4233	3666	9673	17572	N.A				
1973-82	3183	494	15949	19626	967				
Annual Supply of Housing in MMR									
Period	BHADP & KHADB	CIDCO	BUDP	Pvt. Sector & Co-op Societies				Total Pvt. & Co-op.	Grand Total
				Gr. Mumbai	KMC	Navi Mumbai	Others		
1982-83	2100	3928	N.A.	14470	N.A.	1227	5000	20697	26725
1983-84	2663	4676	N.A.	20230	N.A.	1227	5000	26457	33796
1984-85	1979	19425	2180	28915	1554	1227	5000	36696	60280
1985-86	1741	560	9914	15010	2514	1227	5000	23751	35966
1986-87	2865	467	3645	26990	4093	1227	5000	37310	44287
1987-88	1781	467	12329	17131	5358	1227	5000	28716	43293
1988-89	7113	467	3400	15111	9793	1227	5000	31131	42111
1989-90	3631	467	30112	10372	9493	1227	5000	26092	60302
1990-91	515	467	10856	14654	12956	1227	5000	33837	45675
1991-92	N.A	467	1710	N.A.	N.A.	1227	5000	6227	8404
<i>Note : Details of Supply situation are given in Annexure-8.A.1</i>									
Average Annual Supply of Housing in MMR during 1984-91									
Public sector				Private sector & Co-operative Societies					
BHADB & KHADB			2804	Grater Mumbai				18312	
CIDCO			3189	KMC				6537	
BUDP			10348	Navi Mumbai				1227	
				Other Areas				5000	
<b>TOTAL PUBLIC</b>			<b>16341</b>	<b>TOTAL PVT &amp; COOP.</b>				<b>31076</b>	
<b>GRAND TOTAL</b>								<b>47417</b>	

Table-8.11

DC Regulations for Greater Mumbai have been substantially modified in March 1991), the private sector supply has been mostly in the form of units with an average area of about 40 sq.m. each built in multi-storeyed apartments. These were not affordable to over 60% of the households. In the 1991 regulations (GOM, 1991) the maximum permissible density has been substantially increased allowing dwelling units of a size of 22.2 sq.m. Thus the legal obstruction against construction of smaller units has been removed. Furthermore, the new regulations stipulate minimum permissible density of 325 units / net hectare implying a maximum average size of about 30 sq.m. This would allow for a good mix of small and large units for a given layout or subdivision. The former is only an enabling regulation, its impact is yet to be seen.

The current annual private supply in MMR is 31,000 units. The market rates of built residential premises vary from about Rs. 3,500 / sq.m. in far away places like Virar and Titwala to as high as Rs. 80,000 at Nariman Point in South Mumbai. The cost of a 40 sq.m. unit therefore varies from Rs. 1,40,000 to Rs. 32,00,000. Estimated at the minimum level of cost of Rs. 1,40,000, the investment of at least Rs. 434 crore annually and Rs. 2,170 crores for a 5- year period is made in the construction of formal housing by the private sector. Such supply is however affordable to only top 6.25% (monthly income more than Rs. 6,451 at 1991 prices) of MMR households. This would mean that supply of such high-cost housing is more than the number of incremental households who can afford such housing. This could probably be explained in terms of provision of housing by various companies for their higher level staff through investments in real estate and mobility of households who sell their units (even the rental units) and invest the capital gains for buying ownership housing in apartments.

### **Informal Supply**

The private housing market essentially leaves out the poor. The public sector supply is very limited. As a result, the shelter needs of 53% of the poorer or 45,000 households are satisfied in the informal market every year. This supply is in the form of further densification of existing slums and growth of new slums. At an average cost of Rs. 10,000 / hut the total annual and 5-yearly investment in this sector is estimated to be Rs. 45 and Rs. 225 crores respectively.

## **8.3.5 Supply Scenarios**

Shortage of formal housing supply reflects in the increased slum population. The Greater Mumbai slum population increased from about 6 lakhs in 1968 to 31 lakhs in 1976. In MMR, the slum households increased from an estimated 8 lakhs in 1982 to about 11 lakhs in 1991 most of them having little or no access to basic services. This relationship between formal supply and growth of slums can be presented in three scenarios as described below.

### **Conventional Supply Scenario**

Scenario 1 depicted in Figure-8.2, assumes that current levels of formal supply would continue at the rate of 40,000 units per year. In this case, slum households would increase from 12.65 lakhs in 1996 to 25.72 lakhs in 2021. Assuming that at least 50% of all the existing slum households are provided with essential services under various programmes of improvement by 1991, in Scenario 1, the 5-yearly estimates of households requiring improvements including new accretions due to

supply deficits show that the need for improvement grows from 2.77 lakhs during 1991-96 to 3.85 lakhs during 2016-21.

### Moderate Supply Scenario

Scenario 2, depicted in Figure-8.3, assumes that formal supply would increase substantially in the future and match the need for incremental households thereby containing the growth of slum households in future and restrict their number to 1991 level of 10.77 lakhs. In this Scenario, the improvement need remains constant at 0.90 lakhs for each of the 5-year periods with the households requiring improvements distributed equally till 2021.

### Accelerated Supply Scenario

In Scenario 3. (Figure-8.4) the slum households may decrease from 10.77 lakhs in 1991 to 5.39 lakhs by 2021, if supply of new units gradually increases from the current levels to 1.90 lakhs per annum during 2016-21. The improvement need in Scenario 3 would be only 0.20 lakhs households in 1991-96 decreasing significantly on account of absolute reduction in the number of slum households whereby no household would remain to be improved by 2016.

The average annual demand reduces from 67,791 households in Scenario 1 to 17,956 in Scenario 2 and only 2,976 households in Scenario 3 (Table-8.12, 8.13, 8.14 and 8.15).

Increasing the housing supply however does not necessarily mean proportionate increase in the input requirements like land, building materials etc. Higher supply levels could be achieved by facilitating low rise high density development and allowing smaller dwelling units. For example, the density stipulations in the Development Control Regulations, 1991 (GOM, 1991), are expected to promote smaller sized tenements by the private sector. However, the policies like slum redevelopment through higher FSI can contribute

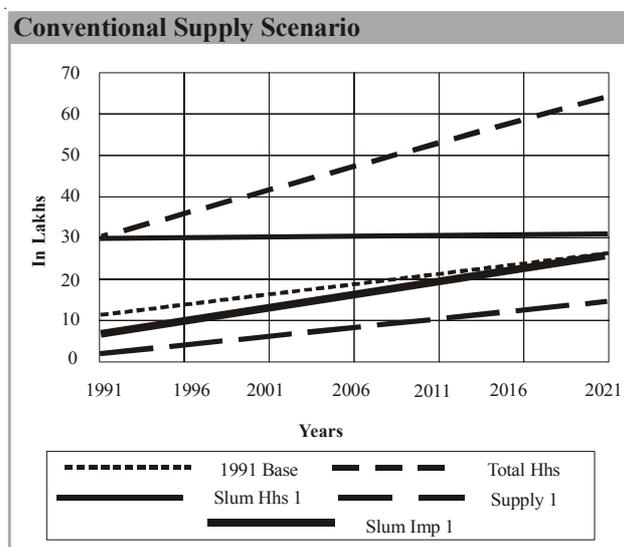


Figure 8.2

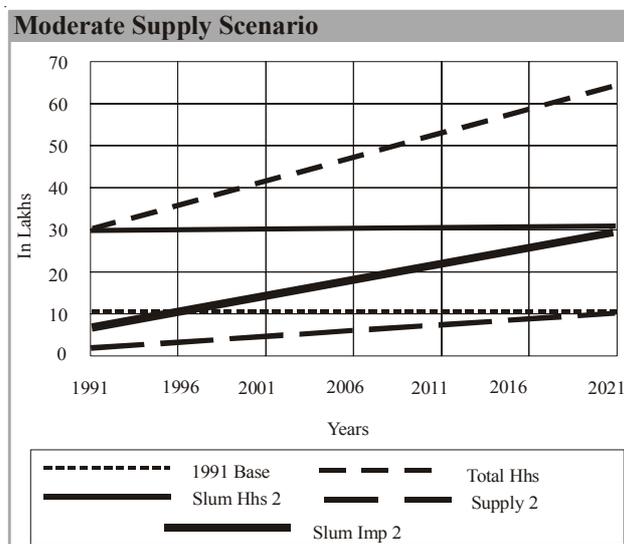


Figure 8.3

substantially in solving the slum problems only if growth of slum population is contained by substantially increasing the supply.

## 8.4 Review of Policies

8.4.1 Policies which directly govern the public agencies' programmes and interventions that influence private housing market are briefly reviewed here. The evolution of public policy in housing could be broadly represented by three phases which however are not mutually exclusive: Government as Controller, Government as Provider, and Government as Facilitator. A chronology of major events in Public Housing Policy is given in Table-8.16.

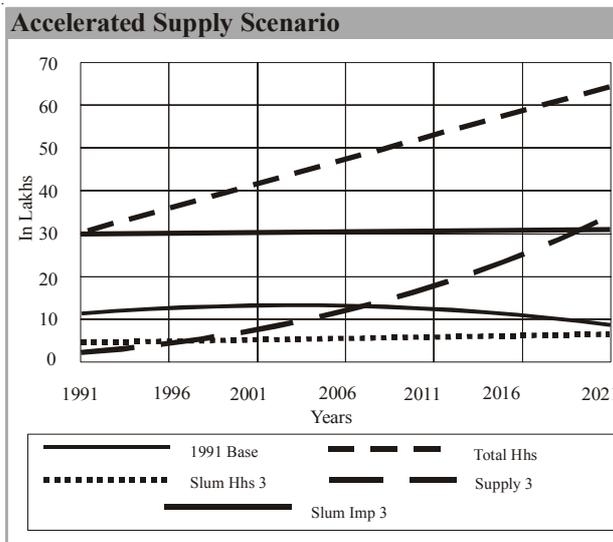


Figure 8.4

## 8.4.2 Government as Controller

### Health and Safety Measures

Concern for Health and Safety guided the first public interventions in the housing sector. These measures in the form of Municipal Codes and Regulations stipulated use-zones, tenement densities, floor space indices and various standards for spaces and structures.

Effects of Different Supply Scenarios on Slums in MMR							
Year	1991	1996	2001	2006	2011	2016	2021
1. MMR 5-yearly Incremental Hhs		427330	434625	444852	458210	474903	495150
<b>Conventional Supply Scenario</b>							
2. 5 yearly Supply of Housing Convti BUDP	200000 45000	200000 40000	200000	200000	200000	200000	200000
3. Additional 5-yearly Accretion to Slums (1-2)		187330	234625	244852	258210	274903	295150
4. Backlog of Slums	1077371	1264701	1499326	1744178	2002388	2277291	2572441
<b>Moderate Supply Scenario</b>							
5. 5 yearly Supply of Housing	200000	427330	434625	444852	458210	474903	495150
6. Additional 5-yearly Accretion to Slums (1-5)		0	0	0	0	0	0
7. Backlog of Slums	1077371	1245498	1344193	1353675	1247639	991272	538686
<b>Accelerated Supply Scenario</b>							
8. 5 yearly Supply of Housing	200000	259203	335930	435370	564246	731270	947736
9. Additional 5-yearly Accretion to Slums (1-8)		168127	98695	9482	-106036	-256367	-452586
10. Backlog of Slums	1077371	1245498	1344193	1353675	1247639	991272	538686

Note : Conventional Scenario assumes continuation of current supply levels.  
 Moderate Scenario assumes supply to match with incremental needs.  
 Accelerated Scenario assumes gradual increases in the supply at a compound 5-yearly rate of 29.60%.

Table-8.12

Improvement of Slums New Housing Supply Scenario - I								
Income Groups	No. of Huts to be Improved							
	Total in 1991	1996	2001	2006	2011	2016	2021	
Upto 650	45425	13669	7891	0	0	0	0	
651-970	65732	27579	27420	23265	13754	3473	0	
971-1200	129327	63065	70584	69229	66772	64505	544421	
1291-1940	145380	76854	91593	96154	98252	101142	104833	
1941-3230	112761	64934	80883	88452	97203	107336	119069	
3231-6450	34737	26875	39572	49186	59849	71837	85449	
6451-12900	5344	4135	6462	8339	12152	16382	21141	
<b>To be Improved</b>	<b>538686</b>	<b>277111</b>	<b>324406</b>	<b>334625</b>	<b>347982</b>	<b>364675</b>	<b>384912</b>	
Total Slum Households	1077371	1264701	1499326	1744178	2002388	2277291	2572441	
Hhs. Improved so far	538686	Average Annual Demand					67790	
<p>Note: Provision of services for a half of all existing slum households by 1991 assumed. New Housing Supply Scenario 1 - current supply levels continued, 2 - supply matches incremental households, 3 - supply gradually increases at a compounded rate of 29.60% for each 5-yearly period.</p>								
Five Yearly Investments in Improvements							(Rs. in Lakhs)	
Income Group	1996	2001	2006	2011	2016	2021	Hut Improvement Loans for Already Improved households	
							All Hhs.	5-Yearly
Upto 650	802	463	0	0	0	0	2666	444
651-970	2930	2913	2472	1461	369	0	6983	1164
971-1290	11081	12402	12164	11732	11334	9562	22723	3787
1291-1940	13834	16487	17308	17685	18206	18870	26165	4361
1941-3230	12987	16177	17690	19441	21467	23814	22552	3759
3231-6450	5644	8310	10329	12568	15086	17944	7295	1216
6451-12900	1034	1616	2085	3038	4095	5285	1336	223
<b>Total</b>	<b>48311</b>	<b>58367</b>	<b>62047</b>	<b>65925</b>	<b>70557</b>	<b>75475</b>	<b>89720</b>	<b>14953</b>

Note : Investments are based on affordability (savings + credit) with a maximum ceiling of differentially priced cost of environmental improvement plus Hut Improvement Loans upto the maximum of Rs. 15,000.

Table-8.13

These specifications virtually defined the type of conventional shelter supply making anything non-conforming illegal.

