

INNOVATIVE PLANNING PROCESSES FOR SOCIO-ECONOMIC DEVELOPMENT

1: PREAMBLE

1.1 INTRODUCTION

The concept of urban master plans emerged in India a little less than 100 years ago (Bombay Presidency 1913, Madras Presidency 1917 and in the princely states of Hyderabad 1920 and Mysore). However, the Modak Meyer Plan in 1948 for Bombay City was the first real attempt towards an integrated transport-cum-land use plan. This inter alia paved the way for Indian's first comprehensive Master Plan and which came to be known as the Master Plan for Delhi (M.P.D. 1962-81).

In 1962, a **model Town and Country Planning law** by the Government of India (TCPO) led to plan funds for updating comprehensive legislation by the States of the Union and for capacity building for comprehensive Master Plan preparation. By 1970, the **model urban planning and development law** was promoted and Urban Development Authorities emerged on the scene for the larger urban settlements so as to supplement master plans by the states for smaller urban settlements and regions. Since then, the recommendations of the National Commission on Urbanisation and the 73rd and 74th Constitutional Amendment Acts have precipitated the need for comprehensive plans for urbanization through an interplay of redevelopment and outward growth.

Today, most of India's 4600 or so urban agglomerations and towns have planned frameworks. From **Master Plans** many of these have slowly emerged as **Services-cum-Transport-cum-Land Use Integrated Plans**. The process is now veering towards Ecological Management Plans based on flexible **State Vision documents and District and Metropolitan Area Strategy Plans or frameworks** as a basis for detailed plans for urban settlements disaggregated into zones and wards.

In Kolkata, a Metropolitan Planning Committee (MPC) as set up is giving credence to municipal ward and borough plans. In Hyderabad, the HUDA development plan (2001-21) has undergone an extensive and transparent public exposure and debate. In Bangalore, a French consulting team updated for the BDA an UA level base map in great detail for a vastly improved analysis and projections for debate with planning sectors comprising of one or more municipal wards. In Delhi the NCR plan 2001-21 as fleshed out into a 22 district exercise is gearing towards several integrated development projects by the four participating states. On this basis, the MPD update for 2021 is also now available for public debate in the nine districts of NCTD. In Rajasthan, Jaipur is reassessing its metropolitan regional structure in relation to accelerating investments. There are several other innovative plans on the anvil addressed to integrated and regulated growth through an LSG-State partnership.

The time was therefore considered opportune to debate on these innovative initiatives. Can the process be improved? or restructured? Does legislation need change to accelerate the process? Is participation by the people improving? Is capacity building being addressed? There are a series of questions and options on the anvil.



1.2 SEMINAR PROGRAMME

To discuss these and related issues through experiences and ideas, AMDA organized its Seminar 2005 at Mount Abu on the theme “**Innovative Planning Processes for Socio-Economic Development**” at the only hill station of the State of Rajasthan.

Mount Abu is 156 km from Udaipur, where the nearest airport of Maharana Pratap Airport is situated. The nearest railway station is Abu Road (29 km) situated on the Mumbai-Ahmedabad-Ajmer-Jaipur-Delhi route slated as a rapid transit corridor.

The AMDA Seminar 2005 was held at the **Palanpur Palace Hotel (a Heritage hotel)**, from **the afternoon of Friday 10th June to the afternoon of Saturday 11th June, 2005** as per the following programme:

June 10, 2005 (Friday)

17.00 hrs Registration

18.00 hrs **Session I: Inaugural Session**

Welcome address – Prof. E.F.N. Ribeiro, Director, AMDA

“Master Plan for Delhi – 2021 – making a difference” – Shri A.K. Jain, Commissioner (Planning), Delhi Development Authority, New Delhi

Discussions

20.00 hrs Dinner

June 11, 2005 (Saturday)

08.00 hrs Breakfast

09.00 hrs **Session II: Case Studies and Discussions**

Chairman – Shri Surendra Bhai Patel, Chairman, Ahmedabad Urban Development Authority (AUDA), Ahmedabad

“Draft Regional Plan 2021 for NCR – major Policies and Proposals” – Shri J.N. Barman, Jt. Director, NCRPB

“Master Plan as a basic instrument of Land-use Planning” – Shri S.P. Jakhanwal, IAS (Retd.), Director, Amity School of Urban Management, New Delhi

Discussions

10.45 hrs Coffee break

11.00 hrs **Session III: Case Studies and Discussions (continued)**

Chairman – Prof. E.F.N. Ribeiro, Director, AMDA

“Planning the Future Development of Jaipur and Working out Comprehensive Urban Development Policy” – Shri Satish K. Sharma, Dy. Town Planner, Jaipur Development Authority, Jaipur

“Innovative Aspects of Implementation of Development Plan 2011 AD for AUDA” – Shri Surendra Bhai Patel, Chairman, AUDA

Discussions

13.15 hrs Lunch

14.00 hrs **Session IV: Concluding Session: Recommendations and follow-up actions**

Chairman – Prof. E.F.N. Ribeiro, Director, AMDA

15.30 hrs Coffee break

16.00 hrs Sight seeing tour

20.00 hrs Refreshments and Dinner



2: SESSION I: INAUGURAL SESSION

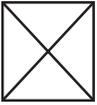
- 2.1 The session was moderated by Prof. E.F.N. Ribeiro, Director, AMDA. The theme of the seminar was presented by Prof. Ribeiro. This was followed by welcome address and one presentation by Shri A.K. Jain, Commissioner (Planning), Delhi Development Authority (DDA), New Delhi. Presentations and discussions continued in Sessions II and III on the next day. Recommendations and follow up actions were formulated at Session IV.

Five papers presented at the seminar are at **Annex II**, and comprise of a) **“Master Plan for Delhi – 2021 – Making a Difference”** by Shri A.K. Jain, Commissioner (Planning), DDA; b) **“Draft Regional Plan 2021 for NCR – major Policies and Proposals”** – Shri J.N. Barman, Jt. Director, NCRPB; c) **“Master Plan as a basic instrument of Land-use Planning”** – Shri S.P. Jakhanwal, IAS (Retd.), Director, Amity School of Urban Management, New Delhi; d) **“Planning the Future Development of Jaipur and Working out Comprehensive Urban Development Policy”** – Shri Satish K. Sharma, Dy. Town Planner, Jaipur Development Authority, Jaipur and e) **“Innovative Aspects of Implementation of Development Plan 2011 AD for AUDA”** – Shri Surendra Bhai Patel, Chairman, AUDA, Ahmedabad.

