

CHAPTER I

INTRODUCTION

The Vasai - Virar Area of Mumbai Metropolitan Region.

The first plan for the Mumbai Metropolitan Region prepared in the late sixties and sanctioned in the year 1973 has envisaged re-orientation of the growth in region from, earlier north-south pattern extending upto Bhayandar towards the south-east direction beyond the main land. As a result, New Mumbai became a major focus of development in this region. This plan did not emphasis on the urban growth beyond the Vasai - Virar except for some areas near the railway stations. This plan had, therefore, permitted certain amount of development in the area around 3 suburban railway stations, viz. Vasai Road, Nalasopara and Virar and included the rest of the area of Vasai Taluka in Green Zone. The M.M.R.D.A. had then proposed an industrial complex of about 200 hectares at Valiv, Gokhivare and Sativali villages between the western railway track and Mumbai-Ahmedabad National Highway. However, the regional plan was not modified accordingly, but the Collector was instructed to permit industrial development in this area.

During the two decades between 1971 to 1991, the growth of this area was much faster than as was anticipated in the regional plan. New Mumbai, however, did not achieve much development. The implementation of the Urban Land (Ceiling and Regulations) Act imposed restrictions on urban development in Greater Mumbai and areas like Thane, Mira Bhayandar, Kalyan and Ulhasnagar. The areas beyond Vasai

Creek right upto Virar was not covered under this Act. This fact coupled with the facility of public transport offered by the western railways lead to rapid urbanisation of this area. The population of this Vasai-Virar area was increased to 3.22 lakhs in 1991 from 1.86 lakhs in the year 1981. The annual rate of growth was 5.83%.

During the decade 1971 to 1981 the growth of population of M.M.R. was 3.5% per annum. In the next decade, i.e. 1981 to 1991 decade the growth rate came down to 2.72%. The total population of M.M.R. in 2011 is likely to be about 22 million. Of this, about 13 million is expected to be in Greater Mumbai, 4.7 million in Thane-Kalyan-Bhiwandi sub-region, about 1.7 million in New Mumbai and 3.8 million in the western sub-region. The western sub-region consists of Mira Bhayandar and Vasai-Virar sub-regions. The population growth in Vasai-Virar sub-region also dependant upon the growth pattern of Greater Mumbai. The population projection over a long period of 20 years is always susceptible to various unforeseen forces. The population of Vasai - Virar sub-region in the year 2001 was estimated to 7.50 lakhs. The preliminary data of 2001 Census indicates that the population of this region is around 6.88 lakhs. Perhaps, the lack of complete development of the industrial area at Valiv-Gokhivare may be a reason for this shortfall in the population.

Past Planning Efforts

The first regional plan for the Mumbai Metropolitan Region (1970 - 1991) was sanctioned by the Govt. in August 1973. From the entire M.M.R. an area admeasuring 380 sq.km. has been carved out in August 1988 as

Vasai-Virar sub-region. This was based on the suggestion made by the Town Planning & Valuation Deptt. seeking modification to the regional plan for certain areas in Vasai Taluka to be converted from G Zone to U Zone. The balance area was to continue in the Green Zone. The Govt. had earlier asked the Town Planning Deptt. to prepare dormitory plans for small areas near the 3 suburban railway stations. It was expected that the dormitory plans would help the Collector in examining the N.A. proposals. Instead, the Deptt. recommended the Govt. to make an appropriate modification to the regional plan as mentioned above. The State Govt. then made an appropriate modification under Sec.20(4) of the M.R. & T.P. Act and carved out an area along the western railway and the Diva-Vasai railway to be converted into urbanizable zone.

The State Govt. had initially proposed urbanizable zone in Vasai-Virar sub-region of about 8578 hectares of land vide notice published in August 1988. The M.M.R.D.A. was then appointed in December 1988 as a Special Planning Authority. In May 1990 while approving modification to the regional plan, an additional area of 2000 hectares spread over 9 pockets was added to the initially proposed and published urbanizable zone. There were large-scale objections to the increase in the U Zone. The Govt. then published details of its additionally proposed U Zone seeking suggestions and objections and thereafter while finalising the modification to the regional plan, this additional area was deleted from U zone and it was amalgamated in the Green Zone except for the land restricted to 3 pockets. The Govt. had decided that land falling within the 1.5 km. radius from the railway station and 1 km. from the gaothan of Rajawali village

should be included in the urbanizable zone. Thus, the total area under urbanizable zone came to be 9355 hectares. The areas of 4 Municipal Councils and another 11 villages are fully covered in U Zone, another 28 villages are partially covered under U zone and balance 28 villages are fully covered in Green Zone. The modification made by the Govt. came to be challenged in the Court of Law. But the interim orders issued by the Hon'ble Court allowed preparation of the development plan for the sub-region. In May,1990, Govt. appointed CIDCO as a Special Planning Authority for this area. The CIDCO then commenced the work of preparation of development plan for the entire Vasai-Virar sub-region.

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CHAPTER II

FEATURES OF VASAI-VIRAR SUB-REGION AS OBSERVED BY CIDCO

Regional Context

Vasai - Virar Sub-Region is situated in the north-west corner of the Mumbai Metropolitan Region. Mumbai-Ahmedabad line of the western railway broadly divides the region into two parts i.e. east and west. Mumbai-Ahmedabad national highway No.8 passes through the eastern part almost parallel the eastern boundary of the region. The sub-region covers 380 sq.km. (about 9.5% of the area of Mumbai Metropolitan Region) and includes 67 villages. Out of these 67 villages 2 are covered in the Virar Municipal area, 8 are covered in the Nallasopara Municipal area, 6 are covered in Navghar - Munikpur Municipal area and 4 are covered in the Vasai Municipal area. However, of the 4 villages situated in Vasai Municipal area two villages are included partially. The total area of these four municipal towns is nearly 10.76% of the sub-region area.

The Vasai-Virar Sub-region is separated from Greater Mumbai and Mira-Bhayander by the Vasai Creek. However, due to development of road and rail network, it is strategically linked to Mumbai. It is also linked by road and rail to other major centres in the Mumbai Metropolitan Region, such as, New Mumbai (via Vasai-Diva Railway Line), Panvel, Thane, Bhiwandi and Kalyan. With increasing land prices in and around Mumbai, low and middle income households are shifting to this sub-region. Thus, it can be presently termed as the dormitory of Mumbai, resulting into unidirectional commuting during the peak hours.

Virar, Nallasopara, Vasai Road and Naigaon railway stations are connected to the National Highway and to the coastal villages, by separate roads running in the east-west direction. All the coastal villages are well connected by the Vasai-Agashi road which runs north-south parallel to the

coast almost through the wadies i.e. orchards, vegetable farms and horticultural lands where traditional houses as well as modern well-designed bungalows of local people could be seen on its both sides. These settlements in the form of small gaothans are oldest development in the Sub-Region.

The impetus for development was created by the suburban railway which has a terminal at Virar. This Virar Railway Station is also now functioning as terminus for Gujarat-bound shuttle trains like Virar - Vapi, Virar - Balsad and Virar - Surat trains. Railway link from Vasai to Diva connects Western Railway to the Central and Konkan Railways via Bhiwandi.

Physical Features

The Vasai-Virar Sub-region (VVSR) is bounded on the north by the Vaitarna river, on the south by the Vasai creek and on the west by the Arabian Sea. The eastern boundary is the hill ranges of Tungar full of forest extending from village Sasunavghar upto village Chandip. A number of hillocks and isolated peaks dot the region in the east.

The region on the whole, is low-lying mainly in the southern part along both sides of Western Railway line. The old village settlements in the coastal belt are slightly on higher level and moderately plain. The average elevation of the area above sea level is 1.5 to 2 m. There are many local variations caused by small hillocks scattered in the eastern and north-eastern part of the region. The area lying to the east of the National Highway is hilly and covered mostly by thick forests. The hill ranges of the Tungar and the above two creeks create a natural barrier separating the sub-region from the rest of the Mumbai Metropolitan Region. The Chinchoti fall, Tungareshwar Temple and thick forest offer good tourism potential to this eastern part. The low-lying lands along the coast and along two creeks are marshy, khazan lands and some of them mainly to the south of Nallasopara Railway Station are still used for salt cultivation.

Vaitarna and Vasai Creeks are the most important creeks passing through the northern and southern edges of the sub-region. Along the coast there are many small creek-lets. The coastal belt of the Sub-region is full of plantation with traditional villages maintaining peculiar Konkan-type character and offers beauty to the Sub-Region.

Geologically, the sub-region falls in the Deccan Lava plateau. Traces of Bauxite have been found in the Tungar Hill ranges over an area of 80 sq.kms. and have a mineral content of 30-35%. There are few stone quarries in Rajawali area. The sand is also extracted through the Vaitarna Creek as building material by dredging which helps the creek to remain desilted every year.

Climate

The climate of the Vasai Virar Sub-region can be described as hot-humid with moderate seasonal fluctuations of temperature. Due to a long coast-line and high relative humidity the variations are not significant. There are basically three seasons, with a transitional period of about 15 days between each season.

a) Winter:

This extends from October to January with the mean maximum temperature of about 28 deg. C. and the mean minimum temperature of about 16 deg. C. with relative humidity of about 77-85%.

b) Summer:

This extends from February to May with the mean maximum temperature of about 34 deg. C. and the mean minimum temperature of about 26 deg. C. with relative humidity of about 60%.

c) Monsoon:

This extends from June to September. The south-west monsoon begins in the first week of June. 95% of the annual rainfall is recorded during this period. The annual average rainfall is about 2200 mm. During this season, the mean maximum temperature is about 30 deg. C. and the mean minimum temperature is about 24 deg. C. with relative humidity hovering around 80-85%.

The wind direction and speed are determined by temperature and pressure conditions over land and sea. Predominant wind direction is north-west or west. During the monsoon season, the wind direction is north-east or east with a high velocity. The wind velocity is about 13 kmph in monsoon and about 8 kmph during the remaining part of the year.

Demography and Economic Base

There are 67 Revenue villages in the sub-region. Of these 67 villages, 35 villages (49%) had population less than 2000, 22 villages (35%) had population less than 5000 and 10 villages (16%) had a population above 5000 persons. Out of these 67 villages some villages are included in the 4 municipal councils. According to 2001 Census Vasai, Nallasopara and Virar Municipal towns had a population of 49,346, 1,84,664 and 1,18,000 respectively. Navghar-Manikpur Municipal Council has population of 1,16,700 persons. Thus the sub-region now includes 4 municipal councils and 47 villages. The four municipal councils include 20 villages. However, some parts of Sandor and Mulgaon villages from within these are not yet covered under the Vasai Municipal Council. The population of villages lying outside these four municipal councils was 2,34,099 in 2001. Total Sub-Region population was of 6,88,109 persons as per unpublished 2001 Census figures.

The total urban area (four municipal councils and Waliv - Gokhivare Industrial Complex) is 40.90 sq.km. and its 2001 population density was 124 persons per hectare. The rural area is 339.10 sq.km. and 2001 population density was 6 persons per hectare. 26 villages have density of less than 5 persons per hectare (ppha), 16 villages have density between 5-10 ppha, 10 villages have density between 10-20 ppha and 11 villages lying along the coastal belt have density of more than 20 ppha.

Settlement pattern of this sub-region is such that larger villages are located along the coastal belt to the west of the railway line. This coastal belt has a population of 77,739 persons as per 2001 census. The villages in this belt have good agricultural, horticultural and fishing base and therefore, they are distinct from the villages in the eastern part of railway line situated along and near the National Highway. These coastal villages are now more or less stagnant due to recent urban growth taking place near the railway stations as the local trains provide good commuting facilities to Mumbai. The three municipal towns near the railway stations are growing faster due to inward migration mainly of low and middle income group people who have work places in Mumbai. Population in coastal belt is mainly engaged in agriculture, horticulture and fishing activities i.e. in primary sector, whereas, that residing near the suburban railway stations viz. Virar, Vasai-Road and Nallasopara is mainly engaged in tertiary sector.

Due to the industrial location policy for the MMR, there are few small scale industries located in this sub-region mainly in Valiv-Gokhivare area. Vasai Municipal Council has also developed its own small -scale industrial estate. In addition to this, few small-scale industries have come up to the east of Vasai-Road Railway Station and on Shirsat Road in Virar Town. The MMRDA had prepared a plan for Waliv - Gokhivare - Sativali Industrial Complex. The industrial activities at Waliv - Gokhivare are coming up for many small scale and medium scale industries which provide some employment to the sub-region.

Profile of Past Development

Due to Green Zone restrictions of the earlier Mumbai Metropolitan Regional Plan, urban development was permitted only within the dormitory townships prepared by the Town Planning Department. In outer areas of Green Zone the development was permissible as per para 5.2.62 of the report on the earlier MMR Plan (1970-91). This practice is still being adopted due to High Court stay-order.

Existing Land Use Pattern

In the Green Zone which surrounds the urbanisable area, the development is scattered. Along the road side, amenities like fuel pumps, restaurants, convenience shops, garages for repairs of vehicles are seen. Similarly along the National Highway, there are few holiday resorts. In some parts of the Green Zone, quarrying activity is also going on mainly to the east of railway line. The Green zone at east is characterised by grass lands and forest. The plantation of bananas, vegetables, floriculture, horticulture, fishing and other marine based activities are mainly in Green Zone situated along the sea coast. The existing land use pattern of the non-urbanisable area of VVSR was as given below:

Existing Land Use for Non-Urbanisable Area (NU Zone)

Sr. No	Land Use	Area (Ha.)	Percentage with NU Zone area
1.	Existing Settlements and Gaothans	105.65	0.3688
2.	Roads	171.48	0.5961
3.	Railways	2.10	0.0053
4.	Water Bodies	123.15	0.4279
5.	Cattle Sheds	14.60	0.0576
6.	Forest	8626.26	30.1124
7.	Agriculture/Cattle and Grazing	19603.55	68.4319
	Total Area of N-U Zone	28,646.79	100.0000

Existing land use pattern of the urbanisable area of VVSR was as given below:

Existing Land Use of the Urbanisable Area (U-Zone) of VVSR

Sr. No	Land Use	Area (Ha.)	Percentage with 'U' Zone area
1.	Residential	1550.25	16.574
2.	Commercial	73.50	0.785
3.	Industrial	155.40	1.661
4.	Social Facilities	144.10	1.541
5.	Public Utilities	11.80	0.126
6.	Recreational	97.77	1.045
7.	Forest	183.61	1.963
8.	Transport & Roads	346.50	3.705
9.	Railways	55.00	0.588
10.	Water Bodies	233.22	2.493
11.	Salt Pans	1065.00	11.386
12.	Agriculture	5437.06	58.133
	Total Area of U Zone	9353.21	100.000

It can be seen from the above table regarding ELU of urbanisable area of sub-region that about 1550.25 ha. (16.57%) area was under residential use. Another 401.50 ha. (4.29%) was under Transportation Land Use, 155.40 ha. (1.66%) land was occupied by industries and only 144.10 ha. (1.54%) land was available for social facilities. Gaothan areas were characterised by dense housing with small shops along the approach roads to villages. There were few social facilities like schools, post offices, gram panchayat offices, police chowkys, etc. in these villages. Thus, the Gaothan area was a composite mix of residential use and other basic facilities. However it was noticeable thing that in the Green Zone between Vasai town and Agashi Village, few well planned and well maintained educational facilities were

existing mainly of English medium which are still to be having good standards.