### Rent Controls

Rent controls were first introduced during the World War-I period. A comprehensive legislation ensuring continuance of rent control was introduced in 1948 in the form of Mumbai Rents, Hotel Rates and Lodging House Rates Control Act, 1947 (GOM, 1985) in order to protect the rights of the tenants. The 1948 legislation froze the rents to 1940 levels for all buildings rented at that time. In case of other buildings, Courts were empowered to determine the 'standard rent'. Such standard rent once determined is not allowed to be

Improvement of Slums New Housing Supply Scenario - II								
Income Groups	No. of Huts to be Improved							
	Total in 1991	1996	2001	2006	2011	2016	2021	
Upto 650	45425	4428	2184	0	0	0	0	
651-970	65732	8935	7589	6242	3548	855	0	
971-1290	129327	20432	19534	18574	17227	15880	12693	
1291-1940	145360	24900	25349	25798	25349	24900	24451	
1941-3230	112761	21038	22385	23731	25078	26425	27772	
3231-6450	34737	8707	10952	13196	15441	17685	19930	
6451-12900	5344	1340	1788	2237	3135	4033	4931	
<b>To be Improved</b>	<b>538686</b>	<b>89781</b>	<b>89781</b>	<b>89779</b>	<b>89779</b>	<b>89779</b>	<b>89779</b>	
Total Slum Households 1077371 1264701 1499326 1744178 2002388 2277291 2572441								
Hhs. Improved so far 538686 Average Annual Demand 17956								
<i>Note: Provision of services for a half of all existing slum households by 1991 assumed. New Housing Supply Scenario 1 - current supply levels continued, 2 - supply matches incremental households, 3 - supply gradually increases at a compounded rate of 29.60% for each 5-yearly period.</i>								
Five Yearly Investments in Improvements							(Rs. in Lakhs)	
Income Group	1996	2001	2006	2011	2016	2021	Hut Improvement Loans for Already Improved households	
							All Hhs.	5-Yearly
Upto 650	260	128	0	0	0	0	2666	444
651-970	949	805	663	377	91	0	6983	1164
971-1290	3590	3432	3263	3027	2790	2230	22723	3787
1291-1940	4482	4563	4644	4563	4482	4401	26165	4361
1941-3230	4208	4477	4746	5016	5285	5554	22552	3759
3231-6450	1829	2300	2771	3243	3714	4185	7295	1216
6451-12900	335	447	559	784	1008	1233	1336	223
<b>Total</b>	<b>15652</b>	<b>16153</b>	<b>16647</b>	<b>17009</b>	<b>17370</b>	<b>17604</b>	<b>89720</b>	<b>14953</b>

*Note : Investments are based on affordability (savings + credit) with a maximum ceiling of differentially priced cost of environmental improvement plus Hut Improvement Loans upto the maximum of Rs. 15,000.*

**Table-8.14**

increased. The Act also provided for protection of tenants against eviction and transfer of tenancy rights through inheritance.

The provisions of the Rent Control legislation have had negative impact on creation of new rental housing. Private investment is attracted to asset creation if, 1) rate of return on investment is competitive to other avenues of investment, 2) assets created have liquidity in market and 3) any appreciation in the value of the assets can be encashed by the owner. The Rent Control Act therefore inhibits private investment on account of all the three factors.

Improvement of Slums New Housing Supply Scenario - III								
Income Groups	No. of Huts to be Improved							
	Total in 1991	1996	2001	2006	2011	2016	2021	
Upto 650	45425	996	478	0	0	0	0	
651-970	65732	2010	1659	1253	643	144	0	
971-1290	129327	4596	4272	3729	3123	2678	0	
1291-1940	145360	5601	5543	5180	4596	4198	0	
1941-3230	112761	4732	4895	4765	4547	4456	0	
3231-6450	34737	1959	2395	2650	2799	2982	0	
6451-12900	5344	301	391	449	568	680	0	
<b>To be Improved</b>	<b>538686</b>	<b>20195</b>	<b>19633</b>	<b>18027</b>	<b>16277</b>	<b>15138</b>	<b>0</b>	
Total Slum Households	1077371	1245498	1344193	1353675	1247639	991272	538686	
Hhs. Improved so far	538686	Average Annual Demand				2976		
<i>Note: Provision of services for a half of all existing slum households by 1991 assumed. New Housing Supply Scenario 1 - current supply levels continued, 2 - supply matches incremental households, 3 - supply gradually increases at a compounded rate of 29.60% for each 5-yearly period.</i>								
Five Yearly Investments in Improvements							(Rs. in Lakhs)	
Income Group	1996	2001	2006	2011	2016	2021	Hut Improvement Loans for Already Improved households	
							All Hhs.	5-Yearly
Upto 6350	58	28	0	0	0	0	2666	444
651-970	214	176	133	68	15	0	6983	1164
971-1290	808	751	655	549	470	0	22723	3787
1291-1940	1008	998	932	827	756	0	26165	4361
1941-3230	946	979	953	909	891	0	22552	3759
3231-6450	411	503	556	588	626	0	7295	1216
6451-12900	75	98	112	142	170	0	1336	223
<b>Total</b>	<b>3521</b>	<b>3532</b>	<b>3343</b>	<b>3084</b>	<b>2929</b>	<b>0</b>	<b>89720</b>	<b>14953</b>

*Note : Investments are based on affordability (savings + credit) with a maximum ceiling of differentially priced cost of environmental improvement plus Hut Improvement Loans upto the maximum of Rs. 15,000.*

**Table-8.15**

### 1. Rate of return on the investment

Provisions for fixation of rents to the levels prevalent in 1940 and their continuation with very marginal increases and restrictions on increases in the rents (including in the standard rents once fixed) had no regard to market forces. The Rent Act also protects tenants from extraction of any premium. A net fixed return of 15% on value of land and building at the time of first letting as envisaged in the reforms of 1986, which is applicable to only those properties rented thereafter, such rate of return though reasonable, in the absence of benefits of capital appreciation is not attractive enough.

Major Events in Public Housing Policy and Interventions		
1.	1888	The Bombay Municipal Corporation Act, 1888 provided for introduction of building bye laws which stipulated codes for building construction and services.
2.	1894	The Land Acquisition Act, 1894 enabled acquisition of private land by Govt. at market price for public purposes.
3.	1948	The Bombay Building (Control on Erection, Reerection and Conservation) Act, 1948 enabled imposition of conditions related to workers' housing for factory proposals.
4.	1948	The Bombay Rents Hotel and Lodging House Rates Control Act, 1947 consolidated provisions of earlier rent controls and froze rents of the then rented buildings to 1940 levels.
5.	1949	The Bombay Housing Board was set up for provision of public housing.
6.	Early 50s	Subsidised Industrial Housing Scheme initiated to provide rental housing to low income industrial workers.
7.	Early 50s	Slum Clearance Scheme initiated to rehouse slum dwellers in subsidised public rental housing.
8.	1958	Centrally sponsored scheme for clearance and improvement of slum areas and rehousing of slum dwellers initiated.
9.	1960	The Maharashtra Cooperative Housing Finance Society (now a Corporation MCHFC) established for financing housing cooperatives.
10.	1969	The Bombay Building Repairs and Reconstruction Board Act, 1969 made the Govt. responsible for repairs and reconstruction of old buildings in the Island City.
11.	1970	Housing and Urban Development Corporation (HUDCO) established for financing public sector housing projects.
12.	1971	The Constitutional Amendment (25th) and Legislation passed to enable determination of amount for acquisition (of land) independently of market price.
13.	1971	The Slum Areas (Improvement, Clearance and Redevelopment) Act, 1971 enabled improvement of slums on public and private lands, acquisition of land and provided for protection to occupants from eviction.
14.	1973	The Maharashtra Slum Improvement Board Act, 1973 established the Board and provided for creation of Slum Improvement Fund and Area Improvement Panchayats and enabled levy of compensation and service charges from slum dwellers.
15.	1975	The Maharashtra Vacant Lands (Prevention of Unauthorised Occupation and Summary Eviction) Act, 1975 aimed at protecting lands from encroachment, but did not stand scrutiny of the Court.
16.	1976	Census of Slums carried out which provided a sense of security to Photopass holders.
17.	1976	The Maharashtra Housing and Area Development Act, 1976 integrated all housing activities related to new housing, slums and old buildings under one Authority (a proposal to separate them again is under consideration).
18.	1976	The Urban Land (Ceiling and Regulation) Act, 1976 stipulated ceilings on land holding, enabled acquisition of excess lands and offered exemptions for promoting low income housing.

Table-8.16 (Contd...)

Major Events in Public Housing Policy and Interventions		
19.	1977	Hut Renovation Scheme initiated where Commercial Banks extended loans to slum dwellers surveyed in 1976 guaranteed by Controller of Slums based on power of eviction under the Maharashtra Vacant Lands Act, 1975.
20.	1977	The Housing Development Finance Corporation (HDFC) established for financing individual housing activity.
21.	1983	The Task Force on Housing and Urban Development - Shelter for the Urban Poor and Slum Improvement, constituted by the Planning Commission, criticised 'brick and mortar' approach of public agencies and called for a radical change in the orientation of public housing agencies.
22.	1985	The Bombay Urban Development Project (BUDP) was launched and for the first time principles of affordability through differential pricing, full cost recovery and hence replicability were incorporated. Project emphasised wider distribution of serviced land through sites and services and slum upgradation with land tenure.
23.	1986	Rent Act reforms were introduced for new properties.
24.	1988	National Housing Policy (1st draft) was formulated which emphasised creation of an enabling environment for provision of housing.
25.	1988	National Commission on Urbanisation recommended a new approach to housing.
26.	1989	The National Housing Bank was established for promotion and regulation of housing finance institutions and refinancing of operations of financial institutions and housing cooperatives.
27.	1991	The Voluntary Deposits Scheme for mobilisation of resources for housing through appropriation of 'black money' formulated under Voluntary Deposits (Immunities and Exemption) Act 1991 by NHB.
28.	1991	Moving away from physical control measures, the new Development Control Regulations emphasise using economic forces of the market in achieving equity objectives through liberalised provisions related to zoning, FSI, and densities to promote supply of new affordable housing, and redevelopment of slums and old buildings.
29.	1992	Revised Housing Policy adopted by the Government restresses the facilitator role for public agencies.
30.	1993	Rent Control Bill prepared by Govt. of Maharashtra aims at promoting supply of and investment in rental housing by landlords while continuing protection to old tenants.

Table-8.16 (Concl.)

## 2. Liquidity of assets

Protection to the tenants from eviction and succession of tenancy to the family members of the tenant makes it virtually impossible for the owner to liquidate the rented property. Recovery of premises by the landlord is prohibited in normal conditions and obviously there are no buyers for such properties.

## 3. Appreciation of the value of property

Because of excessive tenant protection, appreciation of property prices cannot be encashed by the landlords. Only a part of appreciation of property prices can accrue to the landlord through sharing of "key money" with the existing tenants. The Rent Control also led to neglect of maintenance of existing rented properties. The illegal "key money" was not used for maintenance and housing stock deteriorated.

Moreover, since the standard rent forms the basis of determining annual rateable values (ARV), the rent control has also adversely affected the property tax system (35% of the total revenue of 900 crores of Greater Mumbai is collected through Property Tax).

1. New properties in distant locations are required to pay higher property taxes as compared to older properties close to CBD with higher current market prices.
2. The ARV once determined, remains constant irrespective of the rise in market rents. This inhibits buoyancy of the property tax and restrains the ability of local authorities to provide civic services.
3. Since the ARV once determined remains constant, the outflow on account of property tax does not enter into the investment decisions of the buyers. This indirectly supports the high real estate prices. Hence the potential use of property tax as a policy instrument to moderate the real estate market prices, is completely nullified.

### **Mandatory provision for Industrial Worker's Housing**

The Mumbai Building (Control on Erection, Re- erection and Conservation) Act, 1948, enabled Government to impose a condition for building houses for at least 40% of the labour force while sanctioning a building proposal for a factory. This was however hardly implemented (MMRDA & MHADA, 1981).

### **Development Control through Legal Measures**

The Maharashtra Regional and Town Planning Act, 1966 (GOM, 1981), provided for formulation of Development Plans for regulating spatial growth in urban areas. The Development Plans used various zoning schemes such as Land Use Zoning, FSI and Densities for residential development and designed elaborate Development Control Regulations and Building Bye- laws for controlling physical developments. Developments in violation of any of such provisions were considered as unauthorised and such actions were viewed as a law and order problem under the Act. In order to make the legal provisions stronger, the MR & TP Act was amended to make such violation a cognizable offense.

### **Urban Land (Ceiling & Regulation) Act, 1976**

In 1976, to ensure equitable distribution of land and on account of perceived problems of increasing land prices, Government of India decided to control the urban land markets. The main objectives of the Urban Land (Ceiling & Regulation) Act, 1976 (GOI, 1976) were to

1. prevent oligopolist urban land market,
2. achieve equitable distribution of land; and
3. control speculative price increases in urban land.

The Act has put a ceiling on urban vacant land that could be held in private ownership. The ceiling varies inversely with population of the urban agglomeration. For Mumbai it is 500 sq.m.. All land in excess of this ceiling was supposed to vest in the Government which could be used by it for promoting housing for the poor. Maximum compensation payable was at the rate of Rs. 10 per sq.m. with an upper ceiling of 2 lakhs. The Act provided for exemption of land proposed to be used for housing the weaker sections in units having an area of less than 80 sq.m.. Exemptions are also possible in case of hardships and public interest.

Although 4,836 ha. land was notified under Section 10(1) of the Act, in the Mumbai, Thane and Ulhasnagar agglomerations in MMR, only 243 ha. of land was actually acquired and handed over to various agencies. Moreover these restrictions actually reduced the supply of land due to litigation over the issue of compensation and due to delays in determining cases for exemptions. The conditions on which the exemptions were allowed under Section 20 and 21 of the Act, were not stringent enough to result in the development of such lands for housing the poor. Moreover, there is ambiguity in the provisions of the Act leading to considerable flexibility in the evaluation of plans submitted by the land owners. All this has led to excessive price rise of 'free' land and land exempted under the Act due to general shortage of land in the market. The objectives of the Act are thus not achieved and the restrictions on the market have resulted in distorted market situations. The National Commission on Urbanization has recommended redesigning of the Act to remove the inhibiting factors. Imposition of Vacant Land Tax on lands kept vacant for more than 5 years was considered as an alternative to ULC Act by NCU (NCU, 1988). The Act is presently being reviewed for making suitable modifications by the Central Government.

### 8.4.3 **Government as Provider**

#### **Public Housing**

##### **Mumbai Housing Board and Rental Housing Schemes**

The Mumbai Housing Board was set up in 1949. The first public housing schemes were the Subsidised Industrial Housing scheme for industrial workers with lower incomes and Slum Clearance scheme. Under these schemes rental housing was provided. Difficulties in monitoring the incomes, low recoveries and lack of resources for maintenance were the major problems. As a result, rental housing was given up and conversion of rental housing to ownership housing was promoted.