By way of background information, five papers were circulated to participants. One of these was an abstract from the journal Spatio-Economic Development Record, Vol. 12, No. 2, March-April, 2005, Executive Summary of **Draft Master Plan for Delhi – 2021**, prepared by DDA, New Delhi. Copies of the other four papers are at **Annex-III** viz. a) a paper on Bangalore Master Plan by AMDA, entitled **“Some quick views on the Proposed Revised CDP for the BMA 2005-15”**; b) a paper on the views on Draft Regional Plan 2021 for NCR by Prof. E.F.N. Ribeiro, Director AMDA entitled **“A few Personal Reactions to the Draft NCR Regional Plan – 2001-21”**; c) a paper on Revised Plan for Mysore by AMDA entitled **“Proposed Guidelines for Formulating Revised Plan for Mysore”** and d) a paper by Prof. Ribeiro, Director AMDA on **“Proposed Vision to Updating the Jaipur Master Development Plan for the period 2005-2025”**.

2.2 WELCOME ADDRESS

In his welcome address Prof. E.F.N. Ribeiro, briefly explained about the aims and objectives of AMDA. Through bi-monthly newsletter, annual conferences, seminars and occasional research papers, the Association offers a platform for information to its members. He emphasised that the Master Plan for Delhi, 1962 was the first real comprehensive plan in country. Recently there are trends of preparation of State Vision Plan, starting with the Jharkhand Vision Plan. In the State of Uttar Pradesh, city vision plans have been prepared for 20 cities that have urban development authorities. He informed the participants that foreign consultants have worked on the preparation of a Comprehensive Development plan (CDP) for Bangalore Metropolitan Area. (This is now called a Master Plan through legislative changes in the Karnataka Town and Country Planning Act.) Also for the first time in the country the Karnataka State Government has created an act for conservation planning for a World Heritage Site. This Act is called the Hampi World Heritage Management Development Authority Act, 2003. He thus emphasised that the process of providing legal



planned frameworks for investments and conservation in India has rapidly improved through legislation, base map techniques, surveys, analyses and projections by skilled personnel. This is for all levels of development through State Vision Plans, District and Metropolitan Area Development Plans, urban, zonal and ward level and rural settlement plans. We however have a long way to go before sectoral and private investments are through acceptable legal and transparent frameworks. This seminar is one of several that aims in exchanging innovative experiences towards a quicker and holistic planning process.

He then requested Shri A.K. Jain to present his paper on Delhi. A brief of Shri Jain's presentation is as below:

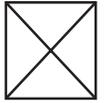
2.3 MASTER PLAN FOR DELHI – 2021 – MAKING A DIFFERENCE

Shri A.K. Jain, Commissioner (Planning), DDA called his presentation “**Master Plan for Delhi – 2021 – making a difference**”. A copy of his presentation is at Annex III a.

Shri Jain first gave a brief review of the progress of preparation of different Master Plan of Delhi in 1962, 1990 and now 2003. He was of the view that MPD-2021 takes urban planning in the country several steps further by adopting fresh strategies like resource-based planning, economic and financial dimension of spatial plans, regeneration of dilapidated areas, rehabilitation of slums, informal trade, non-conforming industries and rejuvenation of work centers, shopping areas etc into consideration. A focus on the environment through protection of the river and water bodies, use of wastelands, groundwater recharge and recycling of wastes and air, ground and water pollution control were part of the plan, services and a thorough review of controls and decision making systems and procedures and removal of barriers to innovation and new partnerships make the plan a replicable and far-sighted one. Moreover, for the first time, the planning process recognizes market forces and aims to harness peoples' potential and civil society.

In the regional context Shri Jain stated that the Master Plan envisages a close and intrinsic linkage between the urbanization strategy and land use planning for the National Capital Region in general and the Central National Capital Region (CNCR) in particular, as an urban continuum with Delhi. He stated that there is a need for a special initiative to identify the “Rurban” areas to be developed in the form of new planned areas in the remaining area of the NCR. Accordingly the Master Plan stipulates that no new government offices should be located in NCTD in future and that existing public sector undertakings should be shifted to the NCR in a time bound manner. He stated that the plan recommends that industrial growth of Delhi be restricted to high tech industry with emphasis on units, which require skill, less manpower and energy. In order to encourage decentralization major regional transport corridors and communication networks are to be strengthened to enhance economic development within the region, while natural features such as forests, wildlife, ridge and river Yamuna and water bodies are conserved and kept free from urban development.

Shri Jain informed that the population of the NCTD may range between 220 to 230 lakhs in the year 2021. With the generation of employment in different sectors, the participation rate for 2021 would be 38.1 percent in the NCTD. This would generate a total work force of about 80 lakhs. To accommodate the projected population, it is necessary to develop



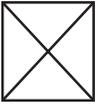
new areas while redensifying the existing urban areas, based on their holding capacity. The additional population for the year 2021 would have to be accommodated in the planned new urban extensions. To accommodate the projected additional population @ 250 pph average city level density, the requirement for urban extension would be 20,000-22000 ha of land within development time frame of 15 -16 years. The immediate urban extension zones have accordingly been identified as zones J to L, N & P. The land required for further urbanisation, will have to be assembled through a mix of acquisition and land assembly techniques of land pooling etc., involving the public and private sectors/ land owners.

Shri Jain stated that the Redevelopment of Influence Zone along MRTS and major Transport Corridor is to be facilitated on the basis of the following strategy:

- i. Upto a maximum 500 m. wide belt on both sides of centre line of the MRTS route will be designated as Influence Zone. Entire approved layout plan of a scheme will be included in the zone if more than 70% of the layout plan area falls inside the 500 m. belt. In case of large schemes, block / pocket boundary should be considered as one scheme for this purpose.
- ii. The approval of schemes will be granted only after commencement of execution of the respective phase of MRTS;
- iii. Special provisions are to be made for the following areas, in order to retain their basic character:
 - Lutyens' Bungalow Zone, Chanakya Puri, DIZ Area, Mata Sundari Area;
 - Civil Lines Bungalow Area;
 - Monument Regulated Zone (As per ASI guidelines)
- iv. Development Controls applicable will be the same for the respective use Zones / Use Premises, except for FAR and height as per the specific schemes;
- v. Subject to preparation and approval of comprehensive integrated scheme the maximum FAR and height will be upto 1.5 times of the permissible FAR on the respective use premises;
- vi. In the proposed Urban Extension areas, the land uses will be integrated with the proposed movement corridors at planning stage.