The residential area of 1550.25 ha. was holding 2001 Census population of 5,31,931 persons. The gross residential density was about 343 ppha. As much as over 300 ha. of area was committed for residential use by way of development permissions granted either by MMRDA or by CIDCO.

Existing Infrastructure

1. Transport:

a) Road System:

Existing road network is poor, insufficient and badly maintained. Hence, CIDCO and municipal councils have improved the status and serviceability of few traffic roads. However, no proper attempts are made by CIDCO or by any of the municipal councils in this respect. Recently the State Government has widened the National Highway No.8 (Mumbai - Ahmedabad Highway) upto four lanes with divider etc. and this has now removed the congestion as well as frequent accidents occurring on this N.H. - 8 particularly in VVSR area.

The connections to National Highway No.8 from Virar, Nallasopara, Vasai-Road and Naigaon Railway Stations are with separate four east-west roads. Out of these roads, CIDCO has widened the road connecting Virar recently.

b) Railway:

Most of the recent growth in the residential areas in the Sub-Region is mainly due to the availability of suburban rail system which provides cheap transport and efficient connections to job centres in Mumbai. Western Railway runs more than 150 suburban train services daily for commuters. In addition, some

shuttle services and long distance trains halt at the railway stations at Vasai-Road and Virar. Yet during peak hours, trains are so overcrowded that the commuters have nightmarish experiences. As a result, adequate facilities for parking near these stations are lacking. Moreover, the haphazard development of commercial activity which has taken place in and around the stations has also made movement of pedestrians and vehicles extremely difficult.

c) **Bus Transport:**

Local as well as inter-city bus services in this area are provided by MSRTC. It has three S.T. Depots each in the area, viz. at Vasai, Arnala and Nallasopara. MSRTC buses provide regular services to the 3 railway stations viz. Virar, Nallasopara and Vasai-road with a frequency of about 10 minutes.

2. Water Supply

At present, there is acute shortage of water and as per the present scenario the quantum of water supply is only in the range of 30-40 ltrs/capita/day at very high cost may be at Rs.200-300 per month per household. The existing piped water supply is being charged by the local bodies at the rate of Rs.200/per stand post - each stand post being of 1/2" diameter connection. At present water is supplied to the four Municipal areas nearly of 33.00 MLD from the Usgaon Scheme, Papadkhind dam and 0.9 MLD from Pelhar Dam. The rural area gets water supply of 7.00 mld from Pelhar Dam. Water supply of nearly of 30.00 mld. is being supplied through tankers from various sources to the sub-region population (15.00 mld to four Municipal areas) which include wells, tanks and bore wells. There are 34 tube wells at Vasai and 15 tube wells at Virar. In addition, there are 275 bore wells at Vasai. Besides, there are about 20 private tube wells (10 to 35 m. deep) at Vasai and around 220 private tube wells at Virar. The overdrawal of water

from underground is resulting into the ingress of salinity over the years. As a result potability of water is adversely affected.

3. Sewerage and Sewage Treatment

Underground sewerage system does not exist anywhere in the sub-region. The house owners are dependent on their individual septic tanks. The effluent from these septic tanks is discharged into soak pits. However such soak pits cannot function in marine clay etc. and the untreated effluent of these soak pits flow into low-lying areas. The existing sewerage system is extremely insufficient and is in bad condition which may result in health hazards.

4. Power Supply

Presently, all electrical HT lines are overhead lines and power is distributed through sub-stations located in residential areas. Power is being supplied through the Vasai sub-station which has the capacity of 60 MVA. This sub-station receives power from Pelhar by 132 KV HT line. It is mainly stepped down to 22 KV and in some cases to 11 KV.

The stiff-rise in the demand is difficult to meet since the existing local arrangement made few years back is insufficient. There is a lack of proper maintenance and upgradation of existing power supply network. Major problem of the existing power supply is frequent break-down of the system and power failures which is not due to inadequacy of power but due to lack of sufficient number of sub-stations.

5. Solid Waste Disposal

Solid waste could be of domestic, commercial or industrial nature depending on its source. In the plan area, the present system of solid waste management is very poor. Firstly, there is

a shortage of sufficient refuse bins, specially in all the municipal areas. Secondly, there is lack of awareness among people. These factors result in dumping of garbage all over the area, creating unpleasant sight, smell and giving rise to potential health hazard.

The existing mode of transportation in general is bullock carts and open trucks owned or rented by the municipalities. The frequency of collection is low. Transportation in open trucks is unhygienic. The refuse is dumped into the sea indiscriminately. This again causes marine pollution.

The four municipal councils have now taken much interest in having their own dumping grounds and the Revenue Department has allotted few Government lands to them which would solve this grave problem at least for few years.

6. Telecommunication

Department of Telecommunications and Telegraph, Kalyan Telecom District was providing this service. Now this responsibility is with Bharat Sanchar Nigam Ltd. There are four telephone exchanges in the Sub-Region. Those located at Virar (West) and Nallasopara (West) have a capacity of 1000 and 580 lines respectively. The telephone exchange at Gavraipada serves the Waliv-Gokhivare Industrial Area with 504 lines. The electronic exchange at Vasai has recently started operation with an addition of some 2000 lines.. This sub - region has now connected with local call facility with Mumbai. Wel-known mobile phone companies like BPL, AT&T, AIRTAIL, etc. are also providing these facilities in the sub-region.

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CHAPTER III

BASE MAP AND EXISTING LAND-USE MAP OF THE SUB-REGION PREPARED BY CIDCO.

Introduction

The Government of Maharashtra has carved out separate sub-region from within the MMR with a view to focus its attention to the problems of unbridled urbanisation going on in the Vasai-Virar area over the last few decades. The work of preparation of D.P. for the entire sub-region had become the obligatory function of CIDCO functioning as the SPA. Before preparing the D.P., the SPA was required to prepare an existing land-use map of the sub-region after carrying out civic surveys. However, it was realised that in order to prepare an authentic base map for a vast area stretching over 380 sq.kms., it was necessary to employ modern, reliable and fast techniques of survey. Around the same time the MMRDA had also taken up the revision of the Regional Plan of the MMR and entered into an agreement with the National Remote Sensing Agency (NRSA), Hyderabad to get an aerial survey done through them including the VVSR area.

It was realised by CIDCO that it was rather difficult to carry out a survey for the existing land use even for the urbanisable area and to prepare existing land-use map as provided under Section 25 of the MR&TP Act in a short span of time. CIDCO had, therefore, decided to first prepare an Interim Development Plan at least for the urbanisable area where there is a tremendous pressure of development on land was seen and the task of preparation of the D.P. for the entire sub-region was kept pending. CIDCO then continued the work of getting done the aerial survey as per agreement made earlier by MMRDA with National Remote Sensing Agency (NRSA), Hyderabad and also

continued the work of preparation of base map using available traditional methods till such time the NRSA delivered the cadastrally correlated aerial survey maps. A base map was prepared by combining the inputs of Survey of India's top-sheets available at 1:50000 scale for the undeveloped areas, plain table survey sheets for the developed areas and the revenue maps. A ground survey covering engineering details was also carried out for the urbanisable area.

Surveys Carried Out by CIDCO

A common origin point was identified at a location south of the Nallasopara Railway Station along the Railway track and it was allotted co-ordinates (10,000, 10,000); to carry out the plain table survey. This point is in line with the inner rail of the western railway track and is located between electric O.H. traction pole Nos.54/14 and 54/15. On the basis of the survey, maps were prepared showing details of structures, service lines, roads, rail lines, ground levels, physical features, etc. Information available from all these surveys and also from revenue maps was digitised. The survey sheets at 1:5000 scale were used to prepare an existing land use map and to reconcile the dormitory layouts prepared earlier by the Town Planning Department. These were superimposed over the proposed Land Use Plan at 1:5000 scale to indicate the zoning of lands, reservations for social facilities, public utilities and also the road pattern wherever necessary.

Aerial Survey and Cadastral Correlation of Maps

Problems of overlapping or non-matching of boundaries due to inputs from different kinds of surveys were noticed while preparing the base map. These problems have been taken care of in the present plan by employing the aerial survey techniques.

The uncorrected aerial photographs taken by NRSA at the scale of 1:10,000 for the entire sub-region were enlarged, tilt-rectified after making the parallax correction and were superimposed with revenue information relating to survey numbers and various administrative boundaries. Maps prepared in this fashion contain existing land use information and physical features correlated to the revenue information. These have been presented after duly carrying out sample survey testing on the ground. The NRSA was further requested to extend the scope of work to include digitisation of these maps. The output had been obtained for the 'U' Zone by March, 1994 and for the 'G' Zone by the end of April 1995. The digitised cadastrally correlated maps prepared as described above have been used as the base map.

The Revenue Department had reorganised the boundaries of some of the villages in the Vasai-Virar sub-region and settlement-wise small villages were carved out during this period. However, the survey number boundaries have remained unchanged. Since preparation of the base map is a cumbersome and time consuming process, recent changes in survey numbers of some of the new villages have been incorporated wherever possible. For preparation of the existing land use map and the proposed land use plan the village maps collected from the Revenue Department during the year 1994, have been used.

It is found that CIDCO had not prepared an existing land-use map as required under Section 25 of the Act showing existing predominant users of each and every land with standard colour code as generally done in the case of all other Development Plans in the State. The CIDCO has shown existing use of land in words and at some places by hatches and considered the same map as existing land-use map of the Sub-Region. The

Committee has considered this existing land-use map while modifying the revised Draft Development Plan.

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CHAPTER IV

DRAFT D.P. PREPARED AND SUBMITTED TO GOVERNMENT BY CIDCO

On having prepared base map as stated in the last chapter and carrying out civic surveys etc. the work of preparing draft Development Plan for the entire area included in the Sub-Region (i.e. for the area under the jurisdiction of the SPA) was undertaken, on the basis of the planning standards by CIDCO.

CIDCO had then prepared and published draft Development Plan of the Sub-Region under Section 26 of the said Act, along with the draft Development Control Regulations and a notice in the Maharashtra Government Gazette dated 7th September 1995 was published and invited suggestions/objections in writing from the public in this respect. Under the same notification, CIDCO had also declared that the draft Interim Development Plan prepared under Section 32 of the Act and was published on 10-9-1992 stands rescinded.

The statutory period of 60 days for submission of suggestions and objections was extended by 30 days further by CIDCO as per its notice dated 9th November, 1995. Thus the period for filing suggestions and objections ended on 6th December 1995.

Suggestions and Objections for published draft D.P.

CIDCO had received 5324 applications for suggestions / objections within the stipulated period. Though the majority of applications were in the form of objections on the reservations on individual lands, a substantial number of suggestions were also made on general issues related to the overall development of VVSR. People attended in large groups for pleading their

issues. Various non-government organisations, political parties, social service associations and awareness groups campaigned vehemently for the preservation of greenery which they perceived would be threatened by the scale of urbanisation proposed in the published DDP. Serious concerns about over-extraction of underground water and destruction of the ecology of the coastal region were expressed.

Many applicants feared that large scale urbanisation may affect their agricultural activities and lead to loss of their livelihood. Apprehensions were expressed about the inadequacy of existing infrastructure like transportation facilities, water supply etc. vis-a-vis the needs of the current population and the proposals of the published DDP to match the scale of urbanisation envisaged in it.

Number of objections were raised regarding the provisions of Storm Water Drainage (SWD) System requiring large areas of lands for holding ponds, channels, etc. Doubts were expressed about the affordability of the high cost of implementing such a SWD system. Suggestions were also received demanding optimal use of the existing natural drainage system.

A Planning Committee was constituted under Sub Section (2) of Section 28 of the MR&TP Act, 1966, to consider the suggestions and objections received in respect of the draft Development Plan, published by CIDCO on 7th September 1995 and to submit its Report to CIDCO. The Planning Committee consisted of three members having special knowledge and practical experience of matters relating to town and country planning, infrastructure development and environmental issues. After detailed deliberations on the important policy issues arising out of the hearing of 2554 applicants appeared before them and examining various aspects of the published DDP the said Planning Committee submitted its report on 19/3/1998 to the SPA.

The recommendations of the above Planning Committee and various other related issues were discussed in detail by CIDCO in its meetings held on 24th April 1998, 18th June 1998 and 2nd July 1998 and approved the modifications to be carried out in the draft Development Plan and the Development Control Regulations, vide its Resolution No.7768 dated 2nd July 1998.

Submission of Draft Development Plan to Government

The Section 30 of the said Act stipulates that the draft Development Plan has to be finalised and submitted to the State Government for sanction, within a period of one year from its publication. However, this process was not completed within this time and had to be continued with two extensions of one year each was obtained from the State Government, in view of the extent of the work involved.

Most of the modifications recommended by the Planning Committee in the published draft Development Plan and Development Control Regulations were of substantial nature and as per Section 29 of the Act, it was necessary to publish such modifications carried out in the Plan for inviting suggestions and objections from the people on these substantial modifications, before the Plan was submitted to Government for sanction. However, by doing so, it would not have been possible to meet the time limit to fulfil the statutory obligation. The Government in Urban Development Department, vide letter No.TPB/1298/1436/CR/141/98/UD-12 dated 24th August 1998 had directed CIDCO to submit the Plan within the time limit prescribed for submission under Section 30 of the MR&TP Act, eventhough publication under Section 29 of the Act remains pending so as to avoid lapsing of the draft Development Plan. Accordingly, the modified Plan and its modified Development Control Regulations were submitted to the State Government by

CIDCO vide its letter No.CIDCO/MD/98/891 dated 27th August 1998.

The State Government had, on having received the draft D.P. of Vasai-Virar Sub-Region from CIDCO under Section 30 of the said Act, referred this revised DDP to the Director of Town Planning for consultation as required under Section 31 of the said Act before according sanction to the said Plan. The Director of Town Planning (DTP), vide his letter No.DP/Vasai - Virar Sub-Region/Scrutiny/TPV-III/11934 dated 12th November 1998 had brought to the notice of the State Government that CIDCO had failed to complete the procedure as provided under Section 29 of the Act and had submitted the revised DDP for sanction. Further DTP had observed that some objections raised by the Municipal Councils as well as by the public organisations were to the planning approach adopted by CIDCO and to the huge and unaffordable costs expected for implementation of the revised DDP. Accordingly the DTP had advised the State Government that the entire revised draft DP of the Sub-Region will have to be republished for inviting suggestions and objections from the public.