##### **Ownership Housing through HUDCO Financed Schemes and Mass Housing Programme**

After unsuccessful attempts at rental public housing, the Mumbai Housing Board decided to create new housing stock on ownership basis which could be sold on hire-purchase. This was promoted by the establishment of Housing and Urban Development Corporation (HUDCO) in the early 1970 for funding public housing agencies. HUDCO attempts to direct its resources to the lower income groups by,

1. providing differential interest rates,
2. stipulating minimum percentage of investment on lower income groups, and
3. stipulating cost ceilings for different income groups.

The conventional approach of providing high-cost fully-built houses defined by the health and safety measures was further strengthened by the subsidised credit facilities of HUDCO. However, the interest subsidies adopted for lower income groups are not adequate and further price subsidies to make such fully built units affordable to low income households are required. Without such subsidies the supply meant for low income households actually goes into the hands of relatively better off population.

CIDCO and MHADA are now increasingly relying on advance contributions from beneficiaries in their so called 'Mass Housing Programme'. In these programmes, the EWS category is not covered and tenements of various sizes are provided without cost ceilings. The beneficiaries are required to pay in advance a substantial proportion of the

total cost. The individual beneficiaries turn to HDFC and other housing finance institutions for supplementary financial assistance to finance such housing.

The current annual supply under such schemes in MMR is about 6,000 units which is only 8% of the total incremental demand. Although the open developed plots constitute about 75% of all supply by BHADB and KHADB (2,800 units/p.a.), its proportion is likely to reduce with more thrust being given on Mass Housing Programmes. With such an approach the proportion of HIG housing has tended to increase and during 1985-91 it was 57% of all BHADB supply. The total investment made by public agencies on these programmes during 1987-92 is estimated to be only Rs. 194 crores.

### **Public Repairs and Reconstruction of Old Buildings**

Large tracts of inner city lands occupied by chawls built prior to 1940, experienced serious problems of dilapidation and decay. Severe restrictions on rents made it totally unattractive for the land owners to maintain and upkeep the buildings. The poorer tenants could not also undertake repairs on their own though the Rent Control Act provided for such repairs by the tenants and recovery of costs from the owner. The problem was further aggravated by the Development Control Regulations which were brought into effect in 1965. The FSI stipulated for large tracts of such lands was only 1.66 as compared to the actually consumed FSI which ranged from 2.5 to 4. The planners perhaps assumed that by stipulating a lower FSI, the owners will undertake redevelopment at such lower FSI which would bring about decongestion of Mumbai. But this only compounded the problems and inhibited any attempts of redevelopment of these inner-city neighbourhoods though real estate prices continued to be at a high level. Residential units continued to be converted into non-residential uses at very high prices, but the capital gains generated through such transactions were not used for redevelopment of properties. Instead of changing the Rent Control Act with a view to promote private investment in redevelopment of inner-city neighbourhood, in 1969 Government decided to accept the responsibility of repairing and reconstructing old buildings in the Island City.

In order to raise resources for the repairs of old buildings, a Repair Cess was levied on them. This cess along with statutory contribution by Government of Maharashtra and MCGM provided the financial resources for the Bombay Building Repairs and Reconstruction Board's activities. These were not adequate and Government provided substantial non-plan resources for the programme. The Board carried out structural repairs (as against routine maintenance) and where cost of such repairs exceeded the statutory limit, it undertook reconstruction after compulsorily acquiring the property. The old tenants then became tenants of the Board and the problems continued.

A study conducted by the Tata Institute of Social Sciences for BHADB in 1983 found out that 51% of tenants in the reconstructed buildings, 37% of those staying in the Transit Camps awaiting shifting to the reconstructed buildings and 28% of those in Old Buildings beyond economic repairs were not willing to join the Hire Purchase Scheme (BHADB, 1983).

It has been realised that the structural repairs carried out extended the life of such dilapidated buildings only by 10 to 15 years making reconstruction inevitable. About 70% of the total annual replacement requirement of 17,000 tenements in MMR is likely to be in the Island City. However, as against this, the replacement rate of the public agencies has been only about 760 tenements per year. Areas other than the Island City are not

covered under any programme. From 1970-71 to 1990, 2,22,180 tenements were repaired and 252 buildings with 15,256 tenements were reconstructed with a surplus of 3463 tenements by the Mumbai Building Repairs and Reconstruction Board (part of BHADB from 1976). At this rate of reconstruction, the backlog of tenements needing replacement by 2021 would be 4,48,881 units.

The current reconstruction cost per unit is not less than Rs. 65,000. Such costs are not affordable to 74% households staying in old buildings. Compared to the reconstruction requirements, the funds available from the cess charged on old buildings are insufficient and most of these (on an average about 75%) are required for repairs only. The recovery of rents from the tenants of buildings acquired and reconstructed by the Board has also been low despite low rents which are already subsidised.

The FSI restriction of the mid-sixties (FSI upto permissible limits only) has been removed making reconstruction to the extent of existing floor space feasible (or up to FSI 2). But the tenants and the owners of the old buildings have limited choice due to predefined stereotyped tenements and cost considerations. Except for safety, there is no marked improvement in the living environment within the building. Due to the individual building reconstruction approach the surrounding environment in the neighbourhood is not improved. Such improvement can substantially change the market value of the property. Ownership of tenements reconstructed through urban renewal could then become attractive. The Maharashtra Regional and Town Planning Act, 1966 under Section 33 provides for comprehensive development including urban renewal. However this provision has never been used.

A critique of reconstruction programme should include :

1. a building by building reconstruction loses the opportunity of renewal on a block basis which can bring about distinct environmental improvements,
2. tenants of private landlords become tenants of MHADA and since the rents are heavily subsidised the problem of maintenance and upkeep continues; and
3. all tenants irrespective of their income and ability to pay receive same subsidies.

### **Slum Clearance and Improvement**

The conventional shelter supply was limited and expensive, rental markets were locked and the only option open for many was to encroach public and private open lands near their work places and build structures which they could afford. The earliest response to slums by the public agencies was to rehouse them in subsidised rental housing schemes. These Slum Clearance schemes faced similar problems which were faced in such schemes for industrial workers. In 1958, a centrally sponsored scheme was started for clearance and improvement of slum areas and rehousing of slum dwellers. Improvement of slums, although only as a temporary relief, was accepted. In 1971, Slum Areas (Improvement, Clearance and Redevelopment) Act (GOM, 1974) was enacted which enabled the State Government to declare some areas as slums, acquire land for providing essential services by paying fixed amount (and not compensation at market price), provide such services and restrain landlords from evicting the slum dwellers. The Maharashtra Slum Improvement Board Act, 1973 (GOM, 1974), provided for creation of Slum Improvement Fund and Area Improvement Committees. The legislation also provided for levy of compensation and service charges for provision of facilities from slum dwellers

according to the size of the hut. However, slums continued to be considered as nuisance and were to be provided services till finally removed and the people rehoused.

The Slum Improvement Programme (SIP) was started in 1972 and is being implemented since then. It involves improvement of slum areas through provision of essential services such as water supply, toilet facilities, drainage, electricity etc. with a cost ceiling on expenditure on improvement works. The cost ceiling was initially Rs. 100 per capita which was increased to Rs. 250 and is presently Rs. 500 per capita. The slum dwellers in turn are required to pay a service charge at a nominal rate. About a half of all slum dwellers are estimated to have been covered under this programme so far with an expenditure of about Rs. 50 crores.

Although certain much needed services were provided to a large number of slum population under this programme it has had very little impact on the living conditions of these slum dwellers due to various reasons. The standard of services provided under SIP are very low due to the cost considerations. The actual costs incurred on improvement are even lower. Mere improvement of slums without the security of tenure and financial assistance in the form of credit for upgradation of structures has not resulted in improving the living conditions in a sustained manner due to lack of maintenance of such facilities. The service charge rates as well as their recovery has been very low as compared to the cost of provision of services despite relatively higher affordability of slum dwellers.

### **Hut Renovation Schemes**

Commercial Banks extended loans at liberal terms for hut renovation in slums under the Hut Renovation Scheme, 1976-77. This was made feasible despite lack of legal tenure of land on the strength of power of eviction exercised by the Controller of Slums through Maharashtra Vacant Lands (Prohibition of Unauthorised Occupation and Summary Eviction) Act (GOM, 1975) passed in 1975. The Controller of Slums became the mediator and guarantee for obtaining loans from Commercial Banks for families staying in slums censused in 1976. The Vacant Lands Act however did not stand the scrutiny of the Court, and the Hut Renovation Scheme too suffered a setback.

### **Prime Ministers Grant Project**

Late Prime Minister of India Shri Rajiv Gandhi announced a grant of Rs. 100 crores for improvement of Dharavi and the Prime Minister's Grant Project was started in 1987. As the Project took shape it included redevelopment of some slum pockets in Dharavi, reconstruction of certain Old Buildings, and Slum Upgradation for some slum pockets. Redevelopment of slums involves construction of apartment units. The current per unit costs are as high as Rs. 72,000 for a 180 sq.ft. unit. Out of this, Rs. 5,000 are treated as interest free loan, Rs. 20,000 as loan from HUDCO and a direct subsidy of Rs. 7,500. The remaining about Rs. 40,000 are to be contributed by the slum dwellers. Such costs appear to be very high as compared to Rs. 15,000 to be paid by the slum dwellers under the other redevelopment scheme floated by the Government. Moreover, in such schemes the slum dwellers have limited choice due to predefined stereotyped tenements and cost considerations. The reconstruction programme under PMGP is physically similar to that implemented by BHADB but a distinct feature is that ownership transfer of tenements in old buildings to Cooperative Societies of tenants is accepted in the PMGP programme. The Slum Upgradation programme is similar to that implemented under BUDP. All this

however is on a relatively small scale limited by the total available Government grant of Rs. 100 crores. This programme is therefore not sustainable on a long term basis.

#### 8.4.4

### Government as Facilitator

#### **Task Force on Housing and Urban Development (1983)**

The Task Force on Housing and Urban Development - Shelter for the Urban Poor and Slum Improvement (Planning Commission, 1983) made the following observations about the role of public agencies in the housing sector:

‘The Task Force noted with concern that in spite of policy commitments to self-help housing by the poor and encouragement of private initiative as well as some striking examples of successful low-cost self-help housing in recent years, Government-sponsored house construction agencies continue to proliferate. These agencies, almost universally, are patterned on the bureaucratic model and adopt a rigid brick and mortar approach to housing. While some amount of urban housing may be built by specialised agencies in the public, private and cooperative sectors, there is overwhelming evidence to show that efforts to produce affordable housing for the poor by corporate bodies have failed. The evidence points to the fact that the bulk of housing of the poor is produced through their own efforts, legally or illegally. If public intervention in this field is to be effective, it will have to take into account the woeful limitations of Governmental organisations, abilities to cater to the needs of low-income families in terms of costs, quality, functional adequacy, location and cumbersome process.

A radical change in the orientation of public housing agencies is called for if they are to serve the need of low income people better.’

#### **Concessional DC Regulations for Public Housing**

The Density, FSI, and construction standards stipulated in the Development Control Regulations and Building Bye-laws actually prevented construction of low cost housing for new households, reconstruction of old buildings to rehabilitate in them all the original tenants, and redevelop slums without huge subsidies. As providing housing for the poor was viewed as the primary responsibility of public agencies, only public housing programmes were aided by providing concessions in density and FSI regulations. These were in the form of higher FSI of 1.2 for public housing, 2.4 times the permissible FSI for reconstruction of old buildings and relaxations in the standards for open spaces.

#### **Provisions of Section 20 & 21 of ULC Act**

Section 21 of the Act entitles land holders to prepare schemes and develop their surplus land for weaker section housing and thereby obtain exemption from the provisions of the Act. Such exemption cannot be refused on the ground that the land is required for public purpose since such exemption is also in the public interest. The pattern of development prescribed under Section 21 allowed development of residential tenements with a plinth area upto 40 sq.m and upto 80 sq.m to be constructed in equal numbers. However such development could not reach the most disadvantaged and hence the State Government prescribed guidelines for development of weaker section housing under Section 20 of the ULC Act.

A scheme was prepared under Section 20 in 1983, which envisaged construction of

tenements of 25, 40 and 80 sq.m. plinth area on the surplus land and required landholders to surrender proportion of tenements (and also land for bigger lands) based on size of land holding. This was struck down by the High Court which did not view it to be in the public interest since;

1. more than 50% land was released for the land holders; and
2. there were no price restrictions on sale of tenements.

In 1986, the State Government formulated revised guidelines for weaker section housing which were subsequently amended in 1988. These are as follows:

**1. For Surplus Land below 4,000 sq.m.**

The landholder should build tenements of upto 40 sq.m. area on the entire net buildable land and sell 30% of such tenements to the State Government or Government nominees at predetermined rates. 70% of the tenements can be sold by the landholder/developer in the open market at a predetermined rate and according to the allotment procedures to be laid down by the State Government (these will be similar to MHADA's policy of allotment). In both the cases the predetermined rates would be roughly equal to five times the land cost (as per the ULC Act rates) plus actual cost of construction and 15% profit on total expenditure.

**2. For Surplus Land above 4,000 sq.m.:**

The surplus area excluding Development Plan reservations shall be divided into two equal components.(Table-8.17)

The other alternative offered to the land holders is to surrender 65% of the land at ULC prices to MHADA and using the remaining 35% land for construction of apartments having an area of 40 sq.m. to 80 sq.m.

In Mumbai, Thane and Ulhasnagar, 2,332 applications were received and 471 schemes sanctioned envisaging construction of 93,554 tenements under Section 21. 405 schemes under 1986 guidelines (Section 20) have been sanctioned envisaging construction of 27,593 tenements and development of 15,047 serviced sites. However, very little progress has been made in actual construction of these tenements and development of serviced sites.

### **Rent Control Reforms**

In 1986, some reforms have been introduced in the Rent Act but they mainly deal with the new properties alone. These changes allow for a five-year moratorium on rent restriction and thereafter limit the rents to net return of 15% per annum on cost of land and building at the time of first letting. The system of short term leasing has also been revived.

The Model Rent Control Bill prepared by the Government of India aims at reducing controls on the rental housing market and promoting investments in new house construction for rental housing. Based on this Model, the Government of Maharashtra has prepared a bill which also aims at unifying, consolidating and amending laws prevailing in different parts of the State (GOM, 1993). The salient features of the bill are as follows:

1. 40 years exemption from provisions relating to standard rent and permitted increases provided for buildings newly constructed or reconstructed on or after 1st October

1987 and for premises not let or given on license for a continuous period of one year.