A major innovation of MPD 21 is the Redensification/Conservation of the Special Area (Old City) and redevelopment of Slum and JJ Clusters, resettlement colonies and unauthorised colonies. The basic objective of redevelopment is to upgrade the area by implementing specific schemes on the basis of existing physical and socio-economic conditions in the following way:

- i) Influence Zone along MRTS Corridor, the Sub-Zones of Special Area schemes for redevelopment and renewal be identified on the basis of physical features such as metro, roads, drains, high tension lines and control zones of Monuments/ Heritage areas, etc;



-
-
- ii) The resident/ cooperative societies/ private developers should get the layout and services plan prepared in consultation with the concerned authority for approval.
 - iii) Within the overall Redevelopment/ Regularisation plans, the process of building plan approval is proposed at two stages, Planning Permission and Cluster Block Approval.
 - Planning Permission is proposed to be accorded for an area of around 4 Ha. This permission may not be required in case an approved layout / Redevelopment / Regularisation plan exists.
 - Cluster Block approval may be accorded for a minimum area of 3000 sqm. The owners should pool together and reorganise their individual properties so as to provide minimum 30% of area as common green/soft parking besides circulation areas and common facilities.
 - iv) Amalgamation and reconstitution of plots for planning purpose will be permitted. Subdivision of plots is not permitted.
 - v) The Public and Semi-public uses and services like hospitals, dispensaries, colleges, schools, police stations, fire stations, post offices, local government offices, parking etc. shall be retained in their present locations and also additional sites could be indicated in the Urban Renewal schemes/ Zonal Plans. The Accommodation Reservation (AR) technique would be applicable for the specified facilities.
 - vi) Reduced space norms may be adopted for community facilities/ social infrastructure. The land required for any public purpose may be acquired by the consent of the owner through issue of Development Rights Certificate in lieu of payment towards cost of land as per the prescribed regulations. The concept of Accommodation Reservation i.e. allowing construction of community facilities without counting in FAR may also be utilized.
 - vii) Subject to preparation and approval of integrated/ comprehensive Redevelopment Scheme and provision of parking and services, additional FAR may be granted in specific areas/ schemes by payment of additional charges with a view to trigger a process of self-generating redevelopment.

Shri Jain next highlighted the proposed guidelines provided in MPD 21 for shelter, trade and commerce, informal sector, industry, government offices, environment, conservation of built heritage, urban design, transportation, social infrastructure, physical infrastructure and mixed land use.

Shri Jain concluded his presentation by mentioning Patton's law – 'a good plan of today is better than a perfect plan of tomorrow' and Lowe's law – 'success always occurs in private and failure access in public view'. Also the principle of design inertia – 'any change looks terrible at first sight'. He accordingly emphasised the innovative contents of the Plan in transition and which require time to be made operative in a high land value.



3: SESSION II: CASE STUDIES AND DISCUSSIONS

3.1 This session was chaired by Shri Surendra Bhai Patel, Chairman, AUDA. There were two presentations in this session. One was by Shri J.N. Barman, Joint Director, NCRPB on “Draft Regional Plan 2021 for NCR – major Policies and Proposals” Another presentation was by Shri S.P. Jakhanwal, IAS (Retd), Director, ASUM, new Delhi on “Master Plan as a basic instrument of Land-use Planning”.

3.2 DRAFT REGIONAL PLAN 2021 FOR NCR – MAJOR POLICIES AND PROPOSALS

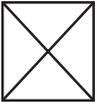
Shri J.N. Barman called his presentation “Draft Regional Plan 2021 for NCR – major Policies and Proposals”. A copy of his power-point presentation is at Annex III b.

Shri Barman gave an overview of NCR Region, its population growth and migration patterns and the evolution of National Capital Region Planning Board (NCRPB). NCRPB was set up to promote growth and balanced development of the NCR Region. He also briefed on the constitution, functions of NCRPB before drawing some lines in favour of draft NCR Regional Plan’s (2021) aspects, aims and objectives. He informed that area of NCR has increased from 30,242 sq. kms to 33,578 sq. kms due to inclusion of all the tehsils of district Alwar of Rajasthan sub-region in the NCR. The policy zones of NCR has increased from three to five; these are i) NCT Delhi (Inner Zone), ii) CNCR/DMA (Central Zone), iii) Highway Corridor Zone and iv) Rest of NCR (Outer Zone). The total area under policy zones also increased from 27,063 sq. kms (in 2001) to 29,795 sq. kms (in 2021) due to inclusion of Muradnagar, Graeter Noida and Sonipat as DMA towns and 300 sq. kms area under the Highway Corridor Zone. Six hierarchical levels of settlements have been proposed these are: i) Metro Centres (7 in number), ii) Regional Centres (11 in number), iii) Sub-regional Centres, iv) Service Centres, v) Central Villages and vi) Basic Villages. Seven urban complexes have been identified, these are: a) Sonipat-Kundli Complex, b) Baghpat-Baraut Complex, c) Ghaziabad-Loni, d) Bulandshahr-Khurja, e) Faridabad-Ballabgarh, f) Rewari-Daruhera-Bawal and g) Behror-Shahjahanpur-Neemrana.

Shri Barman highlighted on the proposed economic activities and policy measures of the NCR plan, some of the important point are:

- i) Facilitate value-added high-tech service sector in Delhi.
- ii) Adopt investment strategies to restrict less desirable economic activities by not allowing new industrial areas, wholesale trade area and offices in Delhi.
- iii) Only high-tech industries in Delhi.
- iv) Restrict number and size of Govt. Offices / PSUs in Delhi.
- v) Shift space extensive / hazardous wholesale trades outside Delhi.
- vi) Uniformity in tax regime – sales tax, VAT etc.