The State Government had accepted the advice given by the Director of Town Planning and himself had republished not only the modifications but the entire revised draft D.P. of Vasai-Virar under Section 29 of the Act vide Notification of Urban Development Department No.TPS/1298/.1436/CR-141/98/UD-12 dated 19/1/2000 exercising the powers laid down under Section 162 of the said Act for inviting suggestions / objections from the public.

The State Government, vide Urban Development Department No.TPS/1298/1436/CR-141/98/UD-12 dated 16/2/2000, has also passed orders under sub-section (1) of Section 162 and

has appointed a committee under the said section of the following three persons:

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|--|----------|
| 1) Metropolitan Commissioner, MMRDA | Chairman |
| 2) Shri S.V.Surve,
Retd. Deputy Director of Town Planning | Member |
| 3) Deputy Director of Town Planning
Konkan Division | Convenor |

The State Government has also empowered the Committee to exercise the powers laid down under Sections 28(4), 29 and 30 of the M.R. & T.P. Act, 1966 and directed CIDCO to give necessary assistance to the said Committee in the process of modifying the revised DDP..

The State Government has subsequently amended the said order vide Urban Development Department's order No.TPS-1298/1436/CR-141/98/UD-12 dated 1/6/2002 and appointed Shri N.V.Kulkarni, Dy. Director of Town Planning, Greater Mumbai as new Convenor of the above Committee substituting the earlier Convenor mentioned in its order dated 16/2/2000.

The State Govt. has, vide Urban Development Department's Order No. TPS-1298/1436/CR-141/98/UD-12 dated 10/3 /2003 further modified the original order dated 16.2.2000 and has appointed Shri.Ajit Warty, Principal Secretary, Home (Transport & Excise), Mantralaya, Mumbai to be new Chairman of the said Committee instead of the Metropolitan Commissioner (MMRDA), as was originally proposed. Shri Ajit Warty is now the Additional Chief Secretary, Home (Transport and Excise).

The objections and suggestions with reference to publication made by the State Government of the revised D.P. of Vasai-Virar Sub-Region were received by the Dy. Director of Town Planning, Konkan Division, Konkan Bhavan, CBD, New Mumbai.

All these objections and suggestions were sent to the above Committee for processing further legal procedure.

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CHAPTER V

HEARING SESSION AND REVIEW OF CIDCO'S DRAFT DEVELOPMENT PLAN - 1998.

This Committee appointed by the State Government commenced the work of modifying the entire draft D.P. submitted by CIDCO and which was published by the State Government (as mentioned in the earlier chapter) after getting the suggestions and objections received by the State Government.

The Committee, first heard concerned CIDCO officers about their planning concepts and population projections, planning standards adopted and the other relevant issues. This work was started with effect from 26th May 2000. Then on 30th May, 2000, the Committee members toured the area to get the feel of the Sub-Region.

The Committee had received in all 924 suggestions / objections for consideration. Though majority of the applications were in the form of objections regarding the reservations on individual lands, substantial number of suggestions were also made on general issues related to plan formulation, population envisaged in the draft Development Plan, omissions of existing amenities, etc. As normally seen various non-Government Organisations, Political Parties, Social Service Associations and Awareness Groups campaigned vehemently for the preservation of greenery which they perceived would be threatened by the scale of urbanization proposed in the D.D.P. Serious concern regarding Tourism Development Zone proposed along the Coast was expressed and objected to. Number of objections were received regarding the provisions of storm water drainage system, areas reserved for channels and artificial holding ponds. Doubts were expressed about the affordability of the high cost of implementing such Storm Water Drainage System. Suggestions

were also received demanding optimal use of the existing natural drainage system. The local authorities had felt that Government lands be as far as possible utilised for various public purposes giving relief to individual owners.

Out of these 924 applications received in the form of objections and suggestions they are broadly classified as under:

i)	Applications regarding Development Control Regulations	... 32
ii)	Applications received from various Organisations, action groups and 4 municipal councils	... 10
iii)	Applications from land owners / individuals	...866
iv)	Applications of general nature	... 16

Hearing of Objections :

The Committee commenced its hearing from 8th August 2000 and completed it in December 2000. Additional opportunity was then given to the objectors who for one reason or the other could not attend hearing. All the four municipal councils and the M.L.A. representing the Sub-Region were given full opportunity and sufficient time to give their suggestions in view of their knowledge of this area. These four Municipal Councils and the M.L.A. representing this area submitted many objections / suggestions on the draft Plan prepared by CIDCO. Their main objection was that they were never been consulted or given an opportunity to participate in the planning process. Similar objections were raised by the village panchayats. Hence the Sarpanchas of all the concerned Village Panchayats were given opportunity of hearing and those present were heard.

After the public hearing, the discussions were held with the concerned officers of CIDCO and their consultants who prepared schemes for storm water drainage, sewage treatment and with the officers of Maharashtra Jeevan Pradhikaran for

water supply schemes. The important policy issues arising out of the hearings were resolved. A joint meeting was called in the chamber of the Collector, Thane to ascertain demand for various public purposes from the concerned Government and Semi-Government authorities. Information regarding development permissions granted by CIDCO and other authorities was also collected. The Committee then discussed the basis of revising the draft D.P. of 1995 with the then three Planning Committee members, appointed by State Government as experts u/s. 28(2) of the Maharashtra Regional & Town Planning Act, 1966. The Committee has also consulted Shri A.R.Patharkar, the then Director of Town Planning, Pune with regard to Development Control Regulations and further planning aspects of the Vasai-Virar Sub Region.

The Committee has observed that many changes carried out by CIDCO in the submitted revised draft D.P. were of substantial nature. Some major changes made in the published DDP by CIDCO and observed by this Committee are as described below.

a) Substantial Reduction in Residential Zone.

The draft Development Plan that was published by CIDCO in the year 1995 had anticipated a total population of 24.50 lakhs in the Urbanisable Zone. This was on the basis of land available for development perhaps without an analysis of the trends in the demographic growth.

In the subsequent planning process and while revising the published DDP, CIDCO considered the availability of drinking water supply during the plan period and decided to restrict the population between 17 to 18 lakhs. To ensure this, CIDCO then decided to reduce the high density development

zone from 9353 Ha. (as was proposed in the published DDP) to 5876 Ha.

b) Introduction of Low Development Zone

In order to restrict the population, low lying areas and/or areas having low development potential due to their distant locations from the developed pockets, were designated as Low Density Residential Zones. The FSI proposed as 0.3 which could be enhanced upto 0.5 with the consumption of TDR as against FSI of 1.00 envisaged in the published DDP. The area under such Low Density Residential Zone proposed was 1257.80 ha.

c) Storm Water Drainage System and No Development Zone:

Consequent to the large scale urbanisation proposed in the published draft Development Plan, a comprehensive storm water drainage system was proposed requiring an investment of Rs.1800 crores and land acquisition of 1200 Ha. Numerous objections and suggestions were received claiming such a proposed system to be an expensive and unpracticable, demanding to immediate review. In response, CIDCO changed the design and available wet lands were included in No Development Zone. Out of the 9353.21 Ha. of urbanisable area in the VVSR, 2219.48 Ha. area was thereafter proposed as No Development Zone. In the No Development Zone, any construction activities, except essential utilities were restricted. However, the existing use of the land was allowed to be continued. This change reduced the cost of storm water drainage from Rs.1800 crores to Rs.310 crores.

d) Industries permitted in Residential Zone:

It has been proposed by CIDCO to allow non-polluting industries such as gems and Jewelry processing, garments, software development, assembly of electronic goods, etc. in the residential zone and in designated commercial complexes.

e) Tourism Development Zone:

Vasai-Virar Sub Region has been gifted with strong natural features like vast stretch of sea coast, estuaries, forests, and hillocks adorned by temples, churches, historical sites and large green areas under horticulture and floriculture. CIDCO took into account the proximity and connectivity to Mumbai and has considered their potential for development of tourism industry. The MMRDA also had proposed Tourism Development Zone along the sea coast in the revised Regional Plan from Arnala to Kalamb beach. The same zone alongwith additional two sites near the National Highway No.8 was designated by CIDCO as Tourism Development Zone in the revised DDP. The total area proposed in these three tourism development zones was 927.88 Ha.

f) Agriculture Produce Market:

MMRDA had recommended an Agriculture Produce Market Yard in the Vasai-Virar Sub Region to cater for the needs of northern region of Mumbai. The Agriculture Produce Market Committee of Vasai had also requested to reserve land for their activity along the National Highway. Accordingly, the site at village Bapane to the east of Highway was reserved for such Market Yard. The area under this site was 29.41 Ha.

g) Concept of accommation reservation

The Government of Maharashtra had formulated a policy to allow the land owners to develop the reservations such as hospitals, dispensaries, libraries, etc. which are commercially viable. However, CIDCO had further liberalised the policy to have more options for development of reservations to the land owners. One of the options allowed under this head by CIDCO was to permit the owner to retain a part of the land from certain reservations for developing it according to the zone considering that such part of land stands released from reservation without effecting procedure of Section 37 of the MR & TP Act, 1966 in lieu of surrendering the balance land of the reservation to the Planning Authority against the FSI.

h) Introduction of new concept of Ensuring Equity in Land Development :

CIDCO had proposed compulsory provision of amenity plots in all development proposals between 300 sq.m. and 4,000 sq.m. in area. If the proposal was otherwise affected by any Development Plan reservation, the developer was to be exempted from the dispensation which applied to all lands situated in high density development zone. However, where development pertained to land less than 300 sq.m. the developer was exempted from making such a compulsory provision. This provision envisaged carving out of an area between 15 to 20% of the gross plot area. The owner was not to be compensated for the loss of area by way of TDR and where the owner did not wish to provide for such amenity space he was to lose the FSI to that extent.

i) **Incentive for Land Pooling:**

With a view to achieve orderly development and to reduce the burden of infrastructure development, CIDCO had offered incentive in terms of FSI for pooling lands from the High Intensity Development Areas, (the residential and industrial zones). This scheme embodies incentive FSI ranging from 2% to 10% of the base FSI on the gross land holding ranging from 2 Ha. to 20 Ha. and onwards. The co-operative societies of land owners were permitted to get additional benefit of FSI of 0.5% and the land holding threshold in such a case has been lowered down to 1 Ha.

j) **Commercial Zone :**

As the commercial activity was permissible in the residential zone, separate commercial zones proposed in the published DDP were deleted and included in the adjoining zones. The commercial functions within the residential and industrial zones were proposed to be allowed along roads having widths between 12 m. to 20 m. in addition to the locations which were specifically mentioned on the Plan by way of commercial sites. New areas in the form of Central Business Districts (CBD) were also earmarked for major commercial activities.

k) **Alignment of Mumbai - Vadodara Expressway**

The published DDP had proposed the alignment of Mumbai Vadodara Expressway near the existing NH-8. The new alignment finalised by the State Government after detailed surveys on site was then incorporated in the revised DDP. Since this new alignment was to pass through urbanisable zone, the entire road network at villages Juchendra and

Rajavali was redesigned and accordingly the reservations were relocated.

l) **Coastal Regulation Zone :**

The revised DDP had proposed a 500 m. belt where Coastal Regulations are made applicable by the Govt. of India (MOEF) along the sea coast and along creeks of Vasai and Vaitarna. As per the directives of Ministry of Environment & Forest (MOEF), the Coastal Regulations Zone along creeks of Vasai and Vaitarna was reduced to 150 m. The area falling within the settlement of Arnala village was proposed as CRZ-II though this does not fulfil the guidelines of MOEF. The area within the urbanisable zone along the Vaitarna creek, which was proposed as CRZ-II in the published DDP was now proposed as CRZ-III. The CRZ boundaries had been delineated by CIDCO on the basis of the HTL given by the Chief Hydrographer, Government of India.

m) **Heritage Sites :**

Area around Vasai Fort was proposed to be conserved by providing a green belt of around 100 m., wherever possible. It was also proposed to set up a heritage committee to identify the heritage sites and make necessary arrangements for preserving the same.

n) **Cattle Shed Zone :**

The revised DDP had proposed Cattle Shed zone at two different locations, viz. at Pelhar Dam and in Kaman village along both sides of Kaman –Bhiwandi Road. In order to shift around 60,000 cattle from Greater Mumbai to VVSR, the

Government in Animal Husbandry & Dairy Development Department had directed to reserve necessary land in the Villages of Kaman and Poman for Cattle Shed Zone. Urban Development Department then directed CIDCO to reserve an area within the Kaman Village, in the Vasai-Virar Sub Region for Cattle Shed Zone. The area to the extent of 350.25 Ha. was proposed under cattle-shed zone in the revised Draft Development Plan.

o) Sewerage System :

The design for sewerage system as proposed in the published DDP was modified for revised lower estimates of population in the area and the entire system proposed to base on small size STPs with pumping stations.

p) Transferable Development Rights (T.D.R.) :

The following provisions were made to operationalise Transfer of Development Rights policy:

i) Specific Zones for TDR Utilisation were proposed as below:

The entire Vasai-Virar Sub Region was divided into four zones in the decreasing order of potential, for utilisation of TDR as

- | | | |
|----------|---|---|
| Zone I | - | Congested Area around Railway Stations, and within Vasai Town, as designated on the Plan. |
| Zone II | - | Area within each Municipal Council, but excluding Zone I. |
| Zone III | - | Area within 'U' zone, but excluding Zone I & II. |
| Zone IV | - | Area within G-Zone. |

ii) Transfer of Development Right to higher potential zone was prohibited. However, TDR generated in Zone-II was permitted in Zone-I only in case of urban renewal schemes to be devised by the SPA.

iii) TDR was also made permissible in 'G' Zone.

The committee has observed that the published DDP was revised by CIDCO incorporating substantial modifications as mentioned above. The revised DDP was submitted by CIDCO to the State Government without following the procedure under section 29 of the Act and thus giving opportunity to the people to file their objections and/ or suggestions. However, the State Govt. had published this revised DDP under section 29 of the Act as mentioned earlier in the chapter IV and completed the procedure.

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**MODIFICATIONS TO DEVELOPMENT CONTROL REGULATIONS
BY THE COMMITTEE**

As mentioned in the earlier chapter, the Committee heard all the applicants, all municipal councils, and Village Panchayats, public organisations and other institutions. The Committee then came to the conclusion that the work of revising entire DDP alongwith the Development Control Regulations (DCR) would take long time considering the extent of the work or the size and problems involved in the DDP covering an area of 380 sq. km., as such, the DCR were first taken up for finalisation for submitting to the State Government under Section 30 of the Act. Accordingly, in many sittings of the Committee, the following modifications have been incorporated in the published DCR and the entire set of DCR has been redrafted and reoriented to make it simple to understand and implement. .