2. After the expiry of 40 years, the standard rent to be fixed for premises first let after 1st October, 1987 on the basis of 15% net return on investment in land and building plus all the out going in respect of the premises to the Landlord. Provisions for fixation of standard rent for other premises remain unchanged. However application for fixation of standard rent has to be made within a period of one year from the date of demand of excessive rent or permitted increases by the landlord or within a period of one year from commencement of this Act.
3. Exemptions provided for premises let to foreign missions, international agencies, multinational companies and public limited companies having a paid up share capital of more than Rs. 1 crore.
4. Existing protection afforded to tenants to continue.
5. Rent increase by the landlord allowed at a flat rate of 5% per annum for various uses after commencement of this Act.

The bill will be converted into an enforceable Act after it is passed by the State Legislature and approved by the Governor.

### Ownership Transfers of Rent Controlled Buildings

With a view to expand the renewal programme with active participation of tenants, the Government amended the law to enable the tenants' co-operatives to purchase the buildings by paying 100 times the monthly rent as compensation to the owners. This provision is inadequate as far as return to original owners is concerned; but some of the tenants cannot afford to pay even this meager compensation to the owners. This scheme has remained locked up in prolonged litigation till 1992 when High Court finally upheld the amendments to MHADA Act but the matter is now in the Supreme Court.

### National Housing Policy

Realising the importance of housing sector, the National Housing Policy was first formulated in 1988 (GOI, 1988). According to this Policy, a major objective of housing efforts was to motivate and help all people - particularly houseless and inadequately

Scheme for Surplus land above 4000 Sq.m. under ULC		
Component A: All plots admeasuring 25 Sq.M. each		
Type of Plot	% Tenements	Approximate Cost (Rs.)
Sites & Services	5 (minimum)	6000-8000
plots+Core House	10 (Minimum)	12000-14000
1 Room Tenements	85 (Maximum)	Below 25000
<i>Govt. shall have the pre-emption in case of all plots in this component</i>		
Component B: The land owner shall construct the tenements as per the following guidelines		
Tenement Size	% of Tenements	Right of pre-emption *
Upto 25 Sq.M.	30	60% at cost price
25-50 Sq.M.	20	10% at prescribed
50-80 Sq.M.	30	rate by Govt.

\* The total area of pre-empted plots shall not exceed 12.5% of the FSI on this component

Table-8.17

housed, to secure for themselves affordable shelter through access to land, materials, technology and finance by creating an enabling environment. Major thrust of the Housing Policy adopted by the Government in 1992 (GOI, 1992) is also on recommending the 'facilitator' role of public agencies. It also proposed to amend the provisions of ULC and Rent Control Act .

### **National Commission on Urbanisation**

National Commission on Urbanisation recommends a comprehensive approach to problems of housing the urban poor consisting of both curative and preventive strategies. It makes the following observations in this regard (NCU, 1988):

'To ensure adequate housing for the urban poor in a reasonable time-span and at a cost affordable both to the poor and the State, which would reduce compulsions to squat, a combination of preventive and curative strategies are needed. Restructuring the city in respect of the job - home relationship and rationalising the use of its land resources through policy and planning interventions, should be the key elements of the strategy. Improving living conditions in the existing slums and other forms of degraded, dilapidated and poorly serviced settlements (like chawls) through provision of civic facilities and assistance to upgrade shelter conditions should be the main thrust of the curative strategy. And making available a large number of small, serviced land-plots at proper locations with adequate transport and communication linkages should be the central focus of the preventive strategy. Being symbiotic in nature, to be effective, these must go hand-in-hand. The growth policies, slum improvement, and sites and services projects are important initiatives in these strategies. To get results, a greater thrust, refinement, additions and an enlarged operational scale are needed.'

### **Shelter for all : Global Strategy for Shelter to the year 2000**

The United Nations General Assembly in December 1988 proclaimed the Global Strategy for creating access to adequate shelter for all by the year 2000 (UNCHS (Habitat), 1990). The Strategy is based on the perception that national governments have failed to confront, analyse and change the context in which people struggle for adequate shelter. That the past national shelter efforts in many countries have emphasised only structural standards and direct construction approaches without taking note of social and economic role of shelter and ignored or only partially understood the housing market and shelter production system.

The Strategy calls for immediate and sustained shelter action through adoption of policies that take note of population growth and urbanisation trends which affect people's access to shelter in order to assist the urban poor in the developing countries in particular. It recognises that shelter is an extremely important sector in a national economy and calls for strategically supportive policies for shelter delivery systems.

### **Use of Market Forces for achieving Equity Objectives, 1991**

It was realised that it was neither possible to control unauthorised growth of slums nor was it possible for the public agencies to provide housing for all even with concessions in development control regulations for public housing programmes. With this realisation, an attempt has been made in the Development Control Regulations for Greater Bombay 1991 (GOM, 1991) to facilitate private investment in smaller dwelling units by allowing higher maximum density. In certain areas minimum density has also been stipulated to ensure supply of small dwelling units. The details are as in Table-8.18:

## Redevelopment of Slums, 1991

A large number of slum households occupying private lands more or less remain outside the current improvement programmes. Slum redevelopment by land owners / developers / cooperative housing societies of the slum dwellers through FSI incentives (FSI upto 2.5) is proposed in the Development Control Regulations for Greater Mumbai, 1991 (GOM, 1991). The slums covered are those which are censused or whose structures and inhabitants' names appear in the Legislative Assembly voter's list of 1985. The schemes would be formulated by the designated authorities and such individual schemes would be considered and approved by a Committee under the Chairmanship of Municipal Commissioner. Bids would be invited from private builders and the merit would be judged on the basis of surplus tenements made available to the public agency. These are to be used for accommodating Project Affected Persons (PAPs). All existing slum dwellers are to be rehabilitated on the same site with the tenement size of 180 sq.ft. each and maximum tenement density per net hectare not exceeding 500 tenements for FSI 1. The scheme envisages payment of Rs. 5,000 in advance and Rs. 10,000 over 20 years by the slum dweller for a unit of 180 sq.ft. costing nearly Rs. 65,000. The subsidy required for slum dwellers is supposed to be generated from the sale of surplus floor space available on account of 2.5 FSI (MCGB, 1992).

The financial viability of the scheme would therefore depend upon the existing density of slums, the prevailing market price and the expected rate of return on investment. The rate of return is sought to be restricted to 25%. The relationship between the density and the percentage of floor area required for rehabilitation shows that for density of 825 Hhs/ha., 2/3rd of floor area will be required for rehabilitation. The analysis shows the following:

Density in the Slum Hhs/ha.	% of Floor Area required for Rehabilitation
500	40.00%
825	66.67%
1250	100.00%

It would be clear that redevelopment of slums having density above 1,000 Hhs/ha. would be difficult under the scheme. The minimum real estate price required to earn 25% rate of return at a overall cost of Rs. 4,000 / sq.m. of floor area for a given density can be read from graph shown in Figure-8.5. The salient figures are given below;

Density	Market Rate Rs./m2
500	7,850
825	13,200
1000	22,000

Based on the March 1992 market rates (Accommodation Times) for residential premises in various areas of Greater Mumbai it could be said that this scheme will be viable in slums located in most parts of Greater Mumbai if the density is 500 or less. At 825 density, which necessitate obtaining 2/3rd area for rehabilitation, it will not be viable in slums located in the Eastern suburbs and those located beyond Vile Parle in the Western Suburbs. In the Island City where minimum per sq.m market rate is about Rs. 20,000, the scheme will be viable even when density is around 975. It may however be noted

that Island City has 16% of slum dwellers, and H & K (i.e. Bandra - Vile Parle - Andheri) wards have 19% of slum dwellers (1976 Slum Survey as quoted in GOM, 1981). Thus the scheme is potentially useful for only about 35% slums. This proportion is likely to have reduced during the last 15 years.

The Slum Redevelopment Programme expects instantaneous transformation of slums into formal housing stock with 2.5 FSI and 25% margin of profit. Success of the strategy however faces the following problems:

1. 25% overall profit on investment appears to be unattractive particularly when general interest rates and return on some securities like UTI is very high. Moreover, the possibility of mobilising advances and completion of construction is uncertain in these ventures. This condition is therefore likely to be by-passed by demanding more money from the slum dwellers or by buying them out and selling their tenements to others on premium.
2. Providing transit accommodation acceptable to slum dwellers is a costly and time consuming matter. However the cost of transit accommodation is not accounted for in profit calculation.
3. Even if proposals that may appear to be financially viable, would face other problems. Many slum dwellers depend upon the same location for their livelihood e.g. shop owners, scrap dealers, domestic servants etc. They may find disturbance to the slum unacceptable or may demand compensation for loss of income.

Provisions of DC Regulations for Greater Mumbai -1991				
Location	FSI	Tenement Density / net Hectare		Estimated range of tenement sizes
		Max.	Min.	
Island City	1.33	600	267	22 to 50+
Most parts of Suburbs and extended suburbs	1.00	450	200	22 to 50+
Public Housing/High Density housing	1.00	not prescribed	325	22 to 31

**Table-8.18**

The FSI stipulations have been relaxed as follows for specific programmes to make them viable:

Reconstruction of unsafe or demolished Buildings in general	upto original or permissible FSI whichever is more,
Reconstruction of cessed properties by cooperative societies or of its own buildings by Corporation	upto existing or FSI 2 whichever is more,
Public reconstruction of cessed buildings, Urban Renewal Schemes and for Housing the Dishoused	upto 2.4 times the permissible FSI
Low-cost housing by MHADA	20% more than the permissible FSI
Rehabilitation of Slum Dwellers	upto 2.5 FSI

Higher FSI is permissible also on account of additions in FSI for space used for access.

4. Uniform tenement size of 18 sq.m. may also evoke negative response from slum dwellers who already have larger area or can afford and are willing to pay more for a bigger tenement. Subsidies are also uniformly provided to all slum dwellers without considering their affordability. This may make poorer households vulnerable for eviction.
5. In case of slums located on lands reserved for buildable use such as schools etc. the owner/developer is required to develop such buildable space and hand over to the Corporation free of cost. Recovery of such additional costs from the surplus areas may become further difficult.
6. The scheme is not applicable in case where relocation of the slum is necessary due to its dangerous location and immediate requirement of land occupied by slum for public purposes. Alternative locations will have to be found by identifying, reserving and acquiring necessary land. Relocation experience of the past has not been very encouraging.

About 300 proposals for redevelopment have been received, about 10 have been approved by the Committee and works on only 3 schemes have began.

#### **National Housing Bank, 1989**

Strengthening the institutional finance system and making available credit facilities for the private sector was a long felt need. Although conceptualised much earlier, NHB was set up in 1989 for promotion and regulation of housing finance institutions and refinancing of operations of financial institutions and housing cooperatives. The NHB has announced a Voluntary Deposits Scheme, formulated under Voluntary Deposits (Immunities and Exemption) Act 1991, for mobilisation of resources for housing through appropriation of 'black money' by providing immunity and exemption under direct tax laws. With a minimum deposit of Rs. 10,000, the scheme allows instant withdrawal of 60% of the amount deposited, the remaining 40% to be used by the Bank for providing homes for the poor. Not much is however known about the success of this scheme.

The facilitator role in the last decade has particularly emphasised housing finance and many specialised housing finance institutions have been established with NHB acting as the apex refinance agency. This has also provided a specialised saving avenue for households to link their savings with concessional housing finance. However, the critical input to housing activity viz. land and infrastructure has been overlooked. Availability of housing finance in the absence of adequate supply of accessible and serviced land may yield counter-productive results in the form of excessive rise in real estate prices.

It could be seen from the above review that there is an ambivalent shift in the public policy from controlling illegal construction and providing shelter for the poor to more facilitator role in inducing private investment in the desired direction.

#### **8.4.5 BUDP Approach**

On this background, it may be desirable to compare and evaluate the BUDP approach to shelter supply. Launched in 1985, the Bombay Urban Development Project was a first significant attempt at facilitating self-help housing by public agencies. Alternate shelter supply options in the form of serviced sites and upgradation of slums were made available. Supply of developed land in the form of serviced sites and provision

of land tenure to slum dwellers was the key to facilitator role. Given the massive backlog and supply shortages, it was felt necessary to secure a better match between the resources realistically available for land, infrastructure and shelter investment from private, cooperative and public sectors and the need for Environmentally Acceptable Legal Land and Shelter (EALS) for new MMR households and the then existing slum

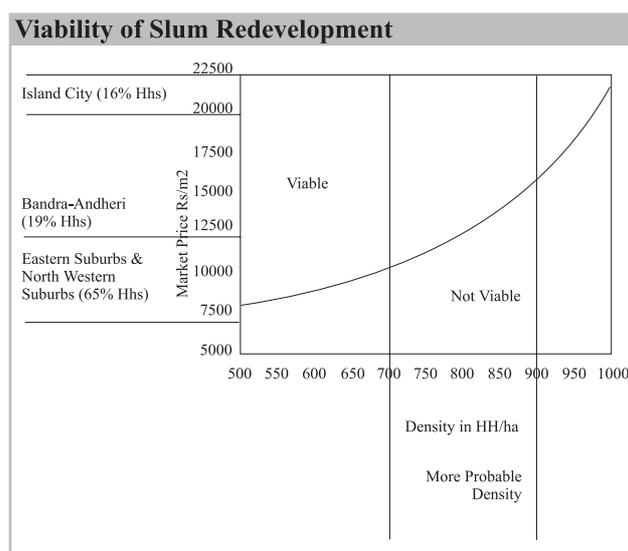


Figure 8.5

households. Major components of the project were development of 85,000 serviced sites and upgradation of 1,00,000 slum dwellers. Apart from that the BUDP aimed at:

1. shifting public investment from subsidised high unit cost apartment construction programmes into programmes focused primarily on producing large numbers of serviced plots at much lower unit costs with full cost recovery.
2. halting slum growth and subsequently reducing the absolute number of households in slums at the fastest possible rate; and
3. exploring ways and means for shifting private capital into the production of legal affordable shelter for low income families.