Shri Barman also explained the proposed road and rail network in the NCR, which will help to provide faster and efficient transport linkages amongst metro/regional centres in NCR and within Delhi and to decongest Delhi by diverting through traffic. He briefly indicated the proposed plans for power, water supply, sewerage, solid waste management, environment, tourism and heritage and disaster management. He also briefly touched on the proposed plan for land use which has been categorised in four zones/areas e.g. i)



Regulated Zone, ii) Highway Corridor Zone, iii) Natural Conservation Zone and iv) Agricultural (Rural) Zone (outside Development/Controlled Areas). On the development of counter magnet areas he stated that proposals incorporate the strengthening of economic base, upgradation of physical and social infrastructure and strengthening of regional linkages between the metro centres and the counter magnet cities.

Thrust areas of NCR highlighted in his presentation, include:

- Development of Metro Centres and Regional Centres as powerful growth nodes to attract major activities;
- Provide regional transport linkages – Regional Rapid Transit System (RRTS) & its interface with Delhi metro;
- Construction of Peripheral Expressways and Orbital Rail Corridor around Delhi;
- Development of core urban infrastructure (transport, power, water supply, sewerage, drainage etc.) in NCR towns;
- Facilitate development of the region's economy through model industrial estates, special economic zones etc. outside NCT-Delhi;
- Development of 5 counter magnet areas outside NCR – Gwalior, Bareilly, Kota, Hissar and Patiala; and
- Public-private partnership.

Shri Barman concluded his presentation with the suggestions of management of civic infrastructure projects, such as:

- Need for special component plan,
- Centrally sponsored schemes for infrastructure development,
- External development charges to be spent for integrated physical infrastructure development of towns,
- Institutional capacity building, involvement of NGOs and Private Sectors,
- Mass awareness to save water, power/waste minimization/recycling of waste.

3.3 MASTER PLAN AS A BASIC INSTRUMENT OF LAND-USE PLANNING

Shri S.P. Jakhanwal, IAS (Retd.), Director, ASUM called his paper as “**Master Plan as a basic instrument of Land-use Planning**”. A copy of his presentation is at Annex III c. He stated that planning for cities through rigid plans as also the socio-economic planning through centralized plans have both become outdated and irrelevant for the present era. He thought that physical planning for land and infrastructure will remain a theoretical exercise unless it is laced with socio-economic considerations. The neo-planners found centralized planning neither sub-serving nor capable of adapting to the changing needs. Shri Jakhanwal recommended the master plan as a basic instrument of land-use planning, and said it should continue to be available with the urban planners and managers. A chapter in each master plan should be devoted to the socio-economic aspects and investments needed for projected infrastructure.

Shri Jakhanwal drew the attention of the participants towards the role of river/canal as integral elements of cityscape and as a very valuable natural asset. He observed that while the urban planners have, in recent times, given some attention to planning of hill cities, precious little has been done on planning of river/water fronts in the cities. He pleaded that AMDA, being a representative body of metropolitan areas, may seriously consider organizing a national/regional seminar on “Development of Water Fronts in Cities”.



4: SESSION III: CASE STUDIES AND DISCUSSIONS (continued)

4.1 This session was chaired by Prof. E.F.N. Ribeiro. Two papers were presented in this session, first by Shri Satish K. Sharma, Dy. Town Planner, Jaipur Development Authority on "Planning the Future Development of Jaipur and Working out Comprehensive Urban Development Policy". And second by Shri Surendra Bhai Patel, Chairman, AUDA on "Innovative Aspects of Implementation of Development Plan 2011 AD for AUDA".

4.2 PLANNING THE FUTURE DEVELOPMENT OF JAIPUR AND WORKING OUT COMPREHENSIVE URBAN DEVELOPMENT POLICY

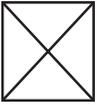
Shri Satish K. Sharma, Deputy Town Planner, Jaipur Development Authority called his paper "Planning the Future Development of Jaipur and Working out Comprehensive Urban Development Policy". A copy of his power-point presentation is at Annex III d.

Shri Sharma introduced in brief the first Master Plan-1991 for Jaipur and made a detailed presentation of second Master Plan-2011 of Jaipur Region. Total population of Jaipur Region was 23.24 lakh in 2001 and the projected population is 42.16 lakh by 2011. The total area of Jaipur Region is 1,959 sq. km of which developed area is only 191 sq. km. of this about 25% (481 sq. km) is under protected and reserved forests, which is lying in the east and north east of Jaipur. A total of 391 sq. km area mainly in the western part of the city is proposed to be added by 2011 to the Jaipur region. Shri Sharma focussed on the detailed land use plan of Master Development Plan-2011 of Jaipur. Four major projects have been proposed in Jaipur Region, these are: i) Sports City project, near Achrol on the western side of NH-8 with a proposed land area of 140 ha. This location is at a distance of 28 km north of Jaipur; ii) Film City project, 13 km east of Jaipur on Delhi-Agra highway with a proposed area of 310 ha; iii) International Convention Centre and International Golf course project, near Dehmikalan, on Jaipur-Ajmer highway about 22 km west of Jaipur. The total area propose for this project is 200 ha; iv) SEZ project, near Sitapur industrial area, on the south of Jaipur.

Shri Sharma than stated that the immediate focus of Jaipur Master Development Plan is as under:

- Impact of real estate boom mainly along Highway corridors.
- Direction of growth to take into account the physiography of Jaipur Region.
- Main Highways to act as Urban Economic Corridors attracting development.
- Comprehensive development of urban areas to accommodate city/sector level facilities.
- Encourage development of Satellite towns-Initiatives

The presentation was supported by a map of proposed extension of Jaipur Region. The extension was proposed mainly along the ring road, along Jaipur-Ajmer highway and along Jaipur Delhi highway. He also highlighted different acts as legal backing for the implementation of the proposed master Development Plan. Shri Sharma concluded with some issues under consideration for township development to the participants of seminar. These were:



-
- Should there be minimum area restriction? If yes, What?
 - Can land pooling model be adopted (Gujarat pattern)? If yes, will it require any changes in present legal framework or can it be achieved through available legal tools?
 - Can Jaipur be brought at par with other world class cities if so, what are the required initiatives.
 - Can it be evolved as an ideal model for integrated Townships through lessons from other states?
 - through separate legal frame work to achieve the above,
 - or can it be within the set of rules in vogue.
 - Can it be addressed and explored the possibility of physical development of potential areas falling in Ecological Zone without disturbing the ecological fabric of the Zone
 - Can it be addressed the problems related with Real estate boom and residential development.
 - How the Authority can utilize the Real estate boom in the overall development of the Jaipur City and its environs.

