

17

REGIONAL LAND USE

17.1 BACKGROUND

17.1.1 Statutory Provisions

Section 10(2) (a) of the NCRPB Act, 1985 emphasizes that the Regional Plan shall indicate “the policy in relation to land use and the allocation of land for different uses”. Therefore, the Regional Land Use Plan translates broad planning policies and proposals into physical (spatial) form to illustrate the manner in which the land in NCR is to be used for various purposes. However, the detailed specific reservation of areas for various land uses of Sub-regional and urban importance will be detailed out in the Sub-regional Plans and Master Plans which are to be prepared by the respective participating States, within the overall framework of the Regional Plan.

17.1.2 Legal Status of Regional Land Use

The Regional Plan-2001 of NCR was prepared with the active participation, inputs and guidance by the concerned Central Ministries and participating State Governments through their departmental experts, and was approved on November 3, 1988. This Plan came into force from January 23, 1989. The actual implementation of the Regional Plan policies is being undertaken by the concerned Central Ministries and participating State Governments through their various departments.

The Allahabad High Court, while going through the various Plan-enabling provisions under the NCRPB Act, 1985, considered the Regional Plan a major instrument of development. In a judgement dated 18.12.1998 in the Civil Misc. Petition No.13899 of 1998, it observed:

"The National Capital Region Plan Act, 1985 is a central legislation. The intention of this central legislation is to decongest Delhi, and yet retain the conforming uses of agriculture and greens, and to harmoniously coordinate and monitor industry and urbanisation without compromising with the conforming areas and usage"

"... land uses cannot be changed except with the tacit permission and close scrutiny of the National Capital Region Planning Board. Development of industry or urbanisation by purchase of land reserved for conforming uses of agriculture, forests or greens within the area eclipsed by the National Capital Region, is prohibited. Whatever development is permissible must be strictly monitored under the National Capital Region Plan Act, 1985 by the authorities named and constituted under it."

In the judgement dated 01.10.1996 in Civil Misc. Writ Petition No.26737 of 1993, the Hon'ble Allahabad High Court observed:

"... One stipulation is inescapable that unless the National Capital Region Planning Board gives the green signal nothing can go ahead. The necessary implication of this is also that at every stage in

reference to the plans, aforesaid, constituent State a part of the National Capital Region Plan has to keep a close consultation with, the federal agency which is the Board”

“... Thus, to permit aspects, in context, to be examined by the Board, the Court adjourns these proceedings for a period of two months to enable the Board to approve, review, consult, affirm or confirm the plans which are the subject matters of these writ petitions in total freedom notwithstanding that a notification has been issued for acquisition of land by the State of Uttar Pradesh or for that matter that these proceedings are pending before the High Court. The only guidance which this court gives to the Board is to give effect to the intentions of the Act coordinating, monitoring and scrutinizing the implementation of the plans and for harmoniously building urban planning with excellence without disturbing the ecological balance of nature and by respecting the green cover, agriculture and not abdicating either in favour of urbanization but with a dedicated effort to respect the forests and strive to retain the balance of nature and ecology and at every given occasion not losing the perspective in so far as the Board it concerned in these matters, of the fundamental duties enshrined in Article 51 A(g) (h) and (j) read with 48 A of the constitution of India”

17.1.3 Review of Regional Plan-2001

- (i) The review of Regional Plan-2001 policies has brought out certain critical issues of large scale conversion of rich agricultural land into non-agricultural use, and conversion of land along the transport corridors in Delhi urban area, DMA (now CNCR) and close to the designated urban centres.
- (ii) In some States, proper land use control is exercised only within controlled/development/regulated areas around towns through their existing Acts but no planning/development control is available outside the controlled/development/regulated areas.

17.2 LAND USE ANALYSIS

17.2.1 Existing Regional Land Use 1999

The existing land use analysis through the Remote Sensing data pertaining to 1999 indicates that the “agricultural use”, which includes cultivated land, fallow, plantation, farmhouses and horticulture being the predominant use of land, constitutes 79.52%, (24,04,964 hectares) of the total land area of NCR. The Sub-region wise distribution of agricultural land reveals that Haryana has recorded highest area under “agriculture use”, which constitutes 46.70% of the total NCR followed by U.P. (38.11%), Rajasthan (12.60%) and NCT-Delhi is the lowest (2.59%) (refer Map17.1 National Capital Region: Land Use 1999).

The “built-up area”, which includes settlements, all sub-uses such as residential, transport, industries, commercial etc. within it, is the second largest use of land in NCR, constitutes 8.71%, (2,63,500 hectares). Haryana has the highest concentration (35.52%) of the area under "built up" category in NCR followed by U.P. (31.58%), NCT-Delhi (26.63%) and Rajasthan (6.27%).