The slum transformation strategy envisaged to achieve this was to aim at accelerated supply of serviced plots and shelter supported by policy changes:

1. for more efficient and equitable land and infrastructure servicing, by adopting and incorporating performance oriented Development Control and Building Regulations (DCBRs) initially for the public sector, thereafter extending them to the private sector,
2. for freeing land for public and private housing development, that has been held off the market by the Urban Land (Ceiling and Regulation) Act, through different schemes,
3. for increasing local Govt. institutional capacity to manage, finance and maintain essential services; and
4. for supporting the overall objectives in the long run by carrying out rent control and property tax reforms.

In order to augment and sustain high supply levels by replicating such projects in the future, the BUDP adopted affordability and full cost recovery as its underlying principles.

### Sites and Services

In BUDP, the efforts to provide shelter opportunities at affordable prices with full cost recovery led to the adoption of Land Infrastructure Servicing Programme (LISP) with a focus on wider distribution of serviced urban land. For ensuring full cost recovery at affordable prices it is essential to minimise cost. This is achieved by:

1. adopting functional standards for spaces viz. plot sizes, road widths and open spaces; engineering design standards for water supply road crust thickness etc.,
2. rationalising site layouts for location and amenity pricing (differential pricing) of plots for different income groups by charging less to smaller plots with lesser locational values, which are more in number and are meant for low income households, and by charging more to few, better located, and bigger plots.

It has therefore been possible to bring down the price of the smallest serviced site to a level which is affordable to the poorest. Developed land with core houses is leased to the cooperative societies of the beneficiaries. The responsibility of maintenance of internal services lies with the society. The project ensures full cost recovery at reasonable rate of return, despite 60% of beneficiaries being below the poverty line. Typical costs, affordability and cost recovery analysis are shown in Table-8.19 below;

At Charkop and Gorai Road nearly 20,000 poor households had an opportunity to have serviced site with wet core at Rs. 5,000 and have completed one room houses at about Rs. 25,000 each.

This programme had been undertaken on available public lands. Wider distribution of serviced land is however restricted on account of availability of suitable public land for this purpose and the scale of operation of such projects. The sites and services approach has a wider applicability in the sense that it allows for a proportion of sites for the high income group beneficiaries (which can be used for providing subsidies to the poor through differential pricing). Through promotion of incremental house building in Sites and Services programmes, and through the arrangement of cooperative societies beneficiary participation is also ensured. However, one inherent limitation of this approach is that it cannot be extended to privately held lands.

The Sites and Services scheme under the BUDP with lowered standards for core house and services was made feasible only by adopting specifically formulated Development Control Rules and Building Bye-laws for this purpose. In the Development Control Regulations for Greater Mumbai, 1991, (GOM, 1991) for low-cost housing or sites and services under ULC schemes and BUDP, on a minimum size of 25 sq.m. plot, core house size upto around 8 sq.m. in the first phase added by another 10 sq.m. in the second phase is permissible. However it may be noted that the sites and services type of development, which is the only affordable option, is permissible only for specific schemes (under ULC Act), projects (BUDP) and public low-cost housing schemes. This means that application of some of these crucial relaxations would remain very limited.

### **Slum Upgradation**

The most important distinction between the Slum Upgradation Programme under BUDP and other slum improvement programmes is that the slum dwellers are given the tenure of land in this programme. Apart from land tenure, improved infrastructure services, home improvement loans and community facilities are other features of SUP. The principal objective of SUP is to provide environmentally acceptable and legal shelters to slums households by

1. improving public health through adequate and spatially well distributed water supply, sanitary facilities, storm water drainage and receptacles for collection of solid waste.

2. improving physical access and circulation within the slum by providing pathways, at least one 4 to 6 m. road within 50 m. of every hut and street lighting,
3. facilitating investment in shelter improvements by granting security of land tenure and optional home improvement loans,
4. improving maintenance of environmental facilities by devolving the responsibility of maintenance on cooperatives of slum households; and
5. improving access to basic social facilities by providing balwadis/creches, multi-purpose community centres.

The costs are recovered at differential rates depending on the location of the slum, and size and use of the hut to ensure that house improvement costs are also affordable at the same time. It is therefore possible to replicate this programme for wider coverage. Through community development efforts in slum upgradation programmes beneficiary participation is ensured. These beneficiaries would also participate through their co-operatives in the later stages such as maintenance of common spaces and services.

## 8.5 Input Requirements

### 8.5.1 Investment Requirement

Shelter investments are determined by the effective demand for shelter which in turn depends on household affordability and willingness to pay for shelter. The affordable capital of different households would define the feasible level of investment if no external subsidies are to be introduced (HUDCO's interest rate structure has some subsidy elements).

The investment estimates calculated on the basis of ability to raise capital at HUDCO's credit terms plus savings with a lower ceiling of Rs. 10,625, which is the cost of smallest serviced site, show that 5-yearly investment requirements for incremental households in MMR increase from Rs. 2425.68 crores in 1991-96 to Rs. 3903.52 crores in 2016- 21. The income group-wise investment requirement for Greater Mumbai, Rest of MMR and for MMR is given in Table-8.20. Details are given in Table-8.21. It may be seen that the investment requirement of low income category reduces drastically. This is due to changes in the income distribution. Here it is assumed that all incremental households will be provided housing based on their affordability. (Table-8.20)

If this level of investment and its distribution across income groups is not attained, slums will proliferate and subsequent investment will have to be made in slum improvement. The investment required for slum improvement increases from Rs. 632.64 crores in 1991-96 to Rs. 904.28 crores in 2016-21 in case of the conventional supply scenario. If the incremental demand and supply are matched the requirement would only marginally grow from Rs. 306.05 crores in 1991-96 to Rs. 325.57 crores in 2016-21. If supply is accelerated the investment required would reduce from Rs. 184.74 crores to Rs. 149.53 crores during this period (Table-8.13, 8.14 & 8.15).

The average 5-yearly investment required for replacement of old buildings is Rs. 549.27 crores. (Table-8.10).

<b>Feasibility Study of Typical LISP Site under BUDP Site: Charkop,1986</b>						
<b>Costs</b>	<b>Base cost with centages &amp; Interest Rs./m2</b>			<b>Total cost (Rs. in Lakhs)</b>		
Land	11.07			41.71		
Site preparation	67.62			254.85		
on-side infrastructure	58.1			218.97		
Core Houses	44.96			169.46		
Home Improvement Loans	16.87			63.59		
<b>Total</b>	<b>198.62</b>			<b>748.58</b>		
<b>Land use</b>	<b>Area M2</b>	<b>%</b>	<b>FSI</b>	<b>Floor Area</b>	<b>Price/m2</b>	
Circulation	78923	20.94				
Openspace	25489	6.76				
Nalla/Sub.Stn.	4000	1.06				
Total Non-Marketable	116548	30.92				
HIG apartment plots	74163	19.68	1.20	88995	700	
Commercial	3237	0.86		Hhs-1483	800	
Fire/Bus.Stn.	6600	1.75			198	
Schools	8811	2.34	0.90	7929	198	
School play ground	10769	2.86			198	
Social facilities	4611	0.73	0.90	4150	200	
Serviced sites	152162	40.37	0.84	128406		
Total Marketable	260352	69.08		Hhs.-4833		
Net plot Area	265352		0.87	229481		
Density sites/Ha.	128			60		
<b>Affordability of Serviced sites beneficiaries</b>						
<b>Plot type</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
Plot size	26	26	32	40	62	105
FSI	0.85	0.85	0.80	0.80	1.00	1.00
No.of plots	1450	1498	887	830	75	94
% of plots	30	31	18	17	2	2
Hh income	325	525	825	1250	1850	2850
% Hhs	23	24	14	13	1	25
Sale price/ m2	50	70	100	150	250	600
Sale price/plot	1290	1805	3220	6000	15418	62718
Cost of core						
House	2162	4297	6290	2162		
Capital/ Hh	3451	6102	9510	8162	15418	62718
Down payment %				15	20	100
Down payment Lumpsum			400	650	900	
Buiding loan	1000	1500	3000			
Monthly payment						
Toward cost includ. charges&Bldg.						
loan repayment	53	85	136	91	136	
% of Monthly payment	16	16	16	7	8	
<b>Recovery</b>	<b>Rs./m2</b>			<b>Total (Rs. in Lakhs)</b>		
Sales	144.61			545.03		
Down payment	27.48			103.58		
Site loans	85.46			322.09		
Building loans	16.87			63.59		
Total	274.42			1034.3		
Surplus	75.8			385.71		
% Surplus				38.17		
Sales and Downpaymentbas % of cost				86.65		

Table-8.19

### 8.5.2 Land Requirement

Overall investment in housing is divided in land cost and construction cost. The construction cost is determined by the demand and supply of building materials and labour having very little locational influence. However in case of land, the locational preferences of households and price of land (which itself is determined by the demand) determine the land component of the total cost. The quantum of land required per household will depend on the location. While no new land would be required for replacement of old buildings and improvement of slums, some broad estimates of land requirement for new housing are worked out on the basis of prevalent plot sizes adopted for different income groups under BUDP. By assuming plot sizes ranging from 25 sq.m. to 100 sq.m. for different income groups, and considering the non-marketable areas required for development for infrastructure, land requirement is estimated to be 3930 ha. for 1991-96. This would increase due to increased incomes and subsequent demand for bigger plots to 5529 ha. in 2016-21 (Table-8.22). The 5-yearly demand for land in the Rest of MMR is more and increases at a higher rate than that of Greater Mumbai. However if additional land to this extent is not effectively available densification of already developed areas and rise in land prices would be inevitable.

### 8.5.3 Current Investment

Despite the increasing need for investment in the housing sector - especially in urban housing due to urbanisation, the percentage of housing investments to the total investments in the national economy has reduced from 34% in the First Five Year Plan period to 9% in the Seventh Plan. Although the investments by the private sector and individuals seem substantial, these have been mainly used in constructing profitable and lucrative high cost housing for the higher income groups in the formal sector and also in illegal slum housing. Given the pressing needs of the other sectors, any drastic increases in the public investments for housing sector also seems unlikely.

The overall size of MHADA's housing programme during the VIIth Five Year Plan for the entire State was estimated to be only Rs. 214.68 crores including Plan provision of Rs. 64.68 crores (VIIth Five Year Plan). The estimated cost of MHADA's housing programme during the VIIIth Plan is Rs. 726.66 crores. Just to get some idea of the resource crunch it may be noted that the total allocation for housing in the VIIth State Plan was only Rs. 180.04 crores at 1985 prices. The actual expenditure during the VIIth Plan period was Rs. 265.88 crores. This was not expected to increase in any substantial manner during the VIIIth Plan. The allocation in the VIIIth Plan is Rs. 305.98 crores which in real terms would be only marginally more than the actual expenditure in the VIIth Plan. For more concrete assessment, available data on public investments in slum improvement and replacement of old buildings is shown in Table-8.23

These limited resources are also not being used equitably. Capital outlays of BHADB for various housing programmes show that the expenditure on HUDCO financed schemes has reduced from Rs. 389.90 lakhs in 1989-90 to Rs. 80.10 lakhs (Budgeted) in 1992-93. On the other hand the expenditure on Advanced Contribution financed schemes has increased from Rs. 961.22 lakhs in 1987-88 to Rs. 8244.65 lakhs (Budgeted) in 1992-93. The share of the Mass Housing Programme is 85%. The category-wise break up of expenditure for all schemes during 1987-88 and 1991-92 is as follows.

The details are given in Table-8.24 & 8.25.

Category	% Expenditure
EWS	0.58%
LIG	16.09%
MIG	23.06%
HIG	60.27%

CIDCO is following the same trend by promoting high cost mass housing construction programmes by private developers on turn key basis. This is expected to provide 50% of all new housing in Navi Mumbai.

As for the Repairs and Reconstruction programme, from 1970-71 to 1990, an expenditure of only Rs. 132.34 crores was incurred on repairs and Rs. 73.14 crores were spent on reconstruction. The maximum amount available during one year so far has been Rs. 22.00 crores as against the requirement of Rs. 50.00 crores for reconstruction alone.

## 8.6 Shelter Strategy

### 8.6.1 An Overview

Failure of creating adequate housing stock has been the principal cause for aggravating problems of improvement of slums and maintenance and upkeep of existing housing stock. There is a shortage of 45,000 dwelling units per annum at present which is likely to increase to 59,000 by 2021 if the supply is not increased. Creation of new housing stock is therefore of critical importance.

The affordability profile of the MMR population when compared with present costs of various house-types is shown in the Table-8.26:

The above affordability profile may appear implausible as the maximum budget is perhaps less than the price of any house available in the formal housing market of Mumbai. But the difference is in the way in which house purchases are financed. Currently in the

Income Groupwise Investment Requirements for New Housing						(Rs.in Crores)
Income 1991 prices	1991-96	1996-2001	2001-06	2006-11	2011-16	2016-21
Greater Mumbai	1009.15	1094.78	1205.42	1316.20	1425.18	1543.66
Upto 1290	41.37	32.16	19.72	8.18	0.00	0.00
1291-3230	306.25	327.79	340.95	351.39	355.49	341.97
3231+	661.53	734.83	844.75	956.63	1069.69	1201.69
Rest of MMR	1416.53	1535.63	1676.93	1845.82	2072.79	2359.87
Upto 1290	104.47	89.07	74.13	59.35	45.86	26.06
1291-3230	485.66	514.97	551.32	596.04	641.50	686.52
3231+	826.40	931.59	1051.48	1190.43	1385.43	1647.29
MMR	2425.68	2630.41	2882.35	3162.02	3497.97	3903.53
Upto 1290	145.84	121.23	93.85	67.53	45.86	26.06
1291-3230	791.91	842.76	892.27	947.43	996.99	1028.49
3231+	1487.93	1666.42	1896.23	2147.06	2455.12	2848.98

Table - 8.20

market most of the finances come from wealth (accumulated savings) and not from income. Wealth distribution being more skewed, 50% of Mumbai's population is in slums.

However despite high proportion of poor households, private supply of such high-cost housing is more than half the size of incremental need. This is due to high concentration of wealth among a few who are very rich. The real estate market easily absorbs unaccounted income and in a situation of growing demand offers safe and assured returns and liquidity. Such speculative investment has led to a sizeable units being kept vacant. Thus the total investment of the private sector appears to be more than the investment requirement of all incremental households.