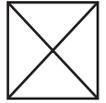
4.3 INNOVATIVE ASPECTS OF IMPLEMENTATION OF DEVELOPMENT PLAN 2011 AD FOR AUDA

The second presentation in this session was made by Shri Surendra Bhai Patel, Chairman, AUDA. He called his papers “Innovative Aspects of Implementation of Development Plan 2011 AD for AUDA” and “Vastrapur Lake Redevelopment – Ahmedabad”. A copy of these presentations is at Annex III e.

Shri Patel emphasized on the need of cities as servicing urban land for rapid growth and development of physical and social infrastructures. He presented and explained the land use zoning and structural road network maps of revised Development Plan for AUDA, 2011 AD. The salient features of the Plan are:

- Release of 65sq.km of additional land for urbanized development,
- No new reservations for acquisitions,
- The plan adopted rational principles for zoning and road network planning,
- Zoning of three types of residential areas:
 - Residential I: High density
 - Residential II: Medium density
 - Residential III: Low density
- A proposal for removal of green belt arrested leap-frogging development

Shri Patel next stressed on the role of Public-Private Partnership to build the city. He mentioned the successful story of implementation of Development Plan of AUDA through preparing and implementing Town Planning Schemes. He briefed the mechanisms of Bulk Land Acquisition Method and Town Planning Scheme and made a comparison between these two schemes. Bulk land acquisition is a centralized approach and it is consistent with the pre-liberalization/centralized development policy and creates a monopoly in land supply, raises land cost and impedes rapid development. On the other hand the Town



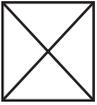
Planning Scheme is a more democratic, people-friendly and participatory approach. It is more relevant in a liberal economy and acts as a facilitator not a provider and creates a vibrant land market, keeps land process in check and assists rapid development. Doing away with reservations for land acquisition helped in faster implementation, lesser delays and greater acceptance of the development proposals by the people. A success full achievement of TP scheme is the building of Ahmedabad's Sardar Patel Ring Road. The development of city level roads, flyovers, water supply and sewerage were also highlighted in the presentation.

Shri Patel then stressed on the improved environmental conditions of AUDA. He emphasised that as the concepts of 'Green Belts' has failed throughout the world the concept of 'Garden Bungalow type' development acting as 'lungs' of the city is in vogue in Ahmedabad. AUDA is proposed to do the work of interlinking, redevelopment, and beautification of 10 of the 22 identified lakes. AUDA has taken Vastrapur Lake Redevelopment as a pilot project on this regard. Shri Patel has presented a detail of the pilot project. The major initiatives taken in this project are:

- Interlinking of lakes so that the overflow of lake would feed into the next, ultimately leading to the draining of excess water into the River Sabarmati
- Desilting, deepening of lakes
- Landscaping works and development of recreational facilities around the lakes such as parks, jogger tracks, amphitheatres, eating joints etc
- Construction of percolation wells within lakes to facilitate ground water recharge
- Construction of storm water network around the talavs (ponds) to capture the runoff
- Redevelopment of various talavs (ponds) along with recreational facilities will create breathing spaces for the dense urban areas
- Construction of percolation wells so as to enhance the ground water recharge
- Interlinking of talavs (ponds) for better management of the storm water
- Environmental improvements to discourage slum encroachments, enhance land values and foster high quality urban development

The process and project components in the Vastrapur Lake Redevelopment are:

- Sewerage system in the surrounding areas
- Storm water in the surrounding areas
- Development of access roads
- Rehabilitation of slum dwellers
- Removal of encroachments
- Desilting and deepening works
- Construction of Percolating Wells
- Reclamation of periphery for activities
- Architectural and landscape design
- Cost estimates



5: SESSION IV: CONCLUDING SESSION

- 5.1 Prof. E.F.N. Ribeiro, Director, AMDA chaired the session. He asked the rapporteur, Shri Ashfaque Alam, Asstt. Director (R&T), AMDA to briefly highlight the key issues that emerged from Sessions I, II and III. This led to discussions/views from the participants.
- 5.2 **BASED ON THE DISCUSSIONS, THE FOLLOWING SCENARIOS EMERGED FROM THE SEMINAR:-**
- a) The seminar took note that land is a diminishing and scare resource in India. Therefore we have to encourage integrated urban and regional planning policies and strategies that cater to both – spread and redevelopment at higher densities. With an emerging population parity between urban and rural, the policy is now veering towards a canvas of an integrated urban-rural continuum as the key to a balanced urbanization.
 - b) As there is a wide range of urban centers, most with high growth rates an interplay of mega-cities, metro-cities, medium and small cities and large, medium and small towns are emerging. This heirarchical interplay gets complete with rural growth centres as a panchayat and other smaller villages grouped as panchayats.
 - c) The seminar underlined the fact that urban and regional planning, local governance, access to land, housing, slum upgradation and urban transport are in the state legislative list, whereas industrial growth, tourism, ecological management, heritage promotion, health and education are in the concurrent list. These subjects largely govern the use of urban land. It was therefore envisaged that through the 73rd Constitutional Amendment Act, 1992 (73rd CAA, 1992) for rural India and the 74th CAA-1992 for urban India, a down-top process involving change in scarce and competing uses of land would be through a Local Bodies-State interface rather than the present Central-State interface. However for the National Capital Territory of Delhi the policies could differ.
 - d) The seminar noted that the emerging spatial canvas for socio-economic investments and based on the 1992 CA Acts is emerging as follows :
 - Each State formulates its 20-year Vision Plan, updated every 5 years;
 - Megacity UA's and metro city UA's have Metropolitan Planning Committees (MPC's) that formulate 20-year Metropolitan Region Perspective Plans updated every 5-years (based on the State Vision Plans);
 - Likewise other Districts (about 535 rural districts in 2001, outside megacities and metro districts) have District Planning Committees (DPCs) that formulate 20-year District Perspective Plans updated every 5-years (based on State Vision Plans) and incorporating all non-MPC settlements therein (from medium and small cities, large, medium and small towns, rural growth centres and other rural settlements);
 - LBs – as a third tier of government (Municipal Corporations, Municipal Councils, Nagar (town) Panchayats and Rural Panchayats) then take over from the State processed flexible canvas for preparing their Settlement Plans disaggregated into Sector or Zonal Plans and Ward Plans and for facilitating sectoral projects/schemes/ local area plans/action area plans.