The “wastelands”, which include gullied land, saline land, barren, rocky and water logged areas, constitutes 6.63% (2,00,535 hectares). The highest concentration of “wastelands” has been recorded in Rajasthan constituting 49.03% of the total wastelands of NCR mainly because of the existence of Aravalli ridge area followed by Haryana (33.11%) U.P. (14.83%) and NCT-Delhi (3.03%).

The “forests”, which include forests, non-agriculture plantation and open scrub, constitute 4.02%, (1,21,435 hectares). In the case of forest cover, Haryana again recorded the highest concentration constituting 37.88% of NCR followed by U.P. (32.45%), Rajasthan (23.90%) and NCT-Delhi (5.78%).

The highest concentration of forest cover is in Haryana and U.P., which may be due to large-scale road/rail/canal side plantations and social forestry.

The “water bodies” include rivers, canals, drains, lakes, tanks and ponds covering 0.80% (24,217 hectares) of NCR’s total land area. Haryana has the highest share of the area under “water bodies” constituting 41.10% followed by U.P. (39.75%), NCT-Delhi (10.05%) and Rajasthan (9.10%).

The “others” comprise uses not included in the above categories i.e., mining, quarrying, brick kiln constitutes 0.32% (9,549 hectares) of NCR. In case of land under “other uses”, U.P. has the highest share of 70.42% followed by Haryana (24.49%), NCT-Delhi (3.46%) and Rajasthan (1.63%).

The details and Sub-region wise comparison of land uses are given in the Tables 17.1 and 17.2. The spatial distribution of the land uses at Regional level for 1999 are indicated in the Plan (refer Map 17.1 National Capital Region: Land Use 1999) based on IRS (PAN + LISS III) data acquired on March, 1999.

Table 17.1: Existing Land Use in NCR (1999)

Category	Area (hectares)	% to total
1	2	3
Built-up	263,500	8.71
Agriculture	24,04,964	79.52
Forest	1,21,435	4.02
Wastelands	2,00,535	6.63
Water bodies	24,217	0.80
Others	9,549	0.32
Total NCR	30,24,200	100.00

Source: Study Report on Urban Sprawl and Land Use/Land Cover Mapping for NCR-NRSA, 1999.

17.2.2 Land Use Change Analysis (1986-1999)

The existing land use for the Regional Plan-2001 was prepared in 1986 and published along with the Regional Plan in January 1989. The NCR Planning Board used satellite data (IRS IC PAN + LISS III with 5.8 metres resolution) for the whole of NCR for March 1999. A comparative analysis of the level-I land use data for the year 1986 and 1999 has been undertaken and is indicated in the Table 17.3.

Table 17.2: Sub-region wise Land Use in NCR based on 1999 Satellite Imagery data (in hectares)

Category	NCT-Delhi Sub-region		Haryana Sub-region		Rajasthan Sub-region		Uttar Pradesh Sub-region		Total NCR	
	Area	%	Area	%	Area	%	Area	%	Area	%
1	2	3	4	5	8	9	6	7	10	11
Built-up	70,162	47.31	93,597	6.98	16,527	3.68	83,214	7.67	2,63,500	8.71
Agriculture	62,279	42.00	11,23,017	83.73	3,03,071	67.45	9,16,597	84.46	24,04,964	79.52
Forest	7,015	4.73	46,002	3.43	29,017	6.46	39,401	3.63	1,21,435	4.02
Wastelands	6,079	4.10	66,392	4.95	98,326	21.88	29,738	2.74	2,00,535	6.63
Water bodies	2,435	1.64	9,953	0.74	2,203	0.49	9,626	0.89	24,217	0.80
Others	330	0.22	2,339	0.17	156	0.03	6,724	0.62	9,549	0.32
Total	1,48,300	100.00	13,41,300	100.00	4,49,300	100.00	10,85,300	100.00	30,24,200	100.00

Source: Based on the Study Report on Urban Sprawl and Land Use/Land Cover Mapping for NCR, NRSA, 1999.

Table 17.3: Land Use in NCR for the year 1986 and 1999 (in hectares)

Category	1986		1999	
	Area	%age	Area	%age
1	2	3	4	5
Built-up	98,794	3.26	2,63,500	8.71
Agriculture	26,50,585	87.64	24,04,964	79.52
Forests	77,512	2.56	1,21,435	4.02
Wastelands	1,85,886	6.14	2,00,535	6.63
Water bodies	3,235	0.10	24,217	0.80
Others	8,200	0.27	9,549	0.32
Total	30,24,200	100.00	30,24,200	100.00

Source: Study Report on Urban Sprawl and Land Use/Land Cover Mapping for NCR, NRSA, 1999.

Major changes have been observed in the case of agriculture land use, built-up and forest as indicated in Figure 17.1.