There is an inherent institutional mismatch between housing and urban development functions which aggravates the housing problems. Institutionally, urban development

Investment Estlmates for 5-yearly Intervals at HUDCO's Credit Terms (Rs. in Lakhs)						
<b>Gr. Mumbai</b>						
Income at 1991 price	1996	2001	2006	2011	2016	2021
Upto 650	213	0	0	0	0	0
651-970	420	0	0	0	0	0
971-1290	3504	3216	1972	818	0	0
1291-1940	8794	9225	9213	8952	8089	5931
1941-3230	21830	23555	24882	26187	27460	28267
3231-6450	41023	45991	51045	56152	61274	66371
6451-12900	25130	27492	33429	39511	45 694	53798
<b>TOTAL</b>	<b>100915</b>	<b>109479</b>	<b>120541</b>	<b>131620</b>	<b>142518</b>	<b>154366</b>
<b>Rest of MMR</b>						
Income at 1991 price	1996	2001	2006	2011	2016	2021
Upto 650	1773	1036	283	0	0	0
651-970	2716	2317	1930	1053	0	0
971-1290	5958	5555	5201	4883	4586	2606
1291-1940	13941	14468	15182	16108	16371	16505
1941-3230	34625	37028	39950	43496	47779	52146
3231-6450	51809	59044	67231	76669	87682	100617
6451-12900	30831	34116	37917	42374	50861	64112
<b>TOTAL</b>	<b>141653</b>	<b>153563</b>	<b>167694</b>	<b>184583</b>	<b>207279</b>	<b>235987</b>
<b>MMR</b>						
Income at 1991 price	1996	2001	2006	2011	2016	2021
Upto 650	1986	1036	283	0	0	0
651-970	3136	2317	1930	1053	0	0
971-1290	9462	8771	7172	5700	4586	2606
1291-1940	22736	23693	24395	25060	24460	22436
1941-3230	56455	60583	64832	69683	75239	80413
3231-6450	92832	105035	118276	132822	148956	166988
6451-12900	55961	61608	71346	81885	96556	117910
<b>TOTAL</b>	<b>242568</b>	<b>263042</b>	<b>288235</b>	<b>316202</b>	<b>349796</b>	<b>390352</b>

Note : Estimates are based on affordability (savings + credit) with a lower ceiling of Rs. 10625 which is a cost of smallest serviced site. **Table - 8.21**

and housing have always remained divided. In the State Government, there have been two separate ministers and two separate departments for these sectors. The local governments which administratively function under the Urban Development Department are not responsible for housing and they view housing as a mere problem of zoning and code enforcement. While separate agencies have been created for housing due to the problems faced by the local governments, the responsibility of provision of services and their maintenance rests with the local bodies.

The MMRDA is set up under the Urban Development Department and is responsible for overall planning, coordinating and monitoring, including the shelter sector, in the Mumbai Metropolitan Region. However, it does not have any control on the types of housing policies pursued and programmes chosen and implemented in the Region. The activities of the

Gross Land Requirements for Five Yearly Intervals								(In Ha.)
<b>Greater Mumbai</b>								
Income at 1991 price	Plotsize m2	1996	2001	2006	2011	2016	2021	Total
Upto 650	25	8	0	0	0	0	0	8
651-970	25	16	0	0	0	0	0	16
971-1290	30	100	92	56	23	0	0	271
1291-1940	40	226	237	236	230	208	152	1289
1941-3230	60	451	487	514	541	568	584	3146
3231-6450	80	564	632	702	772	842	913	4425
6451-12900	100	196	215	261	309	357	420	1758
<b>TOTAL</b>		<b>1561</b>	<b>1662</b>	<b>1770</b>	<b>1875</b>	<b>1975</b>	<b>2069</b>	<b>10912</b>
<b>Rest of MMR</b>								
Income at 1991 price	Plotsize m2	1996	2001	2006	2011	2016	2021	Total
Upto 650	25	66	39	11	0	0	0	115
651-970	25	107	91	76	41	0	0	314
971-1290	30	170	158	148	139	130	74	819
1291-1940	40	358	371	390	413	420	424	2376
1941-3230	60	716	765	826	899	988	1078	5271
3231-6450	80	712	812	924	1054	1206	1383	6092
6451-12900	100	241	266	296	331	397	501	2032
<b>TOTAL</b>		<b>2369</b>	<b>2503</b>	<b>2670</b>	<b>2878</b>	<b>3141</b>	<b>3460</b>	<b>17021</b>
<b>MMR</b>								
Income at 1991 price	Plotsize m2	1996	2001	2006	2011	2016	2021	Total
Upto 650	25	74	39	11	0	0	0	123
651-970	25	123	91	76	41	0	0	331
971-1290	30	269	250	204	162	130	74	1090
1291-1940	40	584	608	626	643	628	576	3665
1941-3230	60	1167	1252	1340	1440	1555	1662	8417
3231-6450	80	1276	1444	1626	1826	2048	2296	10517
6451-12900	100	437	481	557	640	754	921	3790
<b>TOTAL</b>		<b>3930</b>	<b>4165</b>	<b>4440</b>	<b>4753</b>	<b>5116</b>	<b>5529</b>	<b>27933</b>

Note : Estimates are based on affordability (savings + credit) with a lower ceiling of Rs. 10625 which is a cost of smallest serviced site.

Table - 8.22

Mumbai Housing and Area Development Board (BHADB) are confined to the Greater Mumbai area and therefore take a limited view of the housing problems of the Region. Moreover, decreasing incremental needs, increasing private sector activity and limited availability of public land in Greater Mumbai has severely restricted the conventional housing activity of BHADB. As for other areas of MMR, the jurisdiction of the Konkan Housing and Area Development Board (KHADB) extends well beyond the MMR area in the Konkan Region. The KHADB housing programmes therefore do not specifically respond to the growing shelter needs of the outer MMR area. CIDCO operates as a public housing agency in Navi Mumbai. The private housing activity is controlled by various local authorities through the mechanism of development permissions. There is multiplicity of agencies operating in the shelter sector. Effective monitoring of the shelter activity in the Region by the MMRDA is therefore very essential. The monitoring role of the MMRDA needs to be strengthened in this regard.

The housing agencies are also not well equipped to function as Facilitator. The National Commission on Urbanization observed in this regard that the staff structure of existing housing authorities is dominated by Civil Engineers and is designed to support the brick and mortar approach. It suggests that every housing authority should have professionals responsible for Land and Planning, Community Development, Finance and Engineering with equal status.

The shift from provider to enabler role for public agencies puts more emphasis on carrying out urban development functions such as implementation of enabling development regulations, urban renewal schemes and development of land and infrastructure for new shelter opportunities. Presently, the facilitator role is pursued by the public agencies only in a limited sense by not indulging in construction per se but promoting 'brick and mortar' housing constructed through private developers. Public agencies are providing high-cost housing to those who can afford. As facilitator the public agencies are actually expected to provide necessary inputs for promoting supply of affordable land and self-help housing.

<b>Investment in Housing</b>		<b>(Rs. in Crores)</b>			
	Investments Required	Investments Made			Total
		BHADB	CIDCO	Private @	
New Housing	2425.68	87.55	105.96*	2395.00	2588.51
Repairs and Reconstruction of old-Buildings	696.03	126.47			126.47
Slum Improvement (Excluding BUDP&PMGP) Conventional Scenario	632.64	32.91			32.91

Note : \* Estimate based on Expenditure during 1988-91

Table-8.23

@ Estimate based on 31,000 units costing a minimum of Rs.1,40,000 each and 45,000 hutments costing a minimum of Rs.10,000 each

A broad estimate of subsidies required for providing a 180 sq.ft. unit with a minimum cost of Rs. 65,000 to all incremental households in MMR shows that between 1991-96, subsidies amounting to about Rs. 1056.63 crores would be required. The amount of subsidy is three and a half times of the housing sector outlay of the VIIIth Five Year Plan for the state of Maharashtra. On account of future increase in incomes the subsidy requirement would reduce in 2006-2011 period to Rs. 823.74 crores and in 2016-2021 to Rs. 683.75 crores.

The root cause of growth of slums, is shortage of 45,000 dwelling units per annum. In the

absence of substantial increase in new housing stock the slum population will double in the next 20 years and there will be a three-fold increase in the improvement requirement. Redevelopment of all existing slums in a 20 year programme would require 5-yearly coverage of 2.5 lakh huts and investment to the tune of Rs. 1600 crores at 1991 prices. This means increasing the current supply more than two times and investing one and a half times more than the total investment requirement of all incremental households. Such expansion in terms of investment and physical resources looks difficult.

It is therefore desirable to continue in-situ upgradation of slums. Granting land tenure to slum dwellers in upgradation programmes can speed up the process of transforming slums into environmentally acceptable housing stock. The slum dwellers cooperatives could undertake redevelopment as and when they can afford. The possibility of

<b>Capital Outlays of BHADB for various Housing Schemes (Rs. in Lakhs)</b>							
Schemes	1987-88	1988-89 Actuals	1989-90	1990-91	1991-92 Rev.B.Est	1992-93 B.Est.	Total 87-88 to 91-92
<b>HUDCO Financed Schemes</b>							
EWS	16.76	1.52	1.80	0.00	0.72	0.50	20.8
LIGHS	18.32	8.20	5.04	3.97	11.10	0.20	46.63
MIGHS	23.31	26.98	146.93	159.05	109.15	5.10	465.42
HIGHS	14.31	97.14	83.13	26.39	8.90	10.80	229.87
Other Works	6.00	188.44	153.00	125.16	72.30	63.50	544.9
<b>Total</b>	<b>78.70</b>	<b>322.28</b>	<b>389.90</b>	<b>314.57</b>	<b>202.17</b>	<b>80.10</b>	<b>1307.62</b>
<b>State Govt. (LIC Loan) Financed Schemes</b>							
L.A. & D.S. Subsidy for Improving MHADA Colonies	87.50	40.25	117.13	63.96	136.00	150.00	444.84
	3.52	1.01	106.62	16.19	252.00	144.00	379.34
<b>Total</b>	<b>91.02</b>	<b>41.26</b>	<b>223.75</b>	<b>80.15</b>	<b>388.00</b>	<b>294.00</b>	<b>824.18</b>
<b>Advanced Contribution Financed Schemes</b>							
LIGHS	0.20	0.10	0.00	0.00	4.00	35.00	4.30
Mass Hsg Prog.	0.00	0.00	0.00	163.22	734.00	1202.00	897.22
MIGHS	14.67	3.91	16.30	96.93	199.25	116.00	331.06
Mass Hsg Prog.	0.00	0.00	0.00	223.28	465.00	1526.00	688.28
HIGHS	921.85	612.07	232.80	107.66	358.23	657.05	2232.61
Mass Hsg Prog.	0.00	0.00	0.00	813.38	690.00	3578.00	1503.38
Other Works	24.50	32.71	35.25	37.16	68.55	436.60	198.17
Mass Hsg Prog.	0.00	0.00	0.00	0.33	50.00	694.00	50.33
<b>Total</b>	<b>961.22</b>	<b>648.79</b>	<b>284.35</b>	<b>241.75</b>	<b>630.03</b>	<b>1244.65</b>	<b>2766.14</b>
<b>Mass Hsg Prog.</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1200.21</b>	<b>1939.00</b>	<b>7000.00</b>	<b>3139.21</b>
<b>Authority Fund Financed Schemes</b>							
EWS	4.38	6.28	2.72	0.00	5.97	0.10	19.35
LIGHS	7.15	84.04	61.71	6.21	2.00	0.50	161.11
MIGHS	60.35	12.38	27.09	0.22	5.60	1.00	105.64
HIGHS	26.99	32.88	85.17	26.90	18.10	25.85	190.04
Other Works	0.00	0.32	2.78	0.77	2.60	20.10	6.47
SRRT Prog.	0.00	0.00	0.00	0.00	234.95	224.70	234.95
<b>Total</b>	<b>98.87</b>	<b>135.90</b>	<b>179.47</b>	<b>34.10</b>	<b>269.22</b>	<b>272.25</b>	<b>717.56</b>

Source : MHADA Budget Estimates 1991-92 & 1992-93.

Table-8.24

Category-wise Break-up of BHADB Capital Outlays							
Schemes	1987-88	1988-89 Actuals	1989-90	1990-91	1991-92 Rev.B.Est	1992-93 B.Est.	Total 87-88 to 91-92
L.A. & D.S. Subsidy for Improving	87.50	40.25	117.13	63.96	136.00	150.00	444.84
MHADA Colonies	3.52	1.01	106.62	16.19	252.00	144.00	379.34
EWS	21.14	7.80	4.52	0.00	6.69	0.60	40.15
LIGHS	25.67	92.34	66.75	10.18	17.10	35.70	212.04
Mass Hsg Prog.	0.00	0.00	0.00	163.22	734.00	1202.00	897.22
MIGHS	98.33	43.27	190.32	256.20	314.00	122.10	902.12
Mass Hsg Prog.	0.00	0.00	0.00	223.28	465.00	1526.00	688.28
HIGHS	963.15	742.09	401.10	160.95	385.23	693.70	2652.52
Mass Hsg Prog.	0.00	0.00	0.00	813.38	690.00	3578.00	1503.38
Other Works	30.50	221.47	191.03	163.09	143.45	520.20	749.54
Mass Hsg Prog.	0.00	0.00	0.00	0.33	50.00	694.00	50.33
SRRT Prog.	0.00	0.00	0.00	0.00	234.95	224.70	234.95
<b>Grand Total</b>	<b>1229.81</b>	<b>1148.23</b>	<b>1077.47</b>	<b>1870.78</b>	<b>3428.42</b>	<b>8891.00</b>	<b>8754.71</b>

Source : MHADA Budget Estimates 1991-92 & 1992-93.

**Table-8.25**

displacement of slum dwellers is also less in this approach as compared to quick redevelopment through additional FSI.

The rate of public reconstruction of old buildings is no where close to the need. Moreover the problem is not restricted to the Island City alone. The problems of maintenance and upkeep of buildings reconstructed by MHADA and of infrastructure improvement continue. Ownership transfers are resisted due to inadequate returns to the owners. A suitable programme has to replace the old, unsafe housing stock (the costs of which are high) while at the same time ensure rehabilitation of the existing tenants (majority of them with low incomes) and also achieve environmental improvements in areas with predominantly old buildings. This cannot be achieved in the present framework of public repairs and reconstruction of old buildings. Urban Renewal is a suitable option which not only provides safe housing and improved environment in large areas but enables recycling of derelict land for new activities and attracts private investment.