It is envisaged that this would make socio-economic investments more integrated through a better LB-State partnership.

- e) The emerging frameworks would primarily be an exercise of sustainable opportunities and constraints on the use of land. The three major **CONSTRAINTS** noted as positive objectives are the ensuring of :-

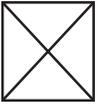
- increase in forest covers (hopefully to be 30 per cent of all lands);
- increase in multi-cropped agriculture lands-including orchards and market gardens;
- retention and enhancement of wetlands and water courses ;
- Conservation of the natural and manmade heritage – both urban and rural.

The three major **OPPORTUNITIES** were noted as :-

- the imposition of transport linkages for the inter and intra settlement movement of goods and people;
- facilitating the supply of adequate services and the proper disposal of waste; and
- making the best use of wastelands for development.

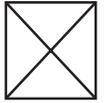
In the process, the Master Plan concept is being phased out. The Perspective Development Plan (services-cum-transport-cum-land use in tandem) is in vogue. The Ecological Management Plan is being now considered for integrated investments with Conservation being an important and positive ingredient of development

- f) With access to land being increasingly competitive, the seminar noted that planning through the people rather than for the people is mandated in the 73rd and 74th CAA. The 2nd tier (State URP Departments and Development Authorities) could intervene upto agglomeration levels and otherwise offer advise to LBs and intervene by default. Basically however the 3rd tier would have to promote participatory planned development for their own settlement (as part of agglomerations) and disaggregated zonal/sector/ Borough plans composed of wards.
- g) The seminar noted that generally, each urban settlement has a form comprising of :
- an inner city prior to planned intervention and now ripe for redevelopment (generally pre-1961) ;
 - an intermediate city due to planned intervention (generally 1961-2001) and now ripe for higher density redevelopment ; and
 - a city at the periphery for new growth at high density (post 2001).
- h) Participants endorsed the view that enhanced forest cover, protected water courses, increased double-cropped agriculture lands, full use of wastelands and access to adequate services and proper disposal of waste are priorities in spatial plans based on transportation and its interface with land use. In this process, the entire change from agriculture to non-agriculture would be on the fringe of existing settlements. The settlements expansion policy therefore is to optimize the use of unused or underutilized urban lands within the existing urban fence and only then to extend the urban fence. This extension would have to be at high density so that a minimum of prime agriculture land is taken. Also, steps are being taken to curb underutilizing of urban lands – be they by the railways, defence, port trusts, pubic works departments, parastatals, institutions, trusts or individuals.



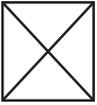
5.3 ACCORDINGLY, THE FOLLOWING KEY RECOMMENDATIONS EMERGED FROM THE SEMINAR:

- a. **Municipal Wards:** Plans are now gradually emerging in relation to central, state and local jurisdictions. It is now being increasingly accepted that the municipal ward is the ideal platform for offering a transparent spatial canvas for sectoral programmes and projects – all of which impact the use of land and govern the attitude/well-being of individuals/ households/beneficiaries. **Ward plans by LBs would enable collective action through an interplay between the various neighbourhoods/cells of the ward under a ward councillor accountable to the Municipal Corporation or Council.** Mapped data and proposals at ward level can be more easily understood and digested by the constituency and which hopefully would in stages become more manageable at 30 to 50,000 or so population for Metro-cities and less for smaller settlements. Even, local, state and central sectoral agencies can address integrated environment upgradation and development issues far more effectively through ward plans. The scenario is a little different in the NCTD and where the centre-state equation is of greter significance.
- b. **Urban Mapping:** One of the major reasons why ward plans and all plans in general do not easily take off is the lack of transparency in mapping. The situtation is fast improving through growing sophistication in aerial photography, imagery, map preparation, GIS and map interpretation and analysis through ideal comparable scales map (1:1/4 million to 1:1 million for states map; 1:100,000 to 1:1/4 million for districts map with 10m. contour intervals (CIs) ; 1:50,000 for taluka/metropolitan regions map with 3 to 5m CIs ; 1:10,000 to 1:25, 000 for cities/towns map with 3m CIs; 1:5,000 to 1:10,000 for zones/boroughs/small settlements map with 1 to 3 m CIs ; 1:2000 to 1:5,000 for wards with 1m CIs ; 1:500 to 1:2,000 for projects with 0.5 to 1m CIs).
- c. **Regional Transport:** Credence is to be given to regional transport. Broad guage double track electrical rail haulage of goods and people coupled with the national road expressway and upgraded national highway systems is precipitating the growth of urban regional corridors helped by upgraded national ports and international / national airports. The emergence of urban corridors with a substantial increase in industrial investments, services, flow of goods and people along them is a significant feature of spatial change in many states in recent years. These are rapidly impacting the spread and shape, infrastructure and environment, organizational framework for management and governance. Rapid changes in Information Technology is also impacting locational changes through global inter-city alliances calling for inbuilt flexibility in perspective and structure plans.
- d. **Urban Public Transport:** These are provided by road and rail and supplemented by water where feasible (Kolkata, Kochi). At present there is a lack of convergence in the provision/fusion of these systems. In Delhi, the bus and ring rail systems are now supplemented by Mass Rail Transit Systems (MRTS) ; a Rapid Bus System (RBS) through dedicated lanes is also on the anvil. Light rail and trolley bus proposals have not been abandoned and there is also talk of a monorail. In principle more systems the better so as to provide a higher modal split in favour of public transport provided the much talked about “**Unified Metropolitan Transport Authority**” – **UMTA** is first in



place. This is being considered by several States and their Metropolitan Development Authorities.