The major changes made by the Committee in each Chapter are as given hereinafter.

Chapter I - Administration

- i) Definitions of words and expressions which are already stated in any of the Acts are deleted so as to avoid duplication.
- ii) Some definitions like a) Accommodation Reservation, b) Amenity, c) Amenity Plot, d) mid-rise buildings, e) Fire, f) Licensed Architects, g) N.A. permission, h) Public Authority, i) Reconstruction & Retention Activity, j) Road, k) Service Road, l) Smoke-Stop Door, m) Urbanisable Zone, n) Group Housing Scheme are deleted as they are either redundant or not required in the D.C.R.
- iii) Some of the definitions are modified so as to be in line with standard definitions of Municipal Corporation of Greater Mumbai (BMC) or National Building Code (NBC) or to suit the DCR like a) Buildable Plot, b) High - rise Building, etc.

- iv) New definitions for words and expressions like a) Common Facility Centre (CFC), b) Competent Authority, c) Dilapidated and Unsafe Building, d) Housing for Economically Weaker Section, e) Information Technology Establishment, f) Technical Personnel, g) Multi-Building Scheme, h) Wing are added as these words appear in the DCR.
- v) The regulation No.1.5 regarding 'Applicability' has been redrafted. Protection to old approved schemes till expiry of revalidation period is provided. Special provision for modifications or alterations of the earlier sanctioned schemes is made.
- vi) The regulation No.1.8 regarding Green Channel and of Accredited Architects is dropped due to administrative difficulties and no statutory provisions are still made in this regard.

Chapter II - Procedure for Obtaining Development Permission.

- i) Regulation No. 2.1 :
Provision of published Regulation was very elaborative and in fact it was repetition of what is provided in the Act. Hence entire portion, which is already reflected in the Act, is deleted and suitable modifications are carried out.
- ii) Regulation No. 2.3 :
In the published Regulations, provisions made were not in the sequential order required to be observed for obtaining permission. Besides separate provision for obtaining approval to layouts and building plans was incorporated in the published Regulations. All the requirements for getting N.O.C. for N.A. permission and for obtaining development permission have now been made more clear and simple.
- iii) Regulation No.2.4 :
Published Regulation No.2.6 was providing for granting C. C. This provision is mere reproduction of the provision in the Act. Committee has modified this regulation and granting of C.C.

building-wise where multi-building schemes are proposed is newly incorporated in view of the fact that C.C. granted was entitling the developer to carry on with remaining work for indefinite period after commencement of merely one building, even of watchman's quarter, up to plinth. In order to bring such constructions within ambit of Section 48 of the Act this specific provision of granting C.C. building-wise has now been introduced.

It is also now clarified in this Regulation finalised by the committee what constitutes the commencement. This provision has been adopted from the relevant Regulation of B.M.C.

- iv) Regulation No.2.8 :
Word "Stilt" has been added in the heading, as 'building with stilt' is also made permissible.
- v) Deletion of old Regulation No.2.17 :
The published Regulation No.2.17, made obligatory for obtaining N.O.C. of MMRDA for projects exceeding Rs.50 crores. This provision is considered to be redundant and hence deleted.
- vi) Regulation No.2.18 :
Provision for allowing permission for temporary structures was made in the published regulation No.2.20. The Regulation No.2.22 was for permitting temporary shed during monsoon. Both the provisions were very cryptic. Hence, new Regulation. No.2.18 is introduced on the lines of relevant Regulation of B.M.C.
- vii) Deletion of old Regulation No.2.23 :
The published Regulation No.2.23 was providing for Green Channel for granting development permissions. This has been deleted for the reasons already recorded at Sr.No.1(vi) above.

Chapter III - Land Uses permissible in various zones.

- i) Regulation No.3.1 :
Use Zones : The Use Zones are now mentioned as per the zones appearing in the modified DDP.
- ii) Regulation No.3.1.4
In the published Regulation residential activity was not allowed in the sites designated for Commercial Purpose. New clause permitting residential activity subject to maximum area upto 50% having separate staircase and separate parking area in commercial sites is introduced.
- iii) Regulation No.3.2.1.1 :
Heading of this regulation is slightly modified according to the zones to convey correct meaning. Besides, width of roads on which such activities are made permissible has been increased to 30 mts. from 20 mts.
- iv) Regulation No.3.2.1.4 :
Heading of published Regulation No.3.1.4 is changed because the proposals like District Business Centres (DBC) and Railway Station Complexes (RSCs) are not now appearing in the modified DDP.
- v) Regulation No.3.2.2 :
New regulation permitting housing in Special Residential Zone which will remain within the reach of Economically Weaker Sections or Low Income Group section of the society is introduced.
- vi) Regulation No.3.3.3 :
Green Zone in the coastal belt where horticultural lands are predominantly existing is separated and a new zone as Plantation Zone is proposed in the modified DDP. "Agricultural Zone" of the published Regulation is now included in "Plantation Zone" wherever

necessary. Large scale G Zone activities mentioned in the Appendix IV Part B at Sr.No.(vii), (viii), (ix) and (x) are prohibited in this new Plantation Zone.

- vii) Published Regulation No.3.8 :
Considering opposition to the Tourism Development Zone (TDZ) mainly from the residents of coastal belt. "Tourism Development Zone" proposed in the revised DDP is now not appearing in the modified DDP and hence this regulation is deleted.

- viii) Published Regulation Nos.3.9 and 3.10 :
Zones for Quarries or Forests are not appearing in the modified DDP. Hence published regulations for these users are deleted. Regulation No.3.6 controlling quarrying operations is incorporated.

- ix) Regulation No.3.5 :
New Regulation for permitting 'I.T. Establishment' is introduced as per general orders of the State Government.

Chapter IV- Built up area and F.S.I. for various uses and zones.

This chapter contains FSI for various uses in different Zones, concept of amenity plots and its development, recreational open spaces, internal roads, computation of FSI of height more than specified, building features permitted free of FSI without and with premium and FSI for reconstructions of dilapidated / unsafe buildings. Arrangement of subchapters of the published Chapter was not in sequential form. This entire chapter is therefore rewritten.

- i) Regulation No.4.1
In the published Regulation eligible built up area for plots admeasuring from 300 sq. m. and up to 4000 sq.m. is 85% of the plot area and for plots admeasuring less than 300 sq.m. it is 100% of the plot area subject to maximum of 255 sq. m. Similarly for plots

of 4000 sq.m. and above it is 80% of the plot area. In addition, amenity plot to the extent of 15% of the plot area for a plot up to 4000 sq. m. area and 20% of the plot area for plot above 4000 sq m. was required to be provided. Such amenity plots were proposed to be utilised for providing amenities in addition to Development Plan Reservations. This concept of amenity plots has been strongly objected to by majority of the land owners. Besides surrendering 15% of the plot area for amenity from each and every plot and even from a very small plot of 300 sq. m. or thereabout is found to be impractical and may result into shanty development. This provision is likely to result into awkward planning of buildings in smaller plots. In view of this, new Regulation No.4.3 is introduced for making provision of plots for common facilities in bigger holdings by the Committee. For plots of 4000 sq. m. and of more area in Residential Zone and for plots of 8000 sq. m. and of more area in Industrial Zone, plot for common facility centre to the extent of 5% of the gross area is now made compulsory.

- ii) The Committee has now clearly defined how to calculate buildable plot area. Base FSI permissible in various use zones are kept unchanged.
- iii) For Medical / Educational activities additional FSI of 1.00 on payment of premium is permitted. Similarly for Fire Brigade Stations and Police Stations additional FSI of 1.00 so as to facilitate provision of Staff Quarters for these essential services at their work places is now allowed.
- iv) There is no change in FSI in Low Density Development Area.
- v) Incentive F.S.I. for Reconstruction of Dilapidated / unsafe buildings and for reconstruction of Damaged / Destroyed or Collapsed buildings due to natural calamity is redrafted and made it simple and clear.

- vi) The F.S.I. structure as a whole is not changed by the Committee. However, in Plantation Zone / Green Zone F.S.I. is increased from 0.2 to 0.3 to make possible to the local population to construct their homes in their smaller holdings.

Chapter V - General Planning Requirements for Development of Land.

- i) Regulation 5.1
The published Regulation No.5.1.2 is renumbered as Regulation No.5.4. The published Regulations No.5.1.3 and 5.1.4 regarding distance from Electric line and from Railway corridor are renumbered as 5.8 and 5.9 respectively. The published Regulation No.5.1.5 pertaining to Narrow Plots is modified on the lines of relevant Regulation of BMC and is renumbered as 5.4
- ii) Regulation No.5.2
The published regulation is split up in two parts. One part deals with means of access and is numbered as No.5.2 and wording of this regulation is suitably modified. Second part is in respect of widths of layout Roads and Regulation No.5.5.2 is suitably modified.
- iii) The published Regulation No.5.3 regarding access from Highways / Important Roads is numbered as 5.6 whereas Regulation No.5.4 is renumbered as No.5.6.
- iv) The published Regulation No. 5.5 is deleted as it is now redundant.
- v) The published Regulation No.5.6 regarding means of access in G zone is now deleted as this provision is separately made under Regulation No.5.2.
- vi) The published Regulation No.5.7 regarding Parking, Loading and unloading spaces is renumbered as No.5.12.

- vii) The published Regulation No.5.8 regarding Marginal open spaces is renumbered as No.5.10.
- viii) The published Regulation No.5.9 in respect of D.P. Reservations is renumbered as No.5.14.
- ix) The published Regulation No.5.10 regarding sub-division / layout of Land is renumbered as No.5.5.
- x) The published Regulation No.5.11 regarding recreational open space is renumbered as Regulation No.5.5.34 and modified to provide Graded Open Space as per relevant regulation of BMC.
- xi) The published Regulation No.5.12 regarding interior open spaces is renumbered as No.5.11.
- xii) The published Regulation No.5.13 pertaining to height of the building is modified and renumbered as No.5.13.
- xiii) Provision for reconstruction of buildings affected by road widening, and surrendered free of cost and free of encumbrances, is slightly modified and renumbered as No.5.16.
- xiv) The published Regulation No.5.18 regarding water supply policy is deleted as it is irrelevant.
- xv) The published Regulation No.5.19 regarding wells is slightly modified on the lines of B.M.C.'s Regulations. Bore wells are now made non-permissible in coastal belt where pumping is required and generally results in increasing salinity of the potable water.
- xvi) The published regulations providing for Storm Water Drainage, Garbage Disposal Arrangement are slightly modified and renumbered as Regulations Nos. 5.24 and 5.25.

Chapter VI - Specifications of Parts of buildings..

- i) Regulation No. 6.1 in respect of minimum size and dimensions of habitable room, height of room, etc. is slightly modified for maximum height regarding Industrial, hazardous or Storage occupancies which is now increased to 5.00 m. from 4.2 m. to meet the requirements of Industries Department.
- ii) Regulation No.6.2 in respect of minimum size, dimensions of bathroom and Water Closets is slightly modified to reduce their dimensions in respect of E.W.S. housing.
- iii) Regulation No.6.4 is now slightly modified and counting basement area in F.S.I. if used for any purpose other than specified, is now made compulsory so as to avoid misuse of basement.
- iv) Regulation No.6.6 is slightly modified for permitting more height of a stilt for specific purposes like school etc. Further, a provision is made to count area under such stilt in F.S.I. for any violation.
- v) Regulation No.6.7 for staircase is slightly modified and minimum width of 1.2 mt. is now prescribed. The staircase area is exempted from FSI calculation without charging the premium.
- vi) Regulation No.6.12 regarding Lighting and Ventilation of Rooms is slightly modified.
- vii) Regulation No.6.24 regarding provision for Ramp is modified as per Regulation of BMC. .
- viii) Regulation No.6.27 regarding Refuse area is modified as per relevant Regulation of BMC.

- ix) Regulation No. 6.29 regarding requirement of Structural Design is slightly modified and minimum requirements to satisfy the structural design for Seismic Zone III is newly imposed.

Appendices to the D.C.Regulations.

The Appendices of the published D.C. Regulations were not mentioning their relation to the concerned regulations which has been done with and under every appendix corresponding regulation number is now stated.

- i) Appendix No. I regarding operational constructions of Government Department.is modified on the lines of relevant regulation of B.M.C.
- ii) Appendix II of the published DCR regarding requirement of N.O.C. of MMRDA in respect of Environment Impact Assessment is now redundant and hence deleted.
- iii) Appendix III regarding qualification of licensed technical personnel has been modified on the lines of Regulations of BMC and is renumbered as Appendix II.
- iv) Appendix IV pertaining to payments of fees, deposits, charges, etc. is suitably condensed and charges for scrutiny fee etc. are modified taking into consideration various objections received and is renumbered as Appendix III.
- v) Appendix V pertaining to size of drawing sheets, and code of colours is deleted as it is found to be redundant.
- vi) Appendix VI regarding uses permissible in Residential and in Green Zones has been suitably modified. The traditional R-2 users, which were permitted on the roads of width between 12 m. to 20 m. in the published Development Control Regulation were permitted on the roads less than 30 m. width. This Appendix is renumbered as Appendix IV.

- vii) Appendix VII in respect of permissible users in service Industrial Zone is renumbered as Appendix V.
- viii) Appendix VIII in respect of regulation for development of Amusement Park is slightly modified in order to remove redundancy and is renumbered as Appendix VI.
- ix) Appendix IX pertaining to carrying out mining and quarrying operations has been modified as per the regulation of BMC and is renumbered as Appendix VII.
- x) Appendix VIII is introduced newly for controlling development of heritage structures/sites/precincts in view of directives issued by the State Government and considering regulations of B.M.C.
- xi) Appendix X pertaining to manner of development of Development Plan Reservations' is modified. Second alternative of surrendering 60% of land under reservation to the Planning Authority and in lieu thereof releasing 40% of the land for permitting development activity has been deleted considering that the reservations in the D.P. are based on planning standards. This Appendix is renumbered as Appendix No.XVI.
- xii) Appendix XI in respect of TDR of the published DCR is modified and zones for utilisation of FSI generated by way of TDR are modified and made more clear. Scale of fees chargeable are also modified. Provision regarding disposal of land and conditions for issuing of TDR certificate is deleted. This Appendix is now renumbered as Appendix No.XIII.
- xiii) Appendix No.IX pertaining to Regulations for Information Technology Establishment is newly introduced as per Government directives.