Such schemes should be undertaken through following stages:

1. Establishment of framework for promoting land assembly by private land owners in the area identified for renewal.

Affordable Capital and House types				
Income (At 1991 prices)	%Hhs 1991	2021	Maximum Affordable Capital	Affordable House Types
Upto 1290	25.08	2.15	18000	25-30 Sq.M. Serviced Site
1291-3230	46.73	49.75	50000	40 Sq.M. Serviced Site
3231+	28.2	48.1	215000	A Tenement 80M2-Virar

**Table-8.26**

2. Preparation of redevelopment programme by allowing appropriate changes in the existing land uses to bring about distinct environmental improvements by offering FSI, set backs and density relaxations to allow for such land use changes.
3. Equity participation of the tenants staying in old buildings who could choose to become owners of replaced tenements or sell their equity at a premium if they decide to move away.
4. Equity participation of owners of properties who would benefit from the sale of additional space generated in the programme at rates increased due to renewal.

Equity participation by tenants and owners could facilitate the process of urban renewal in case of redevelopment of individual buildings as well as area based renewal.

The principle of equity participation by owner and tenants could be translated into an institutional mechanism that can bring in professional management and financial resources from capital market. One of the ways of doing this could be to set up one or more Urban Renewal Mutual Fund (URMF). The URMF could take over old properties (both residential and non-residential) by allotting 'units' equivalent to the market value of the property to the landlord and tenants in the ratio of 50:50. However with this allotment tenants would lose protection under the Rent Act and will have to pay gradually increasing rent. The URMF can offer buy-back option to the tenants with vacant possession of dwelling unit. In case tenant wishes to sell his units with the dwelling unit the URMF should have the first right of refusal. URMF could also raise capital for investing in urban renewal. The land owners could receive full benefits of capital appreciation of units by selling them in the market. This market oriented approach could be experimented with dwelling units of more than 80 sq.m., as it seems to have better chance of success as compared to other interventions in the past such as compulsorily acquiring properties for reconstruction or transferring properties to tenants' cooperatives at nominal prices.

Deficiencies in the information available on shelter sector, some of which were indicated earlier, prevent accurate assessment of the shelter situation which is critical for preparing appropriate strategies. Information is required for:

1. formulation of policy,
2. evaluation of strategies implemented; and
3. fine tuning the policy instruments.

The basic information required for formulation of shelter strategies is not readily available. The local authorities which give development permissions for new residential buildings are bound to have all the details such as location, type and size of tenements of such buildings. Information on duration of construction activity would also be available in the form of time elapsed between grant of building permission and occupation certificate. In case of reconstruction, information on number of tenements in the old buildings lost on account demolition would be known along with all the above details of replacements. However these data are not compiled and translated into management information which could be used for formulation of policies. Even the details of public housing supplied by various agencies are not accessible. Important elements of such information are types of units, costs of construction and public investments, prices and subsidies offered to the beneficiaries, mode and schedule of payments and household characteristics of benefited families. Information is required also to evaluate policies. Presently, nothing is known about the impact of higher FSI for slums, high density small units for new housing and

Transferable Development Rights made permissible under the Development Control Regulations for Greater Mumbai, 1991 (GOM, 1991). Formulation of new regulations for encouraging private sector housing is not an end in itself. In fact, facilitating housing would require a more substantive information base. It is impossible to modify and tune the policies suitably without understanding the successes and failures of different strategies used in the past. This is further discussed in Chapter-16.

### 8.6.2 The Strategy

The shelter strategy for MMR should therefore constitute of the following:

1. Facilitate increase in the shelter supply in general through provision of critical inputs of land and infrastructure.
2. Reorient the role of local and planning agencies from the present maintenance authorities to promoters of development.
3. Minimise subsidies by choosing cheaper supply options like sites and services which provide scope for differential pricing or avoid subsidies altogether by adopting 'sites first services later' approach.
4. Direct private investment for low income housing through schemes such as Guided Land Development.
5. Provide in situ upgrading and land tenure to existing slum dwellers' cooperatives as the basis for eventual redevelopment.
6. Deviating from the present 'building by building' reconstruction, adopt a neighbourhood based Urban Renewal approach with appropriate land uses, land assembly by owners and equity participation of tenants and owners.
7. Establish and maintain efficient information system for the shelter sector and use the information for formulation, evaluation and fine tuning of shelter strategies.
8. Given the multiplicity of agencies operating in the MMR's shelter sector, assign a stronger monitoring role to MMRDA.

## Shelter Supply In MMR

- A.8.1 The information base for analysis of the shelter supply situation in MMR is very weak. The following data is collected at various levels but is not available in the form of management information:
1. Extent, location and nature of annual private supply in terms of type of development and size of dwelling units in all urban centres in the Region which is collected at the time of granting building permissions by local and planning authorities.
  2. Extent, location and nature of informal supply through residential encroachments on all public lands which is likely to have been collected by respective land owning public authorities.
  3. Extent, location and nature of institutional supply in all parts of MMR which is collected at the time of granting building permissions by local and planning authorities or which could be available with respective organizations.
- A.8.2. Since such detailed information is not available in a consistent form across all areas in the Region, the shelter supply situation is analysed separately for various areas based on the available information.

### Greater Mumbai

Although the share of Greater Mumbai population in the MMR is reducing, it still has 69% of Region's population and at least a half of all incremental households in 1991. A substantial proportion of shelter supply in the MMR is also concentrated in Greater Mumbai. Past information on number of dwelling units supplied in the formal sector in Greater Mumbai by both public and private agencies is available. It could be seen from Tables-A.8.1 to A.8.3 that the annual average supply of housing in Greater Mumbai has only marginally increased from 17,600 units during 1956-66 to about 19,600 units during the 70's and has stagnated at that level thereafter as against the current incremental demand of about 29,800 units. The demand would marginally increase to 31,200 units by 2021. Private Sector has been the major provider of housing and its share has increased from about 50% in the late 60's to 90% in the late 80's. On the other hand the number of housing units constructed, including the Open Developed Plots, by the Housing Board in Greater Mumbai has reduced even in absolute terms from about 4,000 to 1,500 during this period. However, during 1984 to 1992 on an average about 4,000 serviced sites have been annually provided in Greater Mumbai under the Bombay Urban Development Project (Table-A.8.4). This has resulted in reducing the annual deficit of housing in Greater Mumbai to 5,000 units during that period.

In the private supply during the last decade, the contribution of the private enterprises has been a substantial 72% followed by Co-operative societies at 20% and units constructed by employers for employees at 8%. The spatial distribution of private supply given in Table-A.8.5 shows that 55% (about 10,000) of the units are constructed in the Western Suburbs where the supply by private enterprises and through co-operative societies is also highest. This is however less than the current 64% share of total incremental demand (19,000 units) in Greater Mumbai which is likely to marginally grow to 67% by 2021. 27% of the units are constructed in the Eastern Suburbs where employers'

housing for employees is proportionately more than in the City and Western Suburbs. The incremental demand in Eastern Suburbs is 13,400 units currently which would marginally increase upto the year 2006 and then reduce to 11,000 units by 2021. Today only a total of about 5,000 units are supplied in the Eastern Suburbs. Despite absolute reduction in the incremental households in the Island City remaining 18% (about 3,000) units are constructed there. This would be mostly in the form of reconstruction. However data on loss of existing units in the process of reconstruction is not available.

The nature of supply by the Mumbai Housing & Area Development Board during the past 6 years is given in Table-A.8.6. It may be noted that on an average 57% of all supply by BHADB is for HIG category, 12% for MIG and remaining 31% for EWS and LIG category. About 47% of this supply is in the form of conventional dwelling units. 67% of constructed units and 48% of Open Developed Plots are for the HIG category. As against this, 77% of BUDP supply is in the form of serviced sites of which at least 60% is for poor households (Table-A.8.4).

### **Navi Mumbai**

The current incremental demand for housing in Navi Mumbai is 10,300 units which is likely to increased to 26,500 units by 2021. Although location and nature of total supply made by CIDCO and private sector so far in Navi Mumbai is available, the annual break-up of supply is not available. If we assume that the private sector supply has mainly occurred in the past ten years, the average shelter supply in Navi Mumbai in the last decade was about 3,700 units. 68% of all this supply was by CIDCO, the remaining being supplies by the private sector. From the data shown in Table-A.8.2 and A.8.3 CIDCO's rate of supply during 1973 to 1986 was 2,900 units per annum. However, the total supply upto 1991 excluding the BUDP supply shows a rate of 2,500 units. It means that during 1986-1991 the rate of house construction by CIDCO has reduced substantial. The details of CIDCO's supply including serviced sites provided under the BUDP (Table-A.8.7) show that 73% of all supply was under the Hire Purchase Scheme and 27% under the Out-Right Purchase Scheme. 53% of all supply and 63% of supply under the Hire Purchase Scheme is for EWS and LIG category. About a half of all and 57% of supply under the Hire Purchase Scheme is in the form of BUDP Serviced sites. Under the Out-Right Purchase Scheme, about 27% of the supply is provided for the EWS and LIG categories. Out of the total supply 30% is for MIG and 17% for HIG.

Locationally, 41% of this supply is in Vashi and Nerul nodes. About 54% of all supply under the Out-Right Purchase Scheme is in Vashi node. 30% of the total supply is in Airoli and Kopar-khairane. Mostly in the form of serviced sites provided under the BUDP. These are shown against the EWS/LIG category under the Hire Purchase Scheme in Table A.8.7.

As for private sector, about 83% of the private house construction is on Society plots, Commercial cum Residential plots and Bungalow plots provided by the CIDCO. Vashi node alone has attracted 74% of all private house construction activity. The average area of all tenements constructed by the private sector is 63 sq.m. ranging from 47 sq.m. tenements on plots to be used for health services plus residential purposes to 82 sq.m. on Bungalow plots (Table-A.8.8).

## **Kalyan**

Kalyan Municipal Corporation area's current incremental demand is 8,200 units per annum. This would grow to about 9,200 by 2006 and then reduce to 5,400 by 2021. Information on extent, location and size of tenements constructed by the private sector during the past 7 years is provided by the KMC. (Table-A.8.9). The average supply by the private sector during 1984-1991 has been about 6,100 units per annum. There is therefore a deficit of 2,100 units per annum. A half of this supply is in Kalyan town and 21% in Dombivali. Most of the supply is by private enterprises and there is hardly any contribution of the co-operative sector. The size-wise percentage distribution of the tenements is given in Table-A.8.10

It is noted that as we go away from the most developed Kalyan town, towards relatively less developed Dombivali, Ambarnath and Badlapur the proportion of smaller sized tenements substantially reduces. This could probably be explained in term of availability of cheaper land in the fringe areas. However, the exceptionally high proportion of tenements of size less than 25 sq.m. area in Kalyan is probably due to a lot of reconstruction activity taking place in the town.

## **Other areas**

The incremental demand for all the remaining areas of MMR is currently 28,500 units. Out of which about 5,000 is in the rural areas. The total demand would marginally increase to about 31,500 by 2021. The incremental demand in Thane, Mira-Bhayandar and Vasai-Virar region would substantially increase from the current 15,300 units to 28,500 in 2021. No information on private supply in all these areas is available. However, by applying proportion of private sector supply to current incremental demand in other parts of MMR for which data is available, it is estimated that the total private sector supply in MMR excluding Greater Mumbai, Navi Mumbai and KMC is about 5,000 units per annum. Some information of the activities of the Konkan Housing and Area Development Board is available for the past 6 years which is presented in Table-A.8.11. The average annual supply by KHADB has been a meager 1,600 units, most of which is in the form of Open Developed Plots (93%). A substantial 79% of the supply is for EWS and LIG categories.

Supply in Greater Mumbai (1957-66)						
Year	Housing Board	BMC & BEST	Central & State Govt. Corporations	Statutory Bodies & Societies	Private & Cooperative	Total
1956-57	4851	1013	170	184	2226	8444
1957-58	2984	1542	1792	0	3263	9581
1958-59	3054	552	1395	269	4091	9361
1959-60	3807	918	1160	196	5623	11704
1960-61	8234	1307	1180	144	19046	29911
1961-62	760	2308	2184	171	6396	11819
1962-63	4534	3288	2874	307	16896	27899
1963-64	2618	3978	2371	42	10221 *	19230
1964-65	8528	590	1411	718	15962	27209
1965-66	2848	2397	1917	290	13005 *	20457
<b>Annual Average</b>	<b>4222</b>	<b>1789</b>	<b>1645</b>	<b>232</b>	<b>9673</b>	<b>17562</b>

\* Estimated on the basis of 5 tenements per building.

Table-A.8.1

Source : Report of the Study Group on Housing, BMRPB.

Supply in Greater Mumbai and Navi Mumbai (1974-82)						
Year	BHADB	Employers for Employees	Private Sector	Cooperative Societies	Total	CIDCO in New Mumbai
1973-74	1005	736	8059	5046	14846	950
1974-75	2139	801	9763	5503	18206	288
1975-76	6900	718	8611	5170	21399	360
1976-77	1500	462	10557	5059	17578	1065
1977-78	1796	547	9128	4083	15554	978
1978-79	1736	61	9282	2936	14015	42
1979-80	2080	324	8644	4550	15598	2270
1980-81	6173+556 plots	437	22549	4221	33380	687
1981-82	5316	356	7185	13196	26053	2059
<b>Annual Average</b>	<b>3183</b>	<b>494</b>	<b>10420</b>	<b>5529</b>	<b>19625</b>	<b>967</b>

Source : ALIS Programme in MMR, MMRDA & MHADA, 1982,

Annual Administration Reports of MCGB, BHADB and CIDCO.

Table-A.8.2

Supply in Greater Mumbai and Navi Mumbai (1983-91)							
Year	Units	BHADB	Employers for Employees	Private Sector	Cooperative Societies	Total	CIDCO in New Mumbai
1982-83	2100	0	55	8831	5584	16570	3928
1983-84	1354	1309	1060	14778	4392	22893	4676
1984-85	800	191	3218	20672	5025	29906	19425
1985-86	701	886	646	11539	2825	16597	560
1986-87	655	900	3150	18758	5082	28545	N.A.
1987-88	451	206	1843	10885	4403	17788	N.A.
1988-89	756	2229	983	12537	1591	18096	N.A.
1989-90	779	0	1077	7207	2088	11151	N.A.
1990-91	374	0	541	11843	2270	15028	N.A.
<b>Annual Average</b>	<b>886</b>	<b>636</b>	<b>1397</b>	<b>13006</b>	<b>3696</b>	<b>19619</b>	<b>7147</b>

Source : ALIS Programme in MMR, MMRDA & MHADA, 1982,

Annual Administration Reports of MCGB, BHADB and CIDCO.