- e. Urban Housing:** Despite enunciated policies, State Housing Boards still build houses rather than acting as facilitators. Worse still, Development Authorities also prefer to build houses (often in competition with Housing Boards). Also, the distinction between the urban poor and other groups is still vague – the result of disaggregation of all housing into high income group (HIG), middle income group (MIG), low income group (LIG) and economically weaker sections (EWS) (10,20,30,40 per cent as a thumb rule). If EWS is further disaggregated into 4 categories i.e. pavement dwellers, squatters, identified slums and established core area slums, then quite clearly pavement dwellers and squatters are not part of the EWS support basket i.e. the grant oriented lowest income group (upto 40 per cent in Mumbai and 30 per cent in Delhi). Clearly, there is no alternative to in-situ upgrading for a large proportion of the lowest income group despite the slogan of cities without slums. This should now be given credence in development plans.
- f. Urban Heritage:** The crucial subject of urban heritage conservation has hitherto been ignored in spatial frameworks and socio-economic investments thereof. This comprises of natural and manmade heritage. Manmade is further sub-divided into movable and immovable artifacts. Listing of sites, remains, ruins, and buildings of archaeological, historical, architectural, cultural and ecological significance is now being incorporated in State Urban and Regional Planning and Development Acts. Thus statutory archaeological protection should be integrated into heritage conservation as part of a development process. This is also true of environment protection.
- g. Zoning/Sub-division regulations** as elsewhere is part of a planning process. Building bye-laws (health and fire and building structural safety) is a municipal function. The two can best converge at the level of the ward plan and not the Master Plan and its zonal/sector plans. The process is being simplified at state and local levels so as to be easily digested by all those undertaking development (including additions and alterations). Maximum permissible floor area ratios (FAR) and minimum parking within plots are now being recognised as the two crucial ingredients of development control. The transfer of development rights (TDR) on non utilised FAR is also now being accepted along with compensatory FAR on mandatory acquisitions. Changes in informatics technology, differential services in terms of water, power and waste disposal and their network designs enable a better mix of activities in different land use zones: likewise, governance and financial management also need accelerated importance.
- h. Disaster Management:** Disaster management is also now being given weightage in environment management plans through the national disaster preparation and management programme. Updated seismic maps of India have helped in reorganising the 5 graded zones requiring different seismic safeguards in settlements and buildings so as to reduce earthquake vulnerability. Coastal Regulation Zones have now specific safeguards to India's fragile littoral and estuarine zones under the natural disaster risk management programme. Efforts at mapping and conserving wetlands, forests, game reserves and other ecologically fragile areas are being accelerated. Alternative technology systems are slowly picking up inclusive of incentives. These need being



considered in Development Plans. Primarily however, the rush to large settlements through over 50 per cent decadal growth rates generally create backlogs in services often requiring crisis management along with integrated growth.

- i. For the above key issues in Plan implementation and enforcement in India, capacity and knowledge building for spatial planners at the central, state and local levels as also in planning schools is a must. This requires adequate funds.
- j. There were several other innovative issues endorsed by the seminar like simplified Development Control rules and regulations, standardised techniques in plan preparations/ presentations and deterrent changes for misuses. Most of these are being given credence in the planning process.

5.4 The seminar recommendations were based on experiences in vastly differing situations like Delhi, NCR, Jaipur, Ahmedabad and Bangalore. Accordingly only broad recommendations as above were made for circulation to members and others.

5.5 The vote of thanks to the participants was made by Shri Ashfaque Akam, Asstt. Director (R&T), AMDA



Annex I

LIST OF PARTICIPANTS

1. Shri Surendra Bhai Patel,
Chairman,
Ahmedabad Urban Development Authority
(AUDA), Sardar Vallabhai Patel Sankul,
Usman pura, Ashram Road,
AHMEDABAD – 380 014
2. Shri Girish Patel,
Auditor,
Ahmedabad Urban Development Authority
(AUDA), Sardar Vallabhai Patel Sankul,
Usman pura, Ashram Road,
AHMEDABAD – 380 014
3. Shri A.K. Jain,
Commissioner (Planning),
Delhi Development Authority (DDA), 5th Floor,
Vikas Minar, I.P. Estate, NEW DELHI – 02
4. Shri B.K. Jain,
Director Planning (RYP & Dev. Control),
Delhi Development Authority (DDA) 12th Floor,
Vikas Minar, I.P. Estate,
NEW DELHI – 110 002
5. Shri. P.V. Mahashavdey,
Director- MPD – 2021,
Delhi Development Authority (DDA),
D-6, Vasant Kunj, NEW DELHI – 110 070
6. Shri S.P. Jakhanwal, IAS (Retd),
Director, ASUM, AKC House, E-27,
Defence Colony, NEW DELHI – 110 024
7. Shri. Raj V. Singh,
Chief Town Planner,
Haryan Urban Development Authority,
HUDA Office Complex, C-3, Sector – 6,
PANCHKULA, Haryana
8. Prof. E.F.N. Ribeiro,
Director, AMDA,
7/6 Sirifort Inst. Area, August Kranti Marg,
NEW DELHI – 110 049.
9. Shri. J.N. Barman,
Joint Director,
National Capital Region Planning Board
(NCRPB),
Zone IV, 1st Floor, Indian Habitat Centre,
Lodi Road, NEW DELHI – 110 003
10. Ms. Meenakshi Singh,
Assistant Director,
National Capital Region Planning Board
(NCRPB),
Zone IV, 1st Floor, Indian Habitat Centre,
Lodi Road, NEW DELHI – 110 003
11. Shri Satish K. Sharma,
Dy. Town Planner,
Jaipur Development Authority,
JAIPUR, Rajasthan
12. Shri Vinod Nagar,
Asstt. Engineer,
Indore Municipal Corporation,
INDORE, Madhya Pradesh
13. Shri Ashfaque Alam
Asstt. Director (R&T), AMDA,
7/6 Sirifort Inst. Area, August Kranti Marg,
NEW DELHI – 110 049.
14. Shri R. Sudarsan,
Technical Assistant, AMDA,
7/6 Sirifort Inst. Area, August Kranti Marg,
NEW DELHI – 110 049.
15. Ms. Kiran Chanana,
Office Assistant, AMDA,
7/6 Sirifort Inst. Area, August Kranti Marg,
NEW DELHI – 110 049.
16. Ms. Sangeeta Gupta,
P.S. to Director, AMDA
7/6 Sirifort Inst. Area, August Kranti Marg,
NEW DELHI – 110 049.



MASTER PLAN FOR DELHI-2021 – MAKING A DIFFERENCE

A.K. Jain*

The Master Plan for Delhi-2021, which has been notified on 8th April, 2005, not only brings in a fresh, more participatory approach, it also, for the first time, looks at long-term and structural solutions for Delhi's pressing urban development problems.