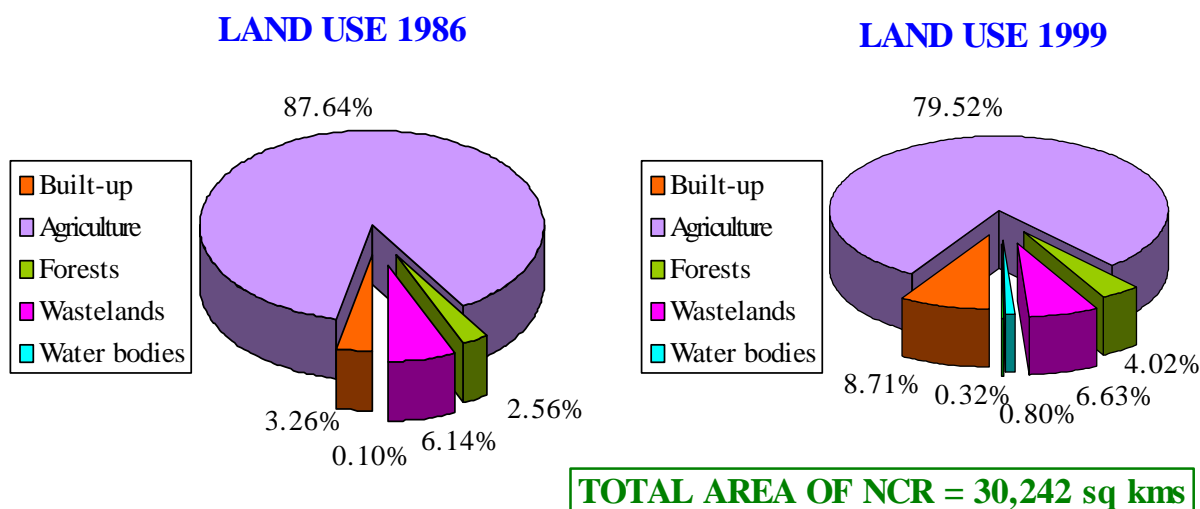


Figure 17.1: Land use Distribution in National Capital Region for the year 1986 and 1999

The use-wise land use change analysis is as under:

a) Agriculture

The land use change analysis reveals that there is a decline of about 8.12% (i.e., from 87.64% to 79.52%) in agricultural land during the period 1986-1999 indicating a threat to the rich agriculture land in the region. This warrants a rational policy for protecting the rich agricultural land for conversion into non-agriculture use.

The total decrease of agricultural land in 13 years (i.e., from 1986-1999) is 2,45,621 hectares, which works out to be 18,893 hectares per year. This conversion of agricultural land into non-agricultural uses specially through expansion of settlements is caused by development process. This conversion of agricultural land into non-agricultural uses has been indicated in the Table 17.4.

Table 17.4 indicates that major reduction in agricultural land has occurred due to the invasion of the built-up area (caused by expansion of settlements) i.e., 61.52% followed by forest plantations (28.76%).

Table 17.4: Conversion of agricultural land into non-agricultural uses

Agriculture land converted into	Area (in Hectares)	Percentage
1	2	3
Built-up	1,54,000	61.52
Forest plantation	72,000	28.76
Water bodies	18,300	07.31
Other uses	6,000	02.39
Total	2,50,300	100.00
Conservation of Wastelands into agriculture land	4,900	--
Net decrease	2,45,621	--

b) Built-up

The built-up area increased from 98,794 hectares in 1986 to 2,63,500 hectares in 1999, recording an increase of more than 166% in a span of 13 years. This increase in the built-up area has been caused by the conversion of the following land uses into built-up areas (refer Table 17.5).

Table 17.5: Conversion from Non-Built-up area into Built-up areas

Built-up area converted from	Area (in Hectares)	Percentage
1	2	3
Agriculture	1,54,000	93.45
Wastelands	10,100	06.13
Forest	600	00.36
Other uses	100	00.06
Total	1,64,800	100.00

The above table indicates large-scale conversion of agriculture land to built-up areas caused by industrial and urban development, specially observed along the transport corridors and in the fringe areas of Delhi's Urban Area within NCT-Delhi and the CNCR outside NCT-Delhi. This requires utmost care so as not to convert fertile agriculture land for urban development purposes and as far as possible utilisation of infertile/wastelands for this purpose.

c) Wastelands

The wastelands accounted for 1,85,886 hectares (6.14%) in 1986, which marginally increased to 2,00,535 hectares (6.63%) in 1999 (refer Table 17.6). Analyses of the inter-se conversions indicate that while 10,100 hectares of wastelands got converted into built-up areas, and others i.e., brick kilns and quarries etc., some area under forest and water bodies i.e., 31,800 hectares got converted into wastelands. Thus a net increase of 14,700 hectares recorded in the wastelands.