- xiv) Appendix XII pertaining to premium to be charged has been suitably modified and renumbered as Appendix X.
- xv) Appendix XIII pertaining to minimum Plot size for various uses / activities is modified and made now more clear. This Appendix is now renumbered as XI.
- xvi) Appendix No.XIV regarding setback and marginal open spaces is suitably modified and condensed wherever required and is renumbered as Appendix XII.
- xvii) Appendix No.XV in respect of per capita water requirement and Appendix No.XVI in respect of sanitation requirement, flushing storage requirement etc. of the published DCR are condensed and modified and are renumbered as Appendices Nos. XIV and XV, respectively.
- xviii) Appendix No. XVII regarding special regulations for Low Cost Housing for Economically Weaker Section is redrafted on the lines of Regulations of BMC .
- xix) Appendix No. XVIII in respect of Fire fighting requirements is redrafted on the lines of relevant Regulation of BMC.
- xx) All proformae incorporated in the published Development Control Regulations are deleted for the reasons that Planning Authority can devise its own proformae as per its requirements.

The Committee has taken a decision that this modified and reoriented or redrafted set of Development Control Regulations-2001 would be submitted to the State Government for sanction pending the work of modifying the DDP after publishing a notice under Section 28 (4) of the M.R. & T.P. Act, 1966 and completing the procedure thereunder. Hence the Committee has published these modified DCRs under Section 28(4) of the Act by publishing

notice in English and Marathi bearing No.DP/Vasai-Virar/Section 28/2001/456 dated 13.7.2001 in the M.G.G., Part II dated 9th August 2001 on pages 1705 and 1706. These notices are also published in the newspapers dated 24.7.2001.

The Committee has submitted the modified Development Control Regulations - 2001 under Section 30 of the M. R. & T. P. Act, 1966 for getting sanction of the State Government vide letter dated 22.10.2001 and partly completed the work entrusted to the Committee.

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**POPULATION PROJECTIONS AND PLANNING STANDARDS ADOPTED
BY THE COMMITTEE**

CIDCO (the Special Planning Authority) had prepared and published the first draft Development Plan for Vasai-Virar Sub-Region in 1995 under Section 26 of the M.R. & T.P. Act, 1966. While preparing this Plan, the CIDCO had estimated a population of 24.50 lakhs upto 2015 in this Sub-Region. It was noticed that population projection is much on the higher side. The people in this region had also strongly opposed and objected to such large-scale and undesirable urbanisation in the absence of proper infrastructure as well as to new development which was proposed on flood areas and on salt pans. CIDCO had then reduced firstly the residential zone proposed in flood areas / salt pans and revised the estimate of population and reduced it upto 18.00 lakhs for 2015. The Draft Development Plan modified by the CIDCO for this revised estimated population was submitted to the State Government in 1998.

The Committee is of the view that quite a long period of about 7 years has now elapsed and new estimates of population for the next 20 years i.e. for 2021 are required to be made when the draft D.P. is to be published again under the said Act. The present State Government orders state that a D.P. shall include reservations for projected population of 10 years whereas zoning provisions shall be made for projected population of next 20 years. Accordingly, the Committee has estimated the population and worked out its distribution in the Sub-Region for the years 2011 and 2021.

Planning Sectors.

For studying and analysing the existing growth trends of the population and its spatial distribution, future growth trends, spatial distribution of projected population in urbanisable lands considering proximity of railway stations and present as well as future infrastructure etc. the Committee had divided the area under sub-region into 10 broad sectors where separate townships could easily be developed independently. These 10 sectors are as described below:

- Sector-I Chandansar - Shirgaon Industrial Complex
Area of Villages Chandansar, Shirgaon etc. i.e. the area where new industrial complex alongwith new Railway Station is proposed is included in this Sector. Two small pockets to the north-east which are near existing Vaitarna Railway Station are also included in this sector.
- Sector-II Areas of Virar Municipal Council and its extension towards west.

Area under the jurisdiction of Virar Municipal Council and the area where Virar town is extending outside the present limits i.e. mainly the area from villages of Agashi, Bolinj and Kofrad towards west are included in this sector.
- Sector-III Areas of Nallasopara Municipal Council

In this sector, the entire area under the jurisdiction of present Nallasopara Municipal Council is only included.
- Sector-IV Area of Navghar - Manikpur Municipal Council and its extension towards west.

This sector includes mainly the area within the jurisdiction of present Navghar-Manikpur Municipal Council and area mainly towards west from Village Sandor where this town is extending.
- Sector-V Waliv - Gokhivare Industrial Complex.

Waliv-Gokhivare Industrial Complex and areas of Gokhivare, Waliv and Sativali Vilages which are under development are included in this sector.
- Sector-VI Rajavali - Juchandra Complex

The area from Villages Rajavali, Juchandra, Tiwari and Bapane i.e. the urbanisable portion to the east of and north-east of Naigaon Railway Station extending towards north upto Rajavali

village and to the east upto National Highway and around Juchandra Railway Station is included in this sector.

Sector-VII Umele - Naigaon - Kiravali - Wadavali Complex.

The area lying between Vasai Municipal limit and Naigaon Railway Station situated to the south of Navghar-Manikpur Municipal limit from Villages Umele, Mulgaon, Kiravali, Wadavali, Naigaon, etc. is included in this sector.

Sector-VIII Vasai Municipal Area

The entire area at present under the jurisdiction of the Vasai Municipal Council is included in this sector.

Sector-IX Coastal Belt of the Sub-Region

The original settlements of the Sub-Region are situated along the west coast which are still full of vegetables, bananas and coconut gardens, with traditional houses and agricultural fields. This area which extends from Agashi-Arnala to the south upto northern boundary of Vasai town is included in this Sector.

Sector-X Green Zone towards east of Western Railway Line.

This sector includes the entire remaining area under Green Zone of the Sub-Region particularly to the east of urbanisable area situated both sides of National Highway No.8 and extending from villages Koshimbe-Kashidkopar at North upto village Sasunavaghar at South.

Demographic Features and Estimates of Population.

The existing demographic features of Vasai-Virar Sub-Region are analysed sector-wise as given in the following tables.

Sector-wise Decadal Population for last 50 years

Decadal Census figures of population

Sector No.	1961	1971	1981	1991	2001 (unpublished)
I	8,251	10,595	12,414	16,361	17,761
II	24,826	33,058	47,773	79,886	1,31,886
III	10,573	15,563	20,157	67,732	1,84,664
IV	10,557	16,800	25,126	61,624	1,18,000
V	3,711	5,164	9,162	16,068	37,824
VI	4,202	4,930	6,586	8,536	8,946
VII	5,720	11,730	13,917	16,959	22,210
VIII	22,598	30,594	34,940	39,781	49,346
IX	32,409	49,066	59,230	69,799	77,739
X	10,053	16,763	27,016	28,973	39,733
Total Sub-Region Population	1,41,900	1,94,263	2,56,321	4,05,719	6,88,109

Sector-wise Decadal Growth Rates

Growth Rates

Sector No.	Simple Decadal				Compound (Annual)			
	61-71	71-81	81-91	91-2001	61-71	71-81	81-91	91-2001
I	28.41	17.17	31.79	8.56	2.53	1.60	2.80	0.82
II	33.16	44.51	67.22	65.09	2.91	3.75	5.76	6.14
III	47.20	29.52	236.02	172.64	3.94	2.62	12.89	10.55
IV	59.14	49.56	145.26	91.48	4.76	4.11	9.39	6.71
V	39.15	77.42	75.38	135.40	3.36	5.90	5.79	8.94
VI	17.33	33.59	29.61	4.80	1.61	2.94	2.63	0.47
VII	105.07	18.64	21.86	30.96	7.45	1.72	2.00	2.73
VIII	35.38	14.21	13.86	24.04	3.08	1.34	1.31	2.18
IX	31.16	20.71	17.84	11.38	4.23	1.90	1.66	1.08
X	66.75	61.16	7.24	37.14	5.25	4.89	0.70	3.21
Total Sub-Region	36.90	31.95	58.29	69.60	3.19	2.81	4.70	5.42

Vasai-Virar Sub-Region has grown to a population of 6,88,109 persons upto 2001 and share of municipal population is of 4,69,655 persons which is 68.25% of the total population. In coastal belt to the west of railway line, the rural population is 66.18% of the total rural population. It is seen that the growth rate of rural population along the sea-coast is now reducing and is

below the average natural growth rate indicating migration elsewhere. The rise in the growth rate of rural population to the east of railway line may be due to shifting of large number of cattle sheds from Mumbai to Kaman village and unauthorised development of chawls and slums in the area to the east of Nallasopara town.

Nallasopara Municipal area has shown growth rate as high as 236.02% and 172.64% per decade in 1981-91 and 1991-2001 respectively (compound annual growth rate of more than 10%). This area is facing acute shortage of water, eventhough this does not seem to be a constraint in the growth of this town. Considering availability of open lands for development of infrastructure that could be made available, it is assumed that Nallasopara Municipal area will grow at a higher rate during next two decades also as compared to other municipal areas but the annual compound rate will drop down to 5.0% in the first decade and to 4% in the next decade.

The Vasai Municipal area is situated in the Coastal belt and nearly 50% of this municipal area is still under Wadis. The growth rates of Vasai town during 1971-81 and 1981-91 decades are much below the average growth rate of the Sub-Region. It has now picked up during 1991-2001 decade and present growth rate almost matches the natural growth rate of population, The same rate is expected to continue during next two decades also.

The Navghar-Manikpur Municipal area is situated at Vasai-Road Railway Station and this area as well as of portion of Sandor village where town is extending shows higher growth rate. During 81-91 decade there was a boom in the growth with a decadal rate as high as 145.26% but then this boom has somewhat dropped down to 91.48% during 91-2001. Considering proximity to the sub-urban Railway Station and availability of open lands in Sandor Village this area is expected to grow at a annual compound rate of 5% and 4% respectively during next two decades.

The Virar town is developed around the suburban train terminus. The water supply is also made available from Papadkhind Dam and Usgaon Scheme. It has somewhat similar trend in growth as is seen for Navghar-Manikpur

Municipal area. However, the town is rapidly growing in adjacent outside areas particularly in the villages of Bolinj and Kofrad to the west. Considering availability of open urbanisable lands in Bolinj and Kofrad, the Virar town and surrounding area are expected to grow at a higher growth rate than that of Navghar-Manikpur Municipal area. Hence, annual compound growth rate of 7% is expected during next two decades for this area.

The Waliv-Gokhivare area is developing mainly due to industries during last 15 years. This sector has higher annual compound growth rates of 5.79% during 1981-91 and of 8.94% during 1991-01 which may be due the fact that workers are now started residing in the sector. However, it is expected that this higher growth rate would not be maintained during next two decades because of location of this sector being away from Railway Station and meagre infrastructural facilities. Hence it is expected that growth rate will drop down to 4% and 3% during next two decades.

The remaining 'U' Zone area is spread over from north to south, but particularly more to the north-east of Virar town and to the east of Vasai-Road and Naigaon Railway Stations. A separate new Industrial Complex at Chandansar is also expected to come up during plan period. U-Zone also extends in the southern part of Waliv-Gokhivare Industrial Complex up to and around Juchandra Railway Station. However, most of these areas are still vacant and will hold new developments during plan period.

Considering the existing growth trends in the population and the availability of vacant urbanisable lands, the water supply envisaged; the following estimates of population are made sector-wise by the Committee for providing various use zones as well as for proposing infrastructural facilities in the draft Development Plan.

Sector No.	Population 2001	Population Projections	
		2011	2021
I	17,761	55,000	85,000
II	1,31,886	2,95,000	4,65,000
III	1,84,664	3,15,000	4,30,000
IV	1,18,000	1,85,000	2,75,000

V	37,824	65,000	95,000
VI	8,946	1,45,000	1,85,000
VII	22,210	30,000	40,000
VIII	49,346	65,000	75,000
IX	77,739	95,000	1,15,000
X	39,733	50,000	60,000
Total Vasai Virar Sub Region.	6,88,109	13,00,000	18,75,000

The Committee has decided that the various proposals and reservations to be incorporated in the Development Plan of Vasai–Virar Sub-Region would be made in light of the above estimates of population and its spatial distribution required upto 2011 and 2021.

Planning Standards adopted by the Committee

CIDCO (Special Planning Authority) has considered the planning standards for preparing the draft Development Plan of Vasai–Virar Sub-Region as given in the Table VII of the report on the draft Development Plan prepared and submitted by it to the State Government for sanction. These planning standards differ from those prescribed by the State Government in 1979. Recently, the Town Planning and Valuation Department has submitted to Government a proposal to revise these standards mainly because of the fact that the financial liabilities involved in the implementation of any Development Plan always remain out of the reach of the Planning Authorities. It is learnt that the State Government has appointed a Committee for review of the planning standards and this Committee has now submitted its report to the Government suggesting modified planning standards. However, it is presumed that approval to the revised planning standards may require some time and it is not advisable to wait for such standards. The Urban Development Department's Circular No.TPS-8692/1272/UD-II, dated 15/6/1992 clearly states that the planning standards are to be used as an enabling instrument to provide for the required amenities to a satisfactory level and they are not an end in themselves. The said circular further states that considering the existing facilities and the spatial needs based on ground reality will always call for suitable modifications of planning standards.

The Committee has therefore decided to propose separate set of planning standards for revising the Development Plan of VVSR considering the present planning standards, those suggested by Town Planning Department & report submitted to the State Government by the said Committee and taking in to view the availability of open lands in the Sub-Region as well as cost of implementation of the Development Plan and financial capability of the authority. The objections/suggestions heard by the Committee, existing trends of development, living style of the people are also considered in this respect.

The following planning standards for modifying the Development Plan of Vasai-Virar Sub-Region are, therefore, adopted by the Committee.