Table-A.8.3

<b>Mumbai Urban Development Project Supply</b>			
Type	Greater Mumbai Thane & Kalyan	Navi Mumbai	Total
Serviced Sites	0	0	0
Total	2180	0	2180
Serviced Sites	9190	364	9554
Total	9190	724	9914
Serviced Sites	0	1865	1865
Total	1280	2365	3645
Serviced Sites	10512	1817	12329
Total	10512	1817	12329
Serviced Sites	0	3300	3300
Total	100	3300	3400
Serviced Sites	8478	11847	20325
Total	13560	16552	30112
Serviced Sites	8686	0	8686
Total	10856	0	10856
Serviced Sites	1080	0	1080
Total	1710	0	1710
<b>Serviced Sites</b>	<b>4743</b>	<b>2399</b>	<b>7142</b>
<b>Apartment Plots(Hhs)</b>	<b>1430</b>	<b>696</b>	<b>2126</b>
<b>Total</b>	<b>6174</b>	<b>3095</b>	<b>9268</b>

Source : BUDP Annual Reports and Monthly Updates.

Table-A.8.4

Spatial Distribution of Private Supply in Greater Mumbai												
Year	Employers for Employees	Private Sector	Cooperative Societies	Total	Employers for Employees	Private Sector	Cooperative Societies	Total	Employers for Employees	Private Sector	Cooperative Societies	Total
1985-86	89	1450	129	1668	291	8825	2540	11656	266	1264	156	1686
1986-87	456	3762	238	4456	204	6693	3284	10181	2490	8303	1560	12353
1987-88	41	952	97	1090	420	7075	3824	11319	1382	2858	482	4722
1988-89	362	3058	201	3621	75	6926	759	7760	546	2553	631	3730
1989-90	427	2912	382	3721	453	4053	1618	6124	197	242	88	527
1990-91	397	2389	411	3197	72	7108	823	8003	72	2346	1036	3454
<b>ANNUAL AVERAGE</b>	<b>295</b>	<b>2421</b>	<b>243</b>	<b>2959</b>	<b>253</b>	<b>6780</b>	<b>2141</b>	<b>9174</b>	<b>826</b>	<b>2928</b>	<b>659</b>	<b>4412</b>

Source : Municipal Corporation of Greater Mumbai.

Table-A.8.5

<b>Nature of Shelter Supply by BHADB</b>					
<b>Year</b>	<b>Tenements constructed and Plots developed under various Schemes</b>				
	<b>EWS</b>	<b>LIG</b>	<b>MIG</b>	<b>HIG</b>	<b>Total</b>
<b>1985-86</b>					
Tenements	0	0	0	701	701
Plots	0	873	9	4	886
<b>Total</b>	<b>0</b>	<b>873</b>	<b>9</b>	<b>705</b>	<b>1587</b>
<b>1986-87</b>					
Tenements	0	0	480	175	655
Plots	900	0	0	0	900
<b>Total</b>	<b>900</b>	<b>0</b>	<b>480</b>	<b>175</b>	<b>1555</b>
<b>1987-88</b>					
Tenements	0	0	0	451	451
Plots	133	0	29	44	206
<b>Total</b>	<b>133</b>	<b>0</b>	<b>29</b>	<b>495</b>	<b>657</b>
<b>1988-89</b>					
Tenements	0	76	20	660	756
Plots	200	0	29	2000	2229
<b>total</b>	<b>200</b>	<b>76</b>	<b>49</b>	<b>2660</b>	<b>2985</b>
<b>1989-90</b>					
Tenements	0	240	80	459	779
Plots	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>240</b>	<b>80</b>	<b>459</b>	<b>779</b>
<b>1990-91</b>					
Tenements	0	0	344	30	374
Plots	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>344</b>	<b>30</b>	<b>374</b>
<b>Tenements</b>	<b>0</b>	<b>53</b>	<b>154</b>	<b>413</b>	<b>619</b>
<b>Plots</b>	<b>206</b>	<b>146</b>	<b>11</b>	<b>341</b>	<b>704</b>
<b>Total</b>	<b>206</b>	<b>198</b>	<b>165</b>	<b>754</b>	<b>1323</b>

Source : MHADA Diaries.

Table-A.8.6

Tenements Constructed by CIDCO in Navi Mumbai upto March 1992								
Type/Node	Airoli	Koper-Khairane	Vashi	Nerul	CBD Belapur	Kalamboli	New Panvel	Total
<b>Under Hire Purchase</b>								
MIG	564	0	1294	4064	2746	2032	2032	12732
Total	8183	10769	6005	9144	3979	5256	4022	47358
MIG	240	0	3298	720	969	944	708	6879
Total	704	0	9469	1760	2559	1440	1559	17491
MIG	804	0	4592	4784	3715	2976	2740	19611
Total	8887	10769	15474	10904	6538	6696	5581	64849

Source : CIDCO : Twenty Years of Planning and Development, 1992.

Table-A.8.7

Tenements Constructed by Private Sector in New Mumbai upto June 1991								
Type/Node	Airoli	Vashi	Nerul	CBD Belapur	Kalamboli	New Panvel	Total	
<b>Bungalow Plots</b>								
No.of Tenements	0	360	9	13	0	934	1316	
Built Area m2	0	40236	871	3003	0	64448	108558	
Area per Tenement m2	0.00	111.77	96.78	231.00	0.00	69.00	82.49	
<b>Row House Plots</b>								
No.of Tenements	286	261	0	0	0	0	547	
Built Area m2	16175	25784	0	0	0	0	41959	
Area per Tenement m2	56.56	98.79	0.00	0.00	0.00	0.00	76.71	
<b>Society Plots</b>								
No.of Tenements	418	6383	318	111	0	265	7495	
Built Area m2	21143	395595	17838	6599	0	19979	461154	
Area per Tenement m2	50.58	61.98	56.09	59.45	0.00	75.39	61.53	
<b>Commercial cum Residential Plots</b>								
No.of Tenements	156	1063	65	55	49	0	1388	
Built Area m2	8540	64769	3883	4301	2485	0	83978	
Area per Tenement m2	54.74	60.93	59.74	78.20	50.71	0.00	60.50	
<b>Health Plus Residential Plots</b>								
No.of Tenements	3	640	5	0	0	3	651	
Built Area m2	145	29670	579	0	0	519	30913	
Area per Tenement m2	48.33	46.36	115.80	0.00	0.00	173.00	47.49	
<b>Bulk Land</b>								
No.of Tenements	0	240	0	458	0	0	698	
Built Area m2	0	10634	0	25998	0	0	36632	
Area per Tenement m2	0.00	44.31	0.00	56.76	0.00	0.00	52.48	
<b>Others</b>								
No.of Tenements	0	135	37	1	0	7	180	
Built Area m2	0	8886	2695	108	0	175	11864	
Area per Tenement m2	0.00	65.82	72.84	108.00	0.00	25.00	65.91	
<b>TOTAL</b>								
No.of Tenements	863	9082	434	638	49	1209	12275	
Built Area m2	46003	575574	25866	40009	2485	85121	775058	
Area per Tenement m2	53.31	63.38	59.60	62.71	50.71	70.41	63.14	

Source : CIDCO : Twenty Years of Planning and Development, 1992.

Table-A.8.8

**Private and Cooperative Societies Housing Proposals sanctioned by KMC**

Year & Size of Tenements	Kalyan Division			Dombivali			Amarnath			Badlapur			Total		
	Private	Coop.	Total	Private	Coop.	Total	Private	Coop.	Total	Private	Coop.	Total	Private	Coop.	Total
	<b>1984-85 : Buildings</b>	44	2	46	11	1	12	18	0	18	16	0	16	89	2
Floor Area >25 m2	286	49	335	0	0	0	10	0	10	1	0	1	297	49	346
25 to 50 m2	752	0	752	20	12	32	16	0	16	53	0	53	841	0	841
50 to 80 m2	129	60	189	2	0	2	104	0	104	26	0	26	261	60	321
Floor Area >80 m2	19	0	19	0	0	0	5	0	5	10	0	10	34	0	34
Total Tenements	1186	109	1295	22	12	34	135	0	135	90	0	90	1433	109	1542
<b>1985-86 : Buildings</b>	102	0	102	58	14	72	63	6	63	81	3	84	298	9	307
Floor Area >25 m2	625	0	625	84	18	102	22	0	22	57	0	57	788	0	788
25 to 50 m2	408	0	408	318	44	362	74	4	74	58	3	61	894	7	901
50 to 80 m2	37	0	37	36	8	44	274	27	301	120	15	135	467	42	509
Total Tenements	1095	0	1095	441	70	511	613	31	644	279	19	298	2397	50	2447
<b>1986-87 : Buildings</b>	136	2	138	111	24	135	83	6	83	81	3	84	405	11	416
Floor Area >25 m2	623	0	623	215	4	219	10	0	10	29	0	29	877	0	877
25 to 50 m2	907	2	909	657	99	756	78	0	78	87	0	87	1729	2	1731
50 to 80 m2	268	36	304	150	49	199	197	27	224	289	32	321	904	95	999
Total Tenements	1858	53	1911	1022	152	1174	383	27	410	551	33	584	3814	113	3927
<b>1987-88 : Buildings</b>	159	1	160	124	24	148	100	5	105	111	12	123	494	18	512
Floor Area >25 m2	612	0	612	125	0	125	16	0	16	27	4	31	780	4	784
25 to 50 m2	1680	36	1716	710	182	892	137	13	150	55	161	216	2582	210	2792
50 to 80 m2	309	0	309	33	55	88	259	84	343	243	146	389	844	230	1074
Floor Area >80 m2	38	0	38	12	2	14	142	98	240	161	0	161	353	98	451
Total Tenements	2639	36	2675	880	239	1119	554	195	749	486	311	797	4559	542	5101
<b>1988-89 : Buildings</b>	199	2	201	160	60	220	97	8	105	140	5	145	596	15	611
Floor Area >25 m2	1169	0	1169	419	15	434	28	0	28	14	0	14	1630	0	1630
25 to 50 m2	2601	28	2629	1423	330	1753	107	27	134	149	9	158	4280	64	4344
50 to 80 m2	806	17	823	433	43	476	636	50	686	755	97	852	2630	164	2794
Total Tenements	4629	45	4674	2282	389	2671	888	92	980	1334	134	1468	9133	271	9404
<b>1989-90 : Buildings</b>	151	3	154	68	85	153	131	7	138	83	5	88	433	15	448
Floor Area >25 m2	521	0	521	79	20	99	21	0	21	54	8	62	675	8	683
25 to 50 m2	2636	161	2797	425	604	1029	237	85	322	487	60	547	3785	306	4091
50 to 80 m2	962	0	962	132	156	288	833	26	859	933	11	944	2860	37	2897
Total Tenements	4154	161	4315	637	799	1436	1232	122	1354	1801	87	1888	7824	370	8194
<b>1990-91 : Buildings</b>	172	2	174	54	85	139	125	10	135	121	8	129	472	20	492
Floor Area >25 m2	1338	0	1338	47	10	57	263	0	263	5	0	5	1653	0	1653
25 to 50 m2	3379	39	3418	889	887	1776	196	0	196	211	17	228	4675	56	4731
50 to 80 m2	2351	0	2351	142	111	253	724	191	915	791	96	887	4008	287	4295
Total Tenements	7099	39	7138	1084	1012	2096	1713	259	1972	1569	181	1750	11465	479	11944
<b>Annual Average :</b>	138	2	139	84	42	126	86	6	92	90	5	96	398	13	411
<b>Buildings</b>	739	7	746	138	10	148	53	0	53	27	2	28	957	9	966
Floor Area >25 m2	1766	38	1804	635	308	943	120	18	139	157	36	193	2678	92	2770
25 to 50 m2	695	16	711	133	60	193	432	58	490	451	57	508	1711	131	1841
50 to 80 m2	37	2	39	4	4	8	178	27	206	238	15	253	458	45	503
Floor Area >80 m2	3237	63	3300	910	382	1292	784	104	888	873	109	982	5804	276	6080
Total Tenements	3237	63	3300	910	382	1292	784	104	888	873	109	982	5804	276	6080

**Table-A.8.9**

Source : Kalyan Municipal Corporation



<b>Size wise Supply in Kalyan area</b>			
<b>Area</b>	<b>% Tenements</b>		
	<b>KMC</b>	<b>Kalyan</b>	<b>Badlapur</b>
Floor Area upto 25 m2	16	23	3
25 to 50 m2	46	55	20
50 to 80 m2	30	21	52
Floor Area more than 80 m2	8	1	26

**Table-A.8.10**

<b>Nature of Shelter Supply by BHADB</b>					
<b>Year</b>	<b>Tenements constructed and Plots developed under various Schemes</b>				
	<b>EWS</b>	<b>LIG</b>	<b>MIG</b>	<b>HIG</b>	<b>Total</b>
<b>1985-86</b>					
Tenements	0	0	0	701	701
Plots	0	873	9	4	886
<b>Total</b>	<b>0</b>	<b>873</b>	<b>9</b>	<b>705</b>	<b>1587</b>
<b>1986-87</b>					
Tenements	0	0	480	175	655
Plots	900	0	0	0	900
<b>Total</b>	<b>900</b>	<b>0</b>	<b>480</b>	<b>175</b>	<b>1555</b>
<b>1987-88</b>					
Tenements	0	0	0	451	451
Plots	133	0	29	44	206
<b>Total</b>	<b>133</b>	<b>0</b>	<b>29</b>	<b>495</b>	<b>657</b>
<b>1988-89</b>					
Tenements	0	76	20	660	756
Plots	200	0	29	2000	2229
<b>total</b>	<b>200</b>	<b>76</b>	<b>49</b>	<b>2660</b>	<b>2985</b>
<b>1989-90</b>					
Tenements	0	240	80	459	779
Plots	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>240</b>	<b>80</b>	<b>459</b>	<b>779</b>
<b>1990-91</b>					
Tenements	0	0	344	30	374
Plots	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>344</b>	<b>30</b>	<b>374</b>
<b>Annual Average</b>					
<b>Tenements</b>	<b>0</b>	<b>53</b>	<b>154</b>	<b>413</b>	<b>619</b>
<b>Plots</b>	<b>206</b>	<b>146</b>	<b>11</b>	<b>341</b>	<b>704</b>
<b>Total</b>	<b>206</b>	<b>198</b>	<b>165</b>	<b>754</b>	<b>1323</b>

Source : MHADA Diaries.

Table-A.8.11