Table 17.6: Conversion of Wastelands

Areas converted from different uses to Wastelands		Wastelands converted into different uses		Net increase/decrease in wastelands
Use	Area (in Hectares)	Use	Area (in Hectares)	Area (in Hectares)
1	2	3	4	5
Forest	29,700			
Others (Brick-Kilns etc.)	2,100			
		Built up	10,100	
		Agriculture	4,900	
		Water Bodies	2,100	
TOTAL	31,800		17,100	+14,700

d) Forest

The analysis indicates only a marginal increase in the forest cover, which constituted 2.56% of the NCR in 1986 and increased to 4.02% in 1999 (refer Table 17.7). There is a dire need to substantially increase the forest cover in order to improve the environmental conditions, particularly the ridge/undulating areas of the region as well as both within the large settlements in the form of city forest and on their periphery as protective belts.

The increase in forest cover from 77,512 hectares (2.56%) in 1986 to 1,21,435 hectares (4%) in 1999 is mainly due to the increasing the road/rail/canal side plantations as well as the plantations on wastelands. The inter-se conversions are given in Table 17.7.

Table 17.7: Conversion of Forests cover

Areas converted from different uses to Forests		Forests converted into different uses		Net increase in forest
Use	Area (in Hectares)	Use	Area (in Hectares)	Area (in Hectares)
1	2	3	4	5
Agriculture	72,000			
Others	2,200			
		Wastelands	29,700	
		Water bodies	100	
		Built-up	600	
Total	74,200		30,400	43,800

17.2.3 Comparative Analysis of proposed Land Use Regional Plan-2001 and Existing Land Use 1999

NCR

A comparative analysis of existing land use 1999 and the proposed land uses of Regional Plan-2001 (refer Table 17.8) indicates that at the level of NCR, substantial urbanisable areas to the extent of 43,150 hectares (61%) was still un-built in 1999. This clearly indicates the comparatively low level of development specially in the Priority towns of NCR. On the other hand, the areas proposed to be kept as green belt have been reduced and eaten up by urban sprawl, specially in Delhi where out of the total post 1986 urbanised area of 14,800 hectares, 8,900 hectares (60%) had been built-up within the green belt proposed in Regional Plan-2001.

Table 17.8: Comparative Analysis of Land Use 1999 and Proposed Land Use 2001 of NCR

Land Use	Area (in Hectares)	
	1999	Proposed Regional Plan-2001
1	2	3
Urbanisable areas	27,570	70,720
Green Belt/Green wedge	2,62,590	3,01,000
Recreation	11,010	13,240
Sanctuaries and others	12,320	12,460

One of the important recommendations of Regional Plan-2001 was to increase the forest cover from 2.56% in 1986 to 10% in 2001. This was proposed to be achieved through conversion of entire wastelands i.e., 6.14% into forest. However, the 1999 Imagery indicated that hardly any wasteland had been converted into forest, which in fact increased from 6.14% to 6.63%.

17.2.4 Dynamics of Change of Land Use in Policy Zones Regional Plan-2001

The Land Use Plan 2001 included in the Regional Plan-2001 had indicated the direction and extent of urbanisable area for Priority and CNCR towns. As emerged from the analysis of Satellite data of 1999,

broad development status and general growth pattern of the priority towns in relation to the land use plan of Regional Plan-2021 are as under:

a) NCT-Delhi

The land use of 1999 indicates that the built-up area of NCT-Delhi increased from 56,727 hectares in 1986 to 70,162 hectares in 1999, which is more than 47% of the total area of NCT-Delhi. As per Regional Plan-2001 the existing urban and urbanisable area was planned for 62,777 hectares against which the urbanisable area/built-up area was 60,836 hectares. In addition, 9,326 hectares had also been built-up outside the urbanisable area.

b) Central NCR

- (i) Ghaziabad-Loni has its built-up area closer to NCT-Delhi and large area has been developed outside the urbanisable area particularly towards NCT-Delhi and Noida, while a large portion of urbanisable area falling in between Ghaziabad-Meerut highway and NH24 is lying un-built.
- (ii) Noida has achieved its physical target and its built-up area has almost covered the entire urbanisable area. In the north, it has reached to the NH24 bypass and in south it has extended beyond the Export Promotion Zone.
- (iii) Gurgaon has extended its urban spread up to the NCT-Delhi boundary. It has also covered substantial portion of its urbanisable area earmarked in the Regional Plan-2001.
- (iv) The urbanised area of Faridabad had already merged with NCT-Delhi. Faridabad has also made good progress in achieving its physical target. It is observed that a substantial area has been developed particularly the areas beyond the Agra canal in the east and the stretch in between Agra canal and NH1 in the south.
- (v) The urbanisable limit of Bahadurgarh has reached with NCT-Delhi particularly along the NH10.

c) Area beyond Central NCR

1) Haryana Sub-region

- (i) In Haryana Sub-region, Panipat, Rohtak, Rewari, Palwal had been identified as Priority Towns in Regional Plan-2001. The built-up area of Panipat has increased on the eastern side of the NH1 and to the north in between NH1 and Drain No. 2. Substantial area has been developed on the Panipat-Jind road along the Drain No. 2 and the NCR boundary, which are beyond the urbanisable limit. In case of Rohtak, the development has taken place on the Delhi-Rohtak road towards south-east. The development of Rewari has taken place towards south-west and east while large portion of urbanisable area on north-western part remaining undeveloped.
- (ii) In the case of Palwal, the development has taken place towards Faridabad i.e., north and substantial urbanisable area has been developed.
- (iii) In the case of Sonapat, the development has remained within the earmarked urbanisable limit. There is insignificant development in the Dharuhera.