Sr. No.	Amenity	Planning Standards adopted by the Committee.
1.	Recreational open spaces i) Gardens / Parks ii) Play Grounds	0.10 hectare per 1000 population 0.20 hectare per 1000 population (These play grounds will be in addition to the play-grounds attached to schools and colleges)
2.	Educational facilities. i) Primary Schools (33% facility is expected through private sector). ii) High School + Jr. College (50% facility is expected through private sector) iii) College (2/3 rd number of colleges are expected through private sector)	a) 15% of total population will be Primary School going population; b) One site for 500 to 1000 students. c) Minimum area of site is 0.60 hectare to 0.80 hectare; d) The site is inclusive of play - ground. a) 9% of total population will be High School and Jr. College going population; b) One site for 1000 to 1500 students; c) Minimum area of site is 1.00 to 1.20 hectare ; d) The site is inclusive of play-ground. a) 3% of total population will be College going population; b) One site for 1500 to 2000 students; c) Minimum area of site is 1.50 to 2.00 hectare; d) The site is inclusive of play-ground.
3.	Medical facilities: i) Dispensaries;	i) No separate site is required and O.P.D. section is suggested in every medical

	<p>ii) Health Centre & Maternity Home (50% facility is expected through private sector)</p> <p>iii) General Hospital;</p> <p>iv) Central Hospital.</p>	<p>centre.</p> <p>ii) a) One site for every 25,000 persons; b) Minimum area of site is 0.20 to 0.30 hectares; c) the site is inclusive of dispensary and essential staff quarters; d) The site may provide for medical shops, etc.</p> <p>iii) a) One site for every 1,00,000 persons. b) Minimum area of site is 1.50 to 2.00 hectare. c) The site is inclusive of essential staff quarters; d) The site may provide for medical shops, medical equipment stores and like ancillary users.</p> <p>iv) a) One site for total Sub-Region population. b) Minimum area of site is 5.00 hectare; c) The site is inclusive of essential staff quarters. d)The site may provide for medical college, paramedical training centres and medical shops, equipment stores etc.</p>
4.	<p>Commercial facilities</p> <p>i)Vegetable Market</p> <p>ii) Fish & Mutton Market.</p> <p>iii) Shopping Centre (entirely through private sector)</p>	<p>a) One site for every 10,000 to 20,000 persons; b) Minimum area of site is 0.15 ha.; to 20 ha.; c) The site could be clubbed with fish & mutton market and then its area would be 0.20 to 0.25 ha. d) The site could be developed mixed with shop line.</p> <p>a) one site for every 20,000 to 30,000 persons; b) Minimum area of site is 0.15 to 0.20 to ha.; c) The site could be clubbed with vegetable market. d) The site could be developed mixed with shop line.</p> <p>Sites for separate Shopping Centres should not be provided as such facilities will be provided entirely through private sector. However, one site of whole-sale market for every 3.00 to 5.00 lakh persons would be provided along arterial roads as far</p>

		as located centrally in the area to which it would serve.
5.	Library & Gymnasium (entirely through private sector)	Site for this facility would not be provided as this facility will come through private sector. However, this user could be clubbed with Community Centre.
6.	Community Centre	a) One site for every 50,000 population; b) Minimum area of site is 0.30 to 0.40 ha.; c) The site is inclusive of parking provisions.
7.	Drama Theatre	a) One site for every 5,00,000 population; b) Minimum area of site is 0.40 to 0.60 ha.; c) The site is inclusive of parking provisions; d) The facility could be clubbed with Community Centre.
8.	Fire Brigade Station	a) One site for every 2,00,000 population; b) Minimum area of site is 0.40 ha.; c) The site is inclusive of staff quarters.
9.	Sports Complex / Stadium / Swimming Pool / Museum	a) Sport Complex site for these uses for 5,00,000 population, Minimum area of site is 2.5 to 5.0 ha.; b) The site must abut to a road of at least 20 mt. wide. c) The site may include Community Centre and Recreational Amenities to cross-subsidies the main purpose.
10.	Burial / Cremation Ground	As per requirement and demand of the local authorities.
11.	Truck Terminals / Parking Lots	As per requirement considering traffic volume and its movement.

Considering the population estimations, their sector-wise distribution expected by the Committee and considering the planning standards adopted by the Committee, the requirements of various amenities have been worked out. The sites for such amenities are provided as reservations in the modified draft Development Plan by the Committee taking into account the existing amenities catering already the needs of the people. These sites with reference numbers and with specific designations are clearly shown on the plan.

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PROPOSALS FOR WATER SUPPLY, SEWERAGE AND STORM WATER SCHEMES.

CIDCO (Special Planning Authority for the Sub-Region) has estimated the confirmed water supply of 160 MLD that would be made available during plan period i.e. by 2011. It has also presumed that the population of 18.00 lakh will be sustained with this supply of water and the measures suggested to augment it (such as recycling of waste water and recharging of underground reserves, rain harvesting etc.) In our opinion, other measures suggested by CIDCO are not fully dependable and only assured supply of water will have to be taken into account while formulating the Development Plan proposals. The rate of supply of water as 135 litres per capita per day (lpcd) is adopted by CIDCO and with this, 160 mld of supply will sustain a population of 11,85,000 persons. CIDCO had prepared the Development Plan – 1998, for population of 18.00 lakhs which will require water at least to the tune of 243 mld.

On this background, the Committee held a meeting with the concerned officers of Maharashtra Jeevan Pradhikaran (M.J.P.) on 14/9/2001. Details obtained from them on the present stage of the Surya Project as well as information regarding existing water supply obtained is as under.

In the coastal belt (excluding Vasai Municipal area) the present Green Zone population of 77,739 persons is fully dependent on the well water supply and it is presumed that population expected by 2021 will also be sustained on the well water already available in this area in view of the fact that on completion of Surya Water Supply Scheme, well water presently diverted to the urban areas through tankers will be saved for the use of this coastal belt.

The existing sources which supply water to the urban areas are as given below:

The present sources of supply of water to U-Zone area :

a) Papad Khind Dam (Virar Municipal Dam)	1.5 mld (for 10 months only)
b) Pelhar Dam	14.0 mld
c) Usgaon-Shiravali Scheme	20.0 mld (actual pumping is 24.5 mld)
d) Well Water Supply	15.0 mld (approx.)
e) Tanker Water Supply	15.0 mld (approx.)

Distribution of Existing Water Supply (70.00 mld)

Area	Usgaon Scheme	Pelhar Dam	PapadKhind Dam	Well Water Supply.
Vasai Town.	2.50 mld	-	-	-
Navghar-Manikpur Municipal Area.	4.00 mld	3.50 mld	-	6.00 mld
Nallasopara Municipal Area	4.00 mld	3.50 mld	-	9.00 mld
Virar Municipal Area.	14.00 mld	-	1.50 mld	-
Green Zone (East) (Rural)	-	7.00 mld	-	2.00 mld
GreenZone (West) (rural)	-	-	-	13.00 mld
Total existing water supply	24.50 mld	14.00 mld	1.50 mld	30.00 mld.

The above information shows that municipal areas are getting 33.00 mld water through various small water supply schemes. The municipal areas of Navghar-Manikpur and Nallasopara are still dependent on tanker water supply approximately to the tune of 15.00 mld to make up the shortfall. Vasai Municipal Council is generally dependent on well water supply. It is seen that Pelhar Dam scheme supplies about 7.00 mld of water to rural area particularly to villages in the proximity of Waliv-Gokhivare industrial area like Waliv, Gokhjvare, Sativali, Bilalpada and Pelhar in addition to municipal areas.

Surya Water Supply Scheme is now under implementation. The MBR is already constructed at Kashidkopar at 65 m. RL to the north of Virar. This first stage work is nearly 70% complete and the further work is delayed for want of funds. The Committee expects that the remaining stages of Surya Scheme will be completed by the Government as this is the basic need of this area.

Surya Water Supply Scheme was originally designed for four municipal areas and nearby villages proposed for urbanisation to get 100 mld of water at a cost of Rs.235 crores. However, the second stage is now revised. It is now decided to provide water only to four existing municipal areas and these municipal councils will provide water to nearby developable areas through their individual distribution schemes. The report on the Mumbai Metropolitan Regional Plan (revised) states that Surya Scheme will provide water of 200.00 mld and first stage will supply water upto 100.00 mld which will cost to Rs.245.25 crores. The second stage is estimated to Rs.73.20 crores and will provide remaining water supply of 100.00 mld by 2011.

The revised allocation of water supply through the Surya Scheme (first stage) estimated by the Maharashtra Jeevan Pradhikaran (MJP) is as under:

a) Vasai Municipal town	10.00 mld
b) Navghar-Manikpur Municipal town	25.00 mld
c) Nallasopara Municipal town	35.00 mld
d) Virar Municipal town	30.00 mld

Total Water Supply **100.00 mld**

The second stage will include zonal transmission water pipelines to start from MBR at Kashidkopar upto six zonal MBRs each at Virar and Vasai, two each at Nallasopara and Navghar-Manikpur Municipal areas. Then municipal councils with the help of their ESRs will distribute water to their towns. The zonal MBR at Virar is already constructed, whereas five such MBRs will have to be constructed in the remaining three municipal areas. In Vasai Municipal area 2 ESRs and in Navghar-Manikpur area six new ESRs are needed. The Virar Municipal town has two existing ESRs and hence three more ESRs are required. According to MJP, the entire scheme will supply water through gravity and no pumping is required. The funds are supposed to be raised by

the 4 municipal councils and by the State Government. The scheme could be completed within a period of 18 months once the funds are made available.

The Committee has estimated population of 13,00,000 persons by 2011 and 18,75,000 persons by 2021. The Committee assumes that water at the rate of 100 ltrs. per capita per day will be sufficient at the first stage during which no sewerage scheme could be implemented. As such, water to the tune of 130 mld by 2011 and 187.50 mld by 2021 will be required in this Vasai-Virar Sub-Region for total population. The M.J.P. has supplied the figures of existing and proposed water availability as below. The population that will be sustained at the rate of 100 ltrs / capita / day is as given below:

Area	Assured water supply (mld)	Sustainable population	Estimated population by 2011
Vasai town	12.50	1,25,000	65,000
Navghar-Manikpur town.	32.50	3,25,000	1,85,000
Nallasopara town	42.50	4,25,000	3,15,000
Virar town	45.50	4,55,000	2,95,000
Sectors I,V,VI & X	9.00	90,000	3,15,000
Sectors VII & IX	13.00	1,30,000	1,25,000
Total Sub-Region	155.00	15,50,000	13,00,000

The M.J.P. has not considered U-Zone area situated outside the Municipal limits as well as industrial area at Waliv-Gokhivare Industrial complex. The non-Municipal U-Zone population will be 3,50,000 including Waliv Gokhivare Industrial Complex as expected by 2011. It is learnt that Municipal Councils are ready to shoulder responsibility of supplying surplus water to non-Municipal areas adjoining to them.

Navghar-Manikpur Municipal Council can provide water supply to Waliv Gokhiware Industrial Complex whereas Vasai Municipal Council can divert the excess water to adjoining U-Zone area of Sandor, Saloli, etc. Similarly, Virar Municipal Council can divert the excess water to nearby U-Zone area from villages, viz. Bolinj, Chandansar, Kofrad, Agashi, etc.

The Green Zone and Plantation Zone population is estimated to 1,45,000 by 2011 and 1,75,000 by 2021. The projected Green Zone (East) population is 50,000 by 2011 and 60,000 by 2021 whereas Plantation Zone (Coastal belt) population is expected to be 95,000 and 1,15,000 by 2011 and 2021 respectively. The Plantation Zone will get water upto 15 mld from well water saved due to discontinuance of tanker water supply to other areas. For the Green Zone (East) near the Navghar-Manikpur Municipal area surplus water could be diverted which is available from Pelhar Dam.

The probable supply of water upto 2011 will be sufficient to cater the expected population, however, there will be shortage of water by 2021 for estimated U-Zone population of 17,00,000 persons which will need water supply of 170 mld. This will drop down the rate of supply of water to 80 ltrs / capita / day.

The proposals of the Development Plan are for 20 years period i.e. for 2021 and Development Plan is generally revised at least once in every 20 years. In view of this, new water supply scheme or scheme for augmentation of Surya project should necessarily be thought of at a later stage.

The M.J.P. has also given land requirement location-wise for MBRs and ESRs according to their capacities. 1.0 Million litre capacity reservoir will need a site of 900 sq.m. whereas 2.00 million litre and 3.00 million litre reservoirs will need 1,225 sq.m. and 1,600 sq.m. plots.

CIDCO had reserved 12 sites for MBRs (10.95 ha.), 72 sites for ESR (25.33 ha.) and 10 sites for pumping stations. M.J.P. has made clear that no site is required for any pumping station under this scheme. The four municipal councils have made available all the sites for MBRs and ESRs and a few reservations for ESR/MBR are, therefore, necessary as suggested by the M.J.P. The Committee has considered water supply at the rate of 100 lpcd for population of 2011 as desirable because Maharashtra Jeevan Pradhikaran is adopting rate of 70 lpcd for rural population and 100 lpcd for urban population and where underground sewerage scheme is considered, then 135 lpcd for such urban areas. The urban population of Vasai-Virar Sub-Region expected upto 2011 is 11,55,000 persons and will need water supply of 156.00 mld.

The present water supply schemes will provide ultimate supply of 140 mld of water to the estimated urban population of 2011 at the rate of 121 lpcd.

The Maharashtra Jeevan Pradhikaran has already identified sources for supplying water to the Vasai-Virar Sub-Region as below:

i)	Surya Scheme	200.00 mld
ii)	Wandri Scheme	96.00 mld
iii)	Ghateghar	8.00 mld
iv)	Kaman	52.00 mld
v)	Kholsapada Scheme	34.55 mld
vi)	Varna Nalla Project	55.00 mld
vii)	Rajiwali – Sativali Scheme	10.00 mld
Total		455.55 mld.

The above sources if tapped will provide sufficient water to Vasai - Virar Sub-Region and there is no need to restrict the population as the water will not remain as a major constraint. The estimated Sub-Region population by 2021 is 18,75,000 for urban as well as rural areas which will need water requirement of 250 mld and the sources are already identified.

After consultation with the M.J.P. and the four Municipal Councils, the sites which are now required for revised Surya Scheme have been reserved in the draft Development Plan.

Sewerage Scheme and Solid Waste Disposal

CIDCO had proposed sites for 19 STPs and 16 pumping stations in the draft Development Plan as per the advice of their consultants. While designing the under-ground drainage system, population densities of 700 persons/hectare in U-Zone area and 200 persons/ha in Low Density Zone (LDZ) areas, were assumed. The water supply at a rate of 135 lpcd for non-industrial development and 65,000 litres/ha. for industrial development was considered sufficient for efficient working of the schemes. In addition, infiltration at the rate of 20,000 litres/ha/day was also assumed. The high density developable area was divided into 16 blocks (A to Q except J) and LDZ area into 6 blocks (1 to 6) to form 22 sewerage zones. The consultants had suggested to provide 19 STPs and 16 pumping stations for the said 22 sewerage zones and CIDCO had, therefore reserved sites accordingly in the revised DDP.

The land-owners and the 4 Municipal Councils objected strongly to the proposed underground sewerage system since it was based on smaller capacity STPs, which has resulted in more number of STPs and pumping stations, thereby increasing unnecessarily the cost of the project beyond the reach of any of the Municipal Councils or even of CIDCO. The Committee felt that there is merit in their objections. In Mumbai, Thane or even Navi Mumbai developed by CIDCO, such drainage schemes are said to be working efficiently with large-scale STPs and no chain of small capacity STPs is seen in their schemes. The consultants have proposed 19 STPs for VVSR with their individual capacities ranging from 5 mld to 50 mld. Out of them, only 6 STPs have capacities of more than 25 mld. This has resulted in excessive cost of the scheme.

The area in general in the VVSR is more or less plain having lesser variations in levels where the development is expected. The land to the west of Nallasopara Railway Station is slightly at higher level and there are gentle slopes towards north up to Vaitarna Creek and towards south up to Vasai Creek. The land to the east of railway line between Virar and Nallasopara railway stations is comparatively higher and goes on ascending towards the hills. The consultants have considered railway line as one of the constraints, however, the drainage lines could be constructed to pass under the railway to collect the sewage of the eastern portion to connect them to the STPs at the west in the three Municipal areas except that of Vasai, In the Vasai Municipal area disposal facilities can easily be made available to the south near Vasai creek. The Committee feels that, for administrative purposes, separate drainage system for every municipal council would be necessary. Further, the Committee does not consider it necessary to provide such underground drainage scheme for areas under Green Zone and plantation zone where septic tank system is already in existence and effluent is being used for agricultural or horticultural purposes.