2) Rajasthan Sub-region

In Rajasthan Sub-region, Alwar and Bhiwadi are the two Priority towns identified as such for induced development. From the land use change analysis, it is observed that Alwar has moderately

achieved its target and its development mostly confined within the urbanisable limit of the Master Plan except in the south of Alwar town where no development was envisaged, some development has come up. In case of Bhiwadi, substantial area has been built-up.

3) U.P. Sub-region

- (i) In the U.P. Sub-region, Meerut, Hapur, Bulandshahr and Khurja had been identified as Priority towns in the Regional Plan-2001. The urbanisable area of Meerut remained undeveloped, except few patches adjoining its urbanised areas have developed. It was also observed that few small patches along the Delhi-Meerut road and Meerut-Muzaffarnagar road have developed beyond the urbanisable limits.
- (ii) In the case of Hapur, Bulandshahr and Khurja area, the development activities remained almost within the earmarked urbanisable area.
- (iii) However, large tracts of urbanisable areas within the priority towns of Meerut, Hapur, Bulandshahr and Khurja are still un-built.

17.3 ISSUES

17.3.1 Large-scale Conversion of Agricultural Land to Non-Agricultural Use

The land use analysis indicates that from 1986 to 1999, the land under agriculture shrank by 8.12% i.e., from 87.64% to 79.52%. This drop of 8.12% is considerable when compared with the proposed drop of only 3.8% (87.64% to 83.84%) stated in Regional Plan-2001. This has resulted not only into over-conversion of agriculture into non-agriculture land but also non-conformity with the proposed settlement pattern of the Regional Plan-2001.

17.3.2 Unauthorised Conversion of Land Use

In the absence of proper legislation to control the land uses outside the controlled areas/development/regulated areas, the conversion of non-urbanisable area into urban uses specially industries has been continuing unabated in the areas which was otherwise supposed to remain agriculture/green belt/green wedge specially along the transport corridors.

17.3.3 Lack of Urban-Rural Continuum in Regional Development

Though the Regional Plan suggested a broad policy for development of selected centres for acting as nuclei for rural development, however, in the absence of a coordinated development strategy for the rural areas, the Regional Plan-2001 has remained urban biased.

17.3.4 Unplanned/haphazard Growth in Environmentally Sensitive Areas

The satellite imageries have shown that environmentally fragile and sensitive areas such as Yamuna riverbed/wetland, ridge areas, forest areas are being subjected to developments authorisedly and unauthorisedly.

17.3.5 Green Belts/Green Wedges

The provision of green belt/green wedges as protected belts to arrest undesirable growth provided in Regional Plan-2001 is conceptually ideal. Since most of the land ownership under the green belt is in private hands, it is practically difficult to prevent the owners from putting these lands to other more economic uses.

17.4 POLICIES AND PROPOSALS

At the Regional plan level, land use may be guided and regulated in selected areas and the other areas will be dealt in the lower hierarchy plans i.e., Sub-regional Plans and Master/Development Plans. Such areas of concern may be (i) those pockets where the development pressure is quite high or (ii) various kinds of natural areas which have to be conserved (e.g. ridge, river beds and banks, lakes, wild life and bird sanctuaries, forests, etc.) and (iii) pockets of planned green areas including green wedges, buffers, open spaces and parks, to be used as regulatory instruments for ensuring an over all physical form with adequate lung spaces judiciously located every where, from densely built core to peripheral areas of the open countryside.

Accordingly, four major land use zones and three sub-zones have been identified (Map 17.2 National Capital Region: Proposed Land Use 2021) and policies and proposals for each of the zones are as follows:

- a) Controlled/development/regulated zone
- b) Highway corridor zone
- c) Natural conservation zone
- d) Agricultural (Rural) zone outside controlled /development/regulated areas.

17.4.1. Controlled/Development/Regulated Zone

The controlled/development/regulated zone marked in the proposed Land Use Plan 2021 is under intense pressure of development. The activities within this zone will have to be effectively controlled and monitored. For this purpose while all the controlled areas/development areas declared by the respective State Governments from time to time within the preview of their own acts will be deemed as controlled/development/regulated zone. No development in the controlled/development/regulated zones can be undertaken except in accordance with the Master/Development Plans for the respective controlled areas approved by the Board and duly notified by the State Governments under their respective acts.

Within the controlled/regulated zones there will be three sub-zones, whose precise delineation will be undertaken by the respective Master/Development Plans for the controlled/development/regulated areas but have largely been indicated in the proposed Land Use Plan 2021.

(a) Urbanisable Areas (including existing Built-up/urban areas)

Density norms proposed in Regional Plan-2001 are as follows:

Table 17.9: Density Norms proposed in Regional Plan-2001

S. No.	Urban Centres	Persons per hectare
1	2	3
a)	Up to 1.0 lakh population	80
b)	1.0 lakh to 5.0 lakhs population	110
c)	More than 5.0 lakhs population	125

Realizing the fast urbanisation in the region, review of Regional Plan-2001 suggested for modification in the density norms. Accordingly, after a careful examination of the existing density norms being followed by the constituent States, the following density norms, suggested for Regional Plan-2021, are given in Table 17.10.

The existing and proposed built-up areas have to be regulated and guided by their Master/Development Plans and Local Area Plans including Village Development Plans within the framework of Regional Plan-2021 and Sub-regional Plans-2021. On the basis of the assigned population for the year 2021, new areas may be identified as development promotion zones and detailed Master/Development Plans may be

prepared by the respective State Governments, as per zoning regulations in para 17.5 of the Regional Plan-2021.

Table 17.10: Density Norms suggested in Regional Plan-2021

S. No.	Urban Centres	Persons per hectare
1	2	3
a)	Below 50,000 population	60 to 80
b)	50,000 to 1 lakh population	80 to 100
c)	1 lakh to 5 lakhs population	110 to 125
d)	5 lakhs to 10 lakhs population	125 to 150
e)	10 lakhs to 50 lakhs population	150 to 200
f)	More than 50 lakh population	200 to 250

Respective State Governments would elaborate the details of land uses, its phasing for development and zoning regulations in the Sub-regional Plans and Master/Development Plans while preparing them. Phasing of land use development would be done for the year 2011 and 2021.

While preparing the Master/Development Plans for the towns, it is to be ensured that proposed development should not be permitted in the natural conservation zones, planned green areas, agriculture areas, ground water recharging areas and water bodies. Land also be reserved for the activities such as disposal of solid waste generated from the respective towns, town level utility services (such as power plant, grid station, water and sewage treatment plants etc.) dairy farming, horticulture, inter and intra-urban transport system, etc.

Attempt be made to rationalize the quantum of land required for each urban activity while preparing the Master/Development Plan of towns. In case of Delhi, as per the draft Master Plan for Delhi-2021, the entire NCT-Delhi has been proposed as urbanisable area except a green belt of one revenue village depth wherever available along the NCT-Delhi boundary. While finalizing MPD-2021, the natural conservation zone/environmentally sensitive areas including flood plains of river Yamuna to be planned as per the policies mentioned in paras 8.3.4, 8.3.5, 13.1.3, 14.2 (viii) and 17.4.3 (iii) of this Plan. The required land for the activities cited above be earmarked in the Master Plan for Delhi-2021.

(b) Agriculture (Rural) Zone within controlled/development/regulated areas

Agriculture (Rural) zone within the controlled/development/regulated areas of urban centres provided in the Master/Development Plans of the respective controlled/development areas be strictly adhered to. No activities other than those defined in the zoning regulations to the Regional Plan-2021 will be permitted.

(c) Green buffers

Green buffers along the expressways, national highways, state highways and railway lines or around/adjacent to any other area, as provided in the regulated zone along major transport corridors and other areas be maintained and regulated as per the provisions of the respective State acts/Master/Development Plans. These green buffers will be outside urbanisable limits of towns and the zoning regulations for the green buffers will be applicable within and outside the controlled/regulated areas.

The green buffers along the transport networks within this zone will have the following minimum widths on either side of the 'right of way' (ROW), which may be increased if required in the respective Master/Development Plans by the State Governments.

No activities other than those permitted in the Zoning Regulations of the Regional Plan-2021 will be permitted in the green buffers. Where the prevailing State acts provide for a different width, these acts would be suitably amended to incorporate the widths provided in the Regional Plan-2021.

Table 17.11: Green Buffers along Transport Networks

Transport Network	Distance from the either side of ROW (in Metres)
1	2
Expressways/Bypass	100
National Highway	60
State Highway	30
Railway line	30

17.4.2 Highway Corridor Zone

In order to control the large-scale urban development along the important highways in the Region, outside the controlled/development/regulated areas, a regulated zone is provided, within which necessary planned development can be undertaken by the State Governments after taking into account the restrictions of green buffers spelt out in the Regional Plan. However, before planning this area, it be declared as controlled/development/regulated area and a Development/Master Plan will be prepared by the respective State Governments with the approval of the NCR Planning Board and duly notified. The width of these corridors outside the existing controlled areas be minimum 500 metres on either side of the ROW of the highways, as indicated in the proposed Land Use Plan 2021. The actual boundaries of the highway corridor zone will be delineated based on the revenue village boundaries by the respective State Governments in the Sub-regional Plans. The highways, where this restriction will be applicable, have been identified in Chapter 3.