The Committee has discussed the issue of proposing small-size STPs in VVSR with the Consultants during presentation of the project in December 2001 which revealed that the Consultants have adopted the same planning blocks as sewerage zones and hence they are concurrent with the planning

blocks formulated by CIDCO in the course of preparation of Development Plan. The total population estimated for VVSR by the Committee is 18.75 lakh by 2021 and out of that U-Zone population is 17.00 lakh. This will give ultimate flow of sewage of 230.00 mld per day in view of expected water supply of 135 lpcd for population in U-Zone.

CIDCO has proposed 19 STPs and presumed that the land to the tune of 42.67 ha. proposed under STPs and pumping stations will be made available free of cost in lieu of TDR. Many locations of STPs and pumping stations proposed in the Development Plan are in the midst of developing localities for which large number of objections are received from the public.

The Committee has, therefore, come to conclusion that sewerage scheme should have to be designed more economically for VVSR in view of the financial capacity either of the SPA or the municipal bodies. The Committee has, therefore, taken the following decisions.

The Committee has proposed 11 STPs for following areas considering one STP of requisite capacity in each area at a suitable location as far as possible away from the developable area and where disposal facilities are easily available. However, two STPs are proposed in Navghar-Manikpur area, one to the east and one to the west. Similarly, two STPs are proposed for Rajiwali-Juchendra area considering its extent at both sides of Vasai-Diva railway line.

i) Chandansar-Shirgaon Industrial Complex	(30 mld)
ii) Virar-Bolinj-Agashi area	(45 mld)
iii) Virar-East area	(25 mld)
iv) Nallasopara West area	(45 mld)
v) Nallasopara East area	(30 mld)
vi) Waliv - Gokhivare Industrial Complex	(35 mld)
vii) Navghar-Manikpur area (west and east)	(35 mld + 15 mld)
viii) Vasai area	(12 mld)
ix) Rajiwali - Juchendra area each to the north and south of Vasai-Diva Line.	(30 mld + 15 mld)

Solid Waste Disposal

The draft D.P. prepared by CIDCO did not provide proposals for Solid Waste Disposal which would create a problem in the VVSR if proper sites are not

identified in the form of compost depots. The Committee has observed that the Collector of Thane has taken this issue on priority basis and allotted few Government lands for this purpose to all the four Municipal Councils. The Committee has, therefore, decided that the same lands as far as possible would be reserved in the D.P. in consultation with these Municipal Councils.

Storm Water Drainage Scheme

CIDCO had proposed a comprehensive Storm Water Drainage System in the published draft DP requiring Rs.1,800/- crores for its implementation, involving acquisition of 1,200 hectare of land. CIDCO then realised the financial constraints in the implementation of such an expensive scheme incorporated in the draft published Development Plan. Accordingly, CIDCO modified the system to cost about Rs.310 crores while submitting the draft Development Plan to the State Government for sanction. This revised scheme involves acquisition of 415.83 hectares of land.

The Committee consulted CIDCO about their proposal on the 14th September 2001. The Committee was told that for northern portion of the Sub-Region, artificial system like construction of various holding ponds at appropriate places and pumping the water to drain through the channels up to the Vaitarna creek, was proposed. In the southern portion of the Sub-Region (i.e. to the south of Nallasopara Railway Station), the system is dependent on the available existing wet areas and the creeks, nallas already catering as storm water drains.

The revised storm water drainage scheme will cost (according to CIDCO's estimates) Rs.310 crores. The Committee is of the opinion that there should be a proper low-cost solution to this problem and no wet lands or marshy lands even from the U-Zone should be allowed to be reclaimed for N.A. use. Further, the objections received from the public which invite Committee's attention are, amongst others, (a) excessive sizes of holding ponds (b) mosquito breeding area will be formed due to stagnation of water in holding ponds, (c) The area surrounded by holding ponds will be affected due to

intrusion of creek i.e. saline water into such holding ponds, (d) high costs for construction of ponds and their recurring costs also will remain always beyond the reach of any Planning Authority.

The Committee has noticed that within the BMC area, the Corporation has also not suggested or even thought of such an expensive solution for controlling the storm water. In view of the paucity of funds and limited resources with the Planning Authority or with the local bodies, a low-cost solution will have to be resorted to. As such, the Committee has decided that for making proposals in the draft Development Plan, following points would be considered.

- i) All natural detention areas, wet lands, marshy lands would be used to detain the storm water;
- ii) The salt pan lands would also be considered as detention lands for storage of storm water because no cultivation of salt during monsoon is done;
- iii) All nallas, existing flow channels, creek-lets which are already in the natural system of drainage would be widened and deepened;
- iv) Holding ponds if required would be as far as possible close to the Vasai and Vaitarna creeks, so that other agricultural lands will not be affected by saline water to be detained in such holding ponds.
- v) The wet areas and marshy areas would be included in the No Development Zone and constructions like bunds and levees along the nallas and creek-lets, compound walls around individual holdings and reclamation of any land for any reason should not be permitted so as not to obstruct the flow of water.
- vi) All existing nallas taking storm water to drain out should be marked on D.P. whether those are on private lands or otherwise to protect them from any development activity.

The Committee has, therefore, decided to propose low-cost storm-water drainage system using, as far as possible, existing natural and conventional ways while modifying the Development Plan.

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**GENERAL POLICIES ADOPTED BY THE COMMITTEE AND THE
MODIFIED D.P.**

The Committee on the basis of detailed deliberations with interested and affected institutions and individuals has come to certain conclusions pertaining to the planning process of VVSR. The Committee first formulated a broad policy to be adopted for making changes in the revised DDP submitted to Government by CIDCO. The guiding principles were :-

1. The four municipal councils viz. i) Vasai Municipal Council; ii) Navghar - Manikpur Municipal Council; iii) Nallasopara Municipal Council; & iv) Virar Municipal Council are already functioning in the Sub-Region. Their suggestions made in the interest of their towns and their future plans should be given a careful consideration. . The works undertaken by them to provide amenities and facilities or such works already carried out by them should be incorporated in the D.P.
2. Suggestions made by some of the Village Panchayats that appeared before the Committee which are in the interest of their villages deserve full consideration.
3. The population projections and their spatial distribution for the years 2011 and 2021 need to be estimated by the Committee. The D.P. should be modified to meet the requirements of this projections of population.
4. There are planning standards stipulated by the Govt. in 1979. Committee appointed by the Govt. has recently recommended revision of these standards. Pending the Govt's decision in this respect, this Committee has worked out independently suitable planning standards for formulating amenity sites for providing minimal infrastructure while modifying the revised DDP.

5. The Green Zone of the Sub-Region is not uniformly of the same character. The existing development along the sea coast has a totally different character where villages are developed with Wadies engaged in producing bananas, coconuts, vegetables and flowers in addition to fishing. The greenery is still maintained and during the hearing, these villagers had specifically demanded maintaining of this peculiar Konkani-type character of the coastal belt. The Committee decided to separate out this part from Green Zone and felt that a separate 'Plantation Zone' should be proposed restricting users mentioned at Sr.No.(vii), (viii), (ix) & (x) of Part B under G-Zone head in the Appendix No.IV pertaining to Regulation No.3.3

6. The agricultural produce coming to Mumbai from northern part of India by N.H.No.8 and by Western Railway as well as the local agricultural produce should be provided with large-scale market yard. The A.P.M.C. of Vasai demanded large area near Sasunavaghar Village fronting the N.H.No.8 for the same purpose. The revised draft D.P.prepared by CIDCO had proposed a small site for this purpose which is likely to be affected by floods and which has no scope for expansion being trapped between N.H.8, Vasai Diva Railway line and Kaman River This Committee has, therefore, decided that this site should be shifted on the opposite side of the N.H.8 with sufficient area for new APMC's Market Yard at the junction of the arterial road leading to sub-region off the NH-8 in Juchandra Village.

7. The coastal belt to the west of Railway line (to be proposed as 'Plantation Zone') is likely to have a population of 1,15,000 persons during plan period and the Committee noticed that CIDCO had not proposed a single amenity or public site for this area in the revised DDP. The Committee has decided that existing as well as proposed amenity sites and the major religious places should be incorporated wherever possible.

8. The Sub-Region includes two major historically important places viz. i) Vasai Fort and ii) Ashoka's Shilalekh which should be specifically designated in the draft DP.

9. As the Coastal Zone Management Plan of Maharashtra is not yet finally sanctioned by the Government of India, detailing the Coastal Regulation Zones as well as CRZ limits marked on the revised D.P. by CIDCO should be dropped.
10. CIDCO had proposed two new railway stations in VVSR. One was between Nalasopara and the other beyond Virar. The first one between Nalasopara and Virar is being proposed to be dropped as the railways do not favour this. The second proposed station beyond Virar is being retained and a new car-shed between Nalasopara and Virar is being included as per the Railway's request. Further, CIDCO had proposed to relocate the existing railway stations of Virar, Nalasopara and Vasai Road to the south of their existing locations. This would have offered better facilities in view of availability of open lands but the Railways have opposed this, both on technical as well as financial grounds. Accordingly, the stations are being retained at their existing sites. A new link of Western Railway going upto Diva bypassing Vasai Road railway station is also being dropped as this proposal is not approved by the Railways.
11. CIDCO had not proposed any off-site facilities at Naigaon Railway Station in the revised DDP. The Committee believes that this suburban railway station will develop as a major Station in the near future and will be used by the residents of Juchandra, Rajawali, Bapane Villages. Hence, requisite station facilities will have to be provided at both sides of Naigaon Railway Station.
12. The Juchendra Railway Station site was wrongly indicated in the revised DDP. This has now been corrected with corresponding changes in the road network and other facilities.
13. P.W.D. has already widened the existing National Highway No.8 into 4 - lane highway providing dividers etc. and toll is proposed to be collected from the users of NH-8.. However, the Maharashtra State Road Development Corporation has insisted to incorporate the alignment of the

Super-Expressway between Mumbai to Ahmedabad in the D.P. The Committee has, therefore, decided to retain this proposal.

14. CIDCO had proposed Tourism Zone for these different areas viz. i) at Coastal Belt from Arnala to Kalamb; ii) at Vajreshwari Junction along NH-8 opposite K.T. Resort; and iii) on Vasai Creek along the Super-Expressway where no connection is possible. The local population in the coastal belt has strongly opposed the large-scale tourism proposal especially between Arnala Beach to Kalamb Beach. This Committee has come to conclusion that there is no need to provide such separate tourism zone as Green-Zone regulations provide for the grant of permissions to tourist complexes anywhere in that zone.
15. Cattle-shed Zones were proposed at two places by CIDCO viz. i) at Kaman and Deodal and ii) at Pelhar. The State Government has already directed to propose suitable zoning for Cattle-sheds to be shifted from Mumbai and accordingly CIDCO had proposed the zone at Kaman. During the inspection, the Committee has noticed that many large-scale cattle-sheds are existing outside this cattle-shed zone along the Bhiwandi-Chinchoti Road. The Committee has, therefore, decided to extend this zone along the above road towards Chinchoti Naka. The existing gaathan and one site of the education trust are excluded from this Zone.
16. The Pelhar Dam is now transferred to Navghar-Manikpur and Nalla-Sopara Municipal Councils. Navghar-Manikpur Municipal Council requested the Committee to drop the cattle-shed zone proposed near the Dam to avoid misuse and likely contamination of Dam water by the owners of these cattle sheds. The Committee has decided to agree with this suggestion made by the Council.
17. The Committee has decided to modify the arterial road system, mainly of 30 mt. and 40 mt. wider roads. CIDCO had proposed only the widening of existing roads which connect the National Highway to three municipal towns i.e. i) Navghar-Manikpur, ii) Nallasopara & iii) Virar. The Committee has decided to propose arterial road of 40 mt. branching off from the NH-8

at Juchendra, south of Kaman river which will be connected further to the over-bridge proposed by the MSRDC at the north side of Naigaon Railway Station. This road will divert Sub-Region bound traffic from the NH-8 as proper arterial road system of 40 mt. and 30 mt. roads running north-south at both sides of the western railway line up to and beyond Virar is proposed.

Coastal road from Girij to Agashi - Arnala as proposed by CIDCO through the Plantation Zone is decided to be modified to divert it along the common boundaries of villages Gas and Girij where open lands are available. This will avoid the developed area of Village Girij. The other branch of this road passing through Girij proposed by CIDCO is decided to be dropped. This coastal road is connected to the arterial road system connecting to Naigaon Over-bridge as well as to 40 mt. north-south road running along the western side of railway line.

The existing Virar-Shirsat road which was proposed by CIDCO to be diverted to meet the Vajreshwari Road on NH-8 is decided to be dropped by the Committee as the existing alignment has already been widened by CIDCO.

The alignment of arterial road between Chandansar Industrial Complex up to Vaitarna Railway Station is decided to be altered to meet the 40 mt. main road as well as Virar Road at Chandansar through the industrial area. This will avoid low-lying areas wherever possible.

The Committee has also decided to propose 30 mt. new east-west road from 30 mt. proposed coastal road starting at village Chulane and to meet the 40 m. north-south road running through Navghar-Manikpur town for providing proper circulation to Plantation Zone.

New road proposed by CIDCO from Kalamb beach upto Bhuigaon (kd) along the coast is decided to be dropped as it crosses the major portion of creeklets and mangroves. This connection is also not necessary considering the traffic.

There are two roads adjoining village Gokhivare leading to National Highway No.8. CIDCO has proposed a width of 60 mt. for the alignment going through village Sativali. As this eventually meets a 40 mt. wide Gokhivare-Valiv road, the Committee decided to reduce this width of the connector going through Sativali to 30 mt.

It is learnt that old railway bridge on Vasai Creek may be allowed to be used as vehicular road considering short-cut connection to Mumbai. In view of this, the Committee has decided to propose a link of 30 mt. road up to the said Railway Bridge.

18. Widening of existing nallas flowing through the Waliv-Gokhivare Industrial Complex proposed extensively by CIDCO has decided to be reduced to desired width in view of the objections raised by many people as well as by the industrialists. Further, the Committee felt that existing nallas should be indicated in the DP as per the information supplied by CIDCO and local bodies.

19. Industrial zones within the municipal limits of Virar, Vasai and Navghar-Manikpur are decided to be proposed only for small-scale industries considering their nearness to developed areas. The industrial zone at Shirgaon Village proposed in the low lying area is decided to be deleted. Similarly, Industrial Zone proposed between Koparipada and Chandansar gaothans is decided to be proposed for small-scale industries only.