17.4.3 Natural Conservation Zone

The major natural features, identified as environmentally sensitive areas, are the extension of Aravalli ridge in Rajasthan, Haryana and NCT-Delhi, forest areas, the rivers and tributaries of Yamuna, Ganga, Kali, Hindon and Sahibi, sanctuaries, major lakes and water bodies such as Badkal lake, Suraj Kund and Damdama in Haryana Sub-region and Siliserh lake in Rajasthan etc. These areas have been demarcated as Natural Area Conservation Zone in the Regional Plan-2021. Similarly, ground water recharging areas such as water bodies, ox-bow lakes and paleo-channels have also been identified (refer Map 8.1). These areas be further detailed out in the Sub-regional Plans and Master/Development Plans and the broad policies for these zones which are as under be incorporated appropriately in them and be further elaborated and implemented:

- (i) The extension of the Aravalli ridge, sanctuaries and other ecologically sensitive areas be conserved with utmost care and afforested with suitable species. The development in this area be in accordance with the notifications issued for such areas by the Ministry of Environment and Forests under the Environment (Protection) Act, 1986 from time to time.
- (ii) In view of the very low existing forest cover (4.02%), it is imperative to bring more areas under forest so as to maintain the ecological balance in this region. Accordingly, all wastelands identified in the existing Land Use 1999 and proposed Land Use Plan 2021, ROW of irrigation canals, drains, roads, railway lines and village common lands are proposed to be brought under forest cover. The total forest cover proposed to be 10% of the total area of the region.
- (iii) The areas under water bodies, ox-bow lakes and paleo-channels and their surrounding areas as shown in the Ground Water Rechargeable Areas in Map 8.1/Land Use Plan 2021 in Map 17.2 be kept free from any encroachment/development to allow free flow of water. Construction activities for human habitation or for any other ancillary purpose thereto not be permitted. Suitable measures be taken to maintain the water bodies with the minimal flow/water level.

- (iv) In the flood prone areas/river beds/banks, no construction or habitation activities be permitted. Flood Protection Plan be prepared by the concerned State Governments/agencies. Policies proposed in the Disaster Management chapter at para 15.3 be further elaborated in the Sub-regional Plans, Master/Development Plans and Flood Protection Plans.
- (v) Detailed Conservation Plans be prepared for the areas shown as Natural Area Conversation Zone in the Land Use Plan 2021.
- (vi) The monuments/man-made heritage sites and conservation heritage areas be identified in the Master/Zonal Plans of each town and detailed conservation plans be prepared for their protection and conservation.

17.4.4. Agricultural (Rural) Zone outside Controlled/Development/Regulated Areas

Agricultural (Rural) Area of NCR has to be regulated and guided by Village and Block Plans to be drawn under the district planning process. At the regional level, agriculture (rural) zone be designated for primary sector production and as open areas comprising of farmlands, orchards and pastures etc.

The new employment opportunities in non-agriculture sector and consequent concentration of population, the urban expansions would have to be largely made from the agricultural land and other non-urban uses. Therefore, there would be a major impact on land requirements of agriculture sector. In view of this, following policies have been proposed:

- (i) Existing cultivated land be conserved for agriculture use as far as possible. Efforts be made to increase the production through intensive cultivation by providing irrigation facilities and other necessary infrastructure.
- (ii) Measures be initiated for protection of prime agricultural land and ensure its needless conversion into non-agricultural/urban use.
- (iii) Utilisation of less and least valuable land for urban expansion/new urban centres/development purposes.

17.5 ZONING REGULATIONS

Keeping in view rapid urbanisation, environmental degradation and to ensure orderly development in the region, a legislative tool in the form of Zoning Regulation is required. In view of this, four broad zones have been identified for application of strict land use control and development and enabling preparation for detailed Plans such as Sub-regional/Master/Local Area Plans. The elaboration of the land use details and zoning regulations would be incorporated in the Sub-regional Plans and Master/Development Plans by the respective State Governments. Four broad zones and major activities/uses permitted in these zones are given below:

17.5.1. Controlled/Development/Regulated Zone

(a) Urbanisable Areas (including existing built-up/urban areas)

Within the urbanisable area proposed in the Master/Development Plan of the respective towns, the functions and uses designated as under be continued:

- i) Residential
- ii) Commercial
- iii) Industrial

- iv) Government offices, public and semi-public
- v) Recreational
- vi) Utility services
- vii) Transport and communications
- viii) Open spaces, parks and playgrounds
- ix) Graveyards/cemeteries and burning ghats
- x) Man-made heritage areas
- xi) Natural heritage areas/eco-sensitive areas/conservation areas

The local authority according to the prescribed uses in the Master/Development Plans will govern detailed land uses within the urbanisable area. The Master/Development Plans of all the towns will be prepared within the framework of the Regional Plan-2021 and Sub-regional Plans. In case any amendment is required in the acts to implement the policies of Regional Plan-2021 that be done by the respective State Governments appropriately.

(b) Agriculture (Rural) Zone within Controlled/Development/ Regulated Areas

- 1) Agricultural, horticultural crops and cash crops
- 2) Dairy and poultry farming including milk chilling station and pasteurization plants
- 3) Social forestry/plantations including afforestation
- 4) Non-polluting industries registered as RSI/SSI units subject to one of the following conditions:
 - (i) Located within half kilometer belt encircling the existing village *abadi* and approachable from a public road/*rasta* other than scheduled road, national highways and state highways.
 - (ii) On public road/*rasta* not less than 30 feet wide other than scheduled roads, national highways and state highways outside the half kilometre zone referred to in (1) above up to a depth of 100 metres along the approach road.
- (5) Non-polluting agro-based industries on public roads/revenue *rasta* not less than 30 feet wide other than scheduled roads, National Highway and State Highway.
- (6) The site should not fall within 900 metres restricted belt around defence installations.
- (7) Land drainage and irrigation by hydro-electric works and tube well for irrigation
- (8) Sanitary landfill, compost processing plant and other such activity sites with adequate protected belt as prescribed in the CPHEEO Manual of the Ministry of Urban Development and Poverty Alleviation and the notifications issued by the Ministry of Environment and Forests from time to time.
- (9) Mining and extraction operations including lime and brick kilns, stone quarries and crushing subject to the rules and approved site.
- (10) Bus queue shelter and railway station
- (11) Airports with necessary buildings
- (12) Wireless Station

- (13) Grain godowns, storage spaces at site approved by competent authority
- (14) Weather station
- (15) Telephone and electric transmission lines and poles
- (16) Cremation and burial grounds
- (17) Fuel filling station, Service stations and repair workshops
- (18) Power plant/sub-station/water works/treatment plants and other utility services
- (19) Storage godowns for inflammable petroleum products such as LPG, petrol, diesel, kerosene, aviation turbine fuel, light diesel oil and other petroleum products and lubricants with the approval of the competent authority
- (20) Village houses within *abadi-deh*.
- (21) Farm houses outside *abadi-deh*, and
- (22) Expansion of existing village contiguous to *abadi-deh* including social institutions like schools, dispensaries, veterinary centres and police posts strictly for the requirements of the village and located within 500 metres of the *abadi-deh*, if undertaken as a project approved or sponsored by the Central Government or State Governments.
- (22) Recreational/tourist facilities not more than 4.5 metres height, FAR not exceeding 5% of the plot areas.

(c) Green buffers

- i) Approach/service roads
- ii) Agriculture and horticulture
- iii) Social forestry/plantations including afforestation
- iv) Fuel filling stations with amenities like toilets, STD booths, small repair shop, small tea/soft drink and snack bar (with no cooking facility)
- v) Toll Plaza, bus queue shelters, police booth, first aid centres and telephone booth

17.5.2 Highway Corridor Zone

The Highway Corridor Zone will have to be notified as controlled/development/regulated area and Master/Development Plans will have to be prepared by the respective State Governments. In the Highway Corridor Zone (excluding green buffers along highways, activities permitted in 'urbanisable area', 'agriculture zone within development/controlled/regulated areas' and the 'green buffers' prescribed in paras 17.5.1(a), 1(b) and 1(c) of Zoning Regulations will be permitted through Master/Development Plans. Access to the expressways and highways will be regulated by the competent authority.

17.5.3 Natural Conservation Zone

In this zone the following uses activities may be permitted:

- i) Agriculture and horticulture
- ii) Pisciculture

- iii) Social forestry/plantations including afforestation.
- iv) Regional recreational activities with no construction exceeding 0.5% of the area with the permission of the competent authority.

17.5.4 Agriculture (Rural) Zone outside Controlled/Development/Regulated Areas

In the agriculture (rural) area zone outside controlled/development/regulated areas the following activities/uses may be permitted in addition to the activities/uses permitted in the “agriculture zone within controlled/development/regulated area” as indicated in para 17.5 1(b):

- i) Intensive agriculture and allied activities such as dairying and poultry farming
- ii) Afforestation specially on the wastelands and barren lands
- iii) Regional recreational uses such as, regional parks, wildlife sanctuary etc.
- iv) Cemeteries, schools, hospitals, etc.
- v) Quarrying
- vi) Brick kilns
- vii) Existing village *Mandis*/agricultural markets
- viii) Rural industries
- ix) Farm houses