Industrial Zone fronting the National Highway No.8 in village Juchandra at the junction of 40 mt. arterial road and situated to the south of Kaman river proposed by CIDCO is isolated from the developed areas of the sub-region. The Committee has decided to convert this entire industrial zone to APMC's Market Yard for the reasons already mentioned at Sr.No.6 above. To compensate the reduction in industrial area, the industrial zone proposed by CIDCO to the north of Vasai Diva Railway line is decided to be extended upto NH-8.

20. Sites required for water supply scheme are decided to be reserved as per suggestions made by the Maharashtra Jeevan Pradhikaran.
21. The sites for Sewage Treatment Plants (STPs) have been reserved as far as possible on available Government lands away from the existing as well as proposed developments considering the gradients of the areas. Suitable sites for solid waste disposal are reserved as per the requests made by the Municipal Councils.
22. CIDCO had maintained the natural system of storm water drains existing in the southern part of VVSR and incorporated wet lands in NDZ. The Committee has more or less accepted this proposal.

For the northern part of the region CIDCO had proposed artificial drainage system consisting of holding ponds and channels. For the area to the west of Railway line from Village Bolinj and upto Village Nilemore, large holding ponds were proposed alongwith channels. Holding ponds and channels were also proposed in areas situated to the east of Railway line in Villages Virar and More. Channels connecting eastern part to western part were proposed beneath the Railway track. This entire system requires large scale acquisition of land and recurring cost for its maintenance. The local residents as well as Municipal Councils in this area objected to this costly artificial drainage system and suggested utilization of existing drainage system for storm water drain with augmentation by means of artificial channels and ponds wherever necessary. After careful consideration the Committee has decided to propose large area extending from village Bolinj upto village Nilemore as natural holding pond in the wet area existing to the west of western railway track utilising nallas and creeklets as storm water drains. Further, it is observed that the storm water of the area situated to the east of railway track is at present not properly discharged through narrow culverts existing below this railway track. Three east-west channels extending upto above holding pond are therefore proposed to discharge the storm water from this areas

Other proposals of CIDCO to include wet lands existing in the Sub-Region in No Developmenty Zone are more or less accepted.

23. The major water bodies alongwith reservoirs at Pelhar and Papad-Khind Dams have been earmarked in the DP.
24. The fair grounds alongwith parking facilities at Jivadani Temple, Tungareshwar Temple and at Shankaracharya Temple where annual fairs take place have been proposed near these temples.
25. Wherever possible, most of the commitments previously made in the form of N.A. permissions, Development Permissions, either granted by the Revenue Department, by MMRDA (then acting as SPA) or by CIDCO or before the appointment of SPA, by any of the municipal councils have been honoured while framing proposals.
26. Development Control Regulations prohibit commercial activities along the roads of widths less than 12 mt. and 30 mt. or more. The Bazar area of Vasai Town is developed along smaller road and the Municipal Council had requested to exclude Bazar area from this restriction. Similarly other three Municipal Councils have requested to exclude those portions of 30 mt. or more wider roads which pass through the developed areas. The Committee has accepted this suggestion and prescribed commercial strips along the roads on which commercial user is not permitted so as to facilitate commercial activities.
27. CIDCO had proposed Low Density Zone at selected places in the residential zone. The Committee has decided to continue these Low Density Residential Zones near Vaitarna Railway Station in Dahisar Village and in Villages of Bolinj and Naringi. However, the Committee has decided to propose a new zone as Special Residential Zone where only small size flats with maximum total built up area of 25 sq.m. can be permitted mainly for the L.I.G. and E.W.S. segments of the Society. This proposal has been made in response to the instructions issued by the State Government to make suitable reservation for rehabilitation of slum-

dwellers. While giving such instructions, the State Government has not quoted the acquiring body and in the absence of this it is not possible for the Committee to reserve huge land of 1000 ha. for slum rehabilitation. The Committee has, therefore, proposed Special Residential Zone at three places - i) in Shirgaon-Chandansar Industrial Complex near new railway station, ii) in between the Virar and Nallasopara Railway Stations near the proposed car-shed, iii) in Rajavali- Juchandra area on both sides of Diva-Vasai Railway Line by converting Low Density Residential Zones proposed by CIDCO in these areas.

28. The Committee has decided to show most of the existing features, landmarks and amenities with the help of information supplied by the four municipal councils, by the organisations and by the people wherever possible.

29. So as to cut down the cost of acquisition, the Committee has decided to shift existing reservations and those reservations requiring large areas on available vacant Government lands wherever possible.

30. In the revised DDP sites for basic amenities were proposed by CIDCO. Considering the revised Planning Standards adopted by the Committee, population projections and its spatial distribution finalised by the Committee, requirement of land for future amenities are worked out. Amenity sites for various amenities are therefore decided with their spatial distribution and considering the amenities already existing. In doing so, areas already under reservations in the revised D.D.P. were taken into consideration and are reserved by keeping the purpose of sites as it is or modified.

31. Sectors I and VI are mostly vacant. It is expected that these areas will be developed as new towns in the plan period. Hence proposals for basic amenities are framed considering population projection up to 2021 instead of 2011 in these two sectors.

The Committee has accordingly modified the revised draft D.P. prepared and submitted by CIDCO to the State Government within the framework of the above broad policies and decisions. The list of modifications describing broadly the nature of modifications is given in the Appendix 'A'. The proposed land-use analysis of the modified draft D.P. is as under.

Proposed Land - Use Analysis

Sr.No.	Land Use	Area (Ha)	Percentage with developable area	Percentage with Sub-Region area
1	Residential Zone a) <i>General Residential Zone</i> b) <i>Special Residential Zone</i> c) <i>Low Density Residential Zone</i>	3642.50 (2993.24) (486.96) (762.30)	43.76 (35.96) (5.85) (1.95)	9.59
2	Public/Semi-Public Zone (Govt. offices, educational, medical, religious, community activities)	935.00	11.23	2.46
3	Commercial Zone (sites or complexes and APMC)	116.50	1.40	0.31
4	Industrial Zone a) <i>Service Industrial Zone(I1)</i> b) <i>General Industrial Zone(I2)</i>	922.00 (99.20) (822.80)	11.08 (1.19) (9.89)	2.42
5	Public Utilities (solid waste or sewage disposal, water supply, electricity, etc.)	189.00	2.27	0.50
6	Transport & Communications a) <i>Sites</i> b) <i>Roads</i> c) <i>Railways/Carshed</i>	2096.00 (74.00) (1780.00) (242.00)	25.18 (0.89) (21.38) (2.91)	5.52
7	Organised Open Spaces (playgrounds, parks, gardens, fairgrounds, etc.)	423.00	5.08	1.11
	Total area considered for development	8324.00	100.00	21.91
8	Plantation Zone	5520.50		14.53
9	Green Zone	18277.00		48.09
10	No Development Zone	4802.00		12.64
11	Cattle Shed Zone	465.00		1.22
12	Water Bodies	611.50		1.61
	Total area of restricted and No Development Zones	29676.00		78.09
	Total Area of Sub-Region	38000.00		100.00

The proposed land-use analysis clearly shows that only 21.91% of the total Sub-Region area is brought under development. Out of this area considered for development, 43.76% area is under Residential Zone. The Industrial Zone is only of 11.08%. Large area of 25.18% is consumed by the facilities required for transport and communications which seems to be slightly on higher side, due to the fact that proposed Super Expressway, the existing Mumbai-Ahmedabad N.H. No.8 and the two Railway Lines run through the Sub-Region. Though the percentage of organised Open Spaces (gardens and playgrounds, etc.) is only 5.08% of the developable area, it is 11.61% of the Residential Zone.

In the Sub-Region, the area under Green Zone, Cattle Shed Zone and Plantation Zone is 63.84%, No Development Zone mainly includes wet-areas and is 12.64%. These four zones where development is restricted and water bodies constitute 78.09% of the total Sub-Region area.

All these zones, proposals, roads and railways are clearly shown on the plan by using standard colour code. The proposed roads are shown in red lines, whereas, reserved sites are shown with red verges mentioning reference numbers and their designations. The lands under reserved sites are subjected to acquisition by the appropriate authorities against compensation either in the form of a DR/TDR or in terms of money. Some of these sites may also be permitted to be developed by the owners as accommodation reservations as per Development Control Regulations. Appendices 'B' and 'C' give reserved sites sector wise whereas, all reserved sites are listed in Appendix 'D' along with their S.Nos., areas and acquiring bodies.

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CHAPTER X

IMPLEMENTATION AND FINANCING

The proposals made in the Development Plan are in the form of zoning, roads and reservations. The zoning proposals only guide the future development and help in granting development permissions within the framework of D.C.Regulations. The proposals like new roads, widening of existing roads and reservations in the form of sites earmarked for providing amenities, utilities, services etc. cast specific responsibilities either on the Planning Authority / Special Planning Authority, Municipal Councils or on the Authorities / Institutes / Trusts concerned. The Appendix D gives information of all the 872 reserved sites along with their areas and implementing bodies. These lands are subjected to acquisition by concerned Authorities within a period of ten years from the date of enforcement of the Development Plan, as provided under Sub-Section (5) of the Section 31 read with Section 127 of the MR&TP Act, 1966.

The Committee believes that the lands under new roads or required for road widening situated in the urbanisable zone would be made available against the FSI in the form of DR/TDR. Burden of paying monetary compensation for acquiring lands will therefore get proportionately reduced.

The lands required for roads and reserved for other public purposes in the Green Zone, Plantation Zone and Cattle Shed Zone do not fall in TDR generating zones and hence these are to be acquired against monetary compensation. However, funds required for such land acquisition would be of lower magnitude considering lower land values in these zones and their lower buildable potential.

Lands under reservations in the form of designated sites in the urbanizable zone need to be acquired within a period of ten years. The total area of lands under 872 sites works out to 1123 Hectares. Of these, sites required for sewage and for solid waste disposal are generally proposed on Government lands. Sites designated for specific authorities such as M.S.E.B., Bharat

Sanchar Nigam Ltd., Telephone Exchanges, Post and Telegraph Deptt., etc. will have to be acquired by the respective authorities. The lands under designations such as Picnic Centre / Park (Site No.91), Cricket Ground (Site No.89), Fair Ground (Site No. 88) or Sports Complex (like Site No.593), Central Hospital (Site No.594), Stadium (Site No. 699), etc. are either owned by the Municipal Councils or by Government.

In view of this, the liability to acquire the lands by the Planning Authority for the balance reserved sites is reduced to nearly 400.00 ha. It is presumed here that 50% sites will be made available against the F.S.I. in the form of DR/TDR or will be developed by the land owners as accommodation reservations. Therefore, the requirement of funds for acquisition of the lands is estimated to the tune of Rs.300.00 crores.

The Special Planning Authority / Planning Authority will have to provide substantial funds required for the development of the amenities, construction of new roads and widening of the existing roads. It is difficult to forecast at present the costs of such implementation work. CIDCO had estimated the cost of construction at Rs.380.00 crores in 1998. Considering the modifications/changes made, the Committee estimated the approximate cost of implementation of minimal infrastructure that is required to be provided up to 2011 at Rs.1000.00 crores. This estimate does not consider the cost of water supply and under ground drainage or storm water drainage schemes for which separate funds will be required. It is learnt that the State Government and the Maharashtra Jeevan Pradhikaran have started implementing the water supply schemes under Surya and Usgaon Projects with the help of Government funds / loans. The underground drainage scheme can only be thought of after 2011 after ascertaining availability of sufficient water supply.

CIDCO had estimated income from following heads up to 2011 as given below.

- i) Development Charge (as per Section 124A of the MR&TP Act 1966) as Rs.212.32 crores.
- ii) Security Fee as Rs. 42.80 crores;

- iii) Premium from grant of FSI for granting balcony as Rs.30.00 crores;
- iv) TDR Processing fees as Rs. 17.00 crores and by sale of some of the reservations sites (to the trusts, institutes for educational / medical purposes, etc.) as Rs.175.00 crores.

Therefore, according to CIDCO's estimate the income from all sources is Rs.477.12 crores up to 2011. The Committee has estimated the cost of acquisition of lands and development of minimal infrastructure at Rs.1300.00 crores. This entire expected income of Rs.477.12 crores could be diverted towards the implementation of the DP proposals.

The financial position of the three Municipal Councils is good and they can utilise their surplus incomes towards the implementation of DP. The Vasai Municipal Council is the only Council having a deficit balance. The MMRDA has projected the income - expenditure figures of these three Municipal Councils (except Vasai Municipal Council) year-wise up to 2011 and the surplus income between 2000 to 2011 is estimated to be Rs. 234 crores. (This includes the income of octroi toll also). Considering the estimates made by MMRDA, total funds up to 2011 which can be made available for implementation of Development Plan works out to Rs.709.00 crores. Thus requirement of entire fund for implementing the D.P. cannot be met only from the incomes of Special Planning Authority and of three Municipal Councils. Besides it is necessary to note that the area under the D.P. includes 49 village panchayat areas and the Waliv-Gokhiware Industrial Complex which is developed outside the municipal areas.

The Committee recommends that the entire area of Sub-Region would be brought under a single municipal authority. Considering the existing population of the Sub-Region which is more than 7 lakhs .it is felt that the Municipal Corporation can function effectively as a Planning Authority in this sub-region. Establishing a Municipal Corporation in the entire area would mean more revenue by means of Octroi, Development Charges at higher rates, etc. The taxation structure can be improved by the establishment of a Municipal Corporation. The capacity of raising loans for implementation of D.P.proposals by a single authority like a Municipal Corporation will also

increase. Thus funds required for implementation of Development Plan proposals could be met to some extent. The Committee, therefore, recommends establishment of a Municipal Corporation in the sub-region.

It can be seen from the income-expenditure pattern that funds required for implementation of D.P. will fall short by nearly Rs.500 crores. This deficit could be still reduced by enhancing the rates of premiums and fees chargeable under the D.C.R. It is also suggested to enhance the development charge to a maximum limit mentioned in the Act. The Committee is of the opinion that the State Government and the MMRDA have to help the Special Planning Authority by providing financial assistance for implementing the D.P. of Vasai-Virar Sub-Region considering the strategic situation of this Sub-Region in MMR.

The modifications carried out in the revised DDP are published under Section 29 of the MR & TP Act,1966 by the Committee for inviting objections/suggestions before submission of the DP to the State Government for getting sanctioned.

(N.V.Kulkarni)
Dy. Director of Town Planning
Greater Mumbai.
Convenor Member

(S.V.Surve)
Rtd. Dy. Director of Town Planning
Member

(Ajit Warty)
Additional Chief Secretary,
Home (Transport & Exercise)
Chairman

**Committee appointed by the Government of Maharashtra
for Development Plan of Vasai-Virar Sub-Region
Under Section 162 of the M.R. & T.P. Act, 1966.**

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