The new Master Plan for Delhi takes urban planning in the country several steps further by adopting fresh strategies like resource-based planning, economic and financial dimension of spatial plans, regeneration of dilapidated areas, rehabilitation of slums, informal trade, non-conforming industries and rejuvenation of work centers, shopping areas etc. A focus on the environment through recovery of river, water bodies, waste lands, groundwater recharge and recycling of wastes, services and a thorough review of controls, decision making systems and procedures and removal of barriers to innovation and new partnerships make the plan a modern and far-sighted one. Moreover, for the first time, the planning process is to recognize market forces and harness peoples' potential and civil society.

A DIFFERENT APPROACH

The departures start with the alternatives options for development of land without having to depend upon acquisition and development of land by the DDA: A major paradigm shift envisaged in the Master Plan – 2021 is by involving the private sector in the assembly and development of land and provision of infrastructure services, which so far has largely been a public sector/Delhi Development Authority preserve. Besides development of greenfields, the Master Plan provides a comprehensive redevelopment strategy frame for re-densification/restructuring and redevelopment of Old City and areas along the MRTS corridors, so that the synergy between work and residence could be achieved.

THE CONTEXT

Taking note of need of planning in the regional context and need for decentralization, the Master Plan envisages a close and intrinsic linkage between the urbanization strategy and land use planning for the National Capital Region and the Central National Capital Region (CNCR), as an urban continuum with Delhi. There is a need for a special initiative to identify the "Rurban" areas to be developed in the form of new planned cities in the remaining area of the NCR. Accordingly the Master Plan stipulates that no new government offices should be located in NCTD in future, and existing public sector undertakings should be shifted to the NCR in a time bound manner. It states that the industrial growth in Delhi should be restricted to high tech with emphasis on units, which require skill, less manpower and energy. In order to encourage decentralization major regional transport corridor and communication network are to be strengthened to enhance economic development within the region, while the natural features such as Forests, Wild life, Ridge, River Yamuna and other water bodies are conserved and kept free from urban development.

**Commissioner (Planning), Delhi Development Authority*



POPULATION AND EMPLOYMENT

The population of Delhi may range between 220 to 230 lakhs in the year 2021.

Five Yearly Estimates of Projected Population

Year	Population (In lakh)
2001	137.8
2006	162.0
2011	182.0
2016	199.0
2021	230.0

Source: Census of India and projection by MPD- 2021 Sub Group on Demography (DDA)

Rate of elderly population is expected to show an increasing trend from 5.9% in 2001 to 10.7% in 2021. Rate of children population will decrease from 29.5% in 2001 to 21.75% in 2021.

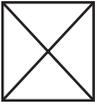
With the generation of employment in different sectors, the participation rate for 2021 would be 38.1 percent in NCTD. This would generate a total work force of 79.4 lakhs.

To accommodate the projected population, it is necessary to develop new areas while redensifying the existing urban areas, based on their holding capacity.

Zone wise break-up of Estimated Holding Capacity (Pop in '000)

Zone	Holding capacity MPD 2001	Existing population 2001	Holding capacity 2021
A	420	570	570
B	630	624	630
C	751	679	788
D	755	587	813
E	1789	2798	2800
F	1278	1717	1975
G	1490	1629	1955
H	1865	1226	1865
Sub total	8978	9830	11400
Dwarka		597	1700
Rohini III		108	158
Rohini IV& V		198	800
Narela		179	1212
Sub total	3200	1082	3870
GRAND TOTAL	122 Lakh	109 Lakh	153 Lakh

The remaining population for the year 2021 will have to be accommodated in the planned new urban extensions. Out of the remaining 77 lakh (230-153 lakh) population, 29 lakh already exists in villages, census towns, unauthorised colonies and JJ clusters in the present



rural areas. Therefore about 48 lakh (77-29 lakh) additional population is to be accommodated in the future urban extensions.

To accommodate the projected additional population @ 250 pph average city level density, the requirement for urban extension would be 20,000-22000 ha of land within development time frame of 15 -16 years. The immediate urban extension could be in the zones of J to L, N & P. The land required for further urbanisation, will have to be assembled through a mix of acquisition and land assembly techniques of land pooling etc., involving the public and private sectors/land owners.

The Plan stipulates that the land upto the depth of one peripheral revenue village boundary along the border of NCTD, wherever available, would be maintained as Green Belt and considering the constant pressure on the undeveloped land, new farmhouses and motels shall not be permitted in NCTD. The existing sanctioned ones may continue till the area is declared for urbanisation.

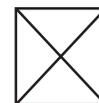
On an average the space required per person would be 40 sq.m., covering about 920 sq.km of urban area for a projected population of 230 lakh in year 2021.

URBAN RESTRUCTURING AND REDEVELOPMENT

The Redevelopment of Influence Zone along MRTS and major Transport Corridor shall be facilitated on the basis of the following strategy:

- i. Maximum upto 500 m. wide belt on both sides of centre line of the MRTS route will be designated as Influence Zone. Entire approved layout plan of a scheme will be included in the zone if more than 70% of the layout plan area falls inside the 500 m. belt. In case of large schemes, block / pocket boundary should be considered as one scheme for this purpose.
- ii. The approval of schemes will be granted only after commencement of execution of the respective phase of MRTS.
- iii. Special provisions are to be made for the following areas, in order to retain their basic character:
 - Lutyens' Bungalow Zone, Chanakya Puri, DIZ Area, Mata Sundari Area.
 - Civil Lines Bungalow Area.
 - Monument Regulated Zone (As per ASI guidelines)
- iv. Development Controls applicable will be same for the respective use Zones / Use Premises, except for FAR and Height as per the specific schemes.
- v. Subject to preparation and approval of comprehensive integrated scheme the maximum FAR and height will be upto 1.5 times of the permissible FAR on the respective use premises.
- vi. In the proposed Urban Extension areas, the land uses will be integrated with the proposed movement corridors at planning stage.

A major theme of the New Master Plan is the Redensification/Conservation of the Special Area (Old City) and redevelopment of Slum and JJ Clusters, Resettlement colonies and unauthorised colonies. A major policy departure is the in-situ upgradation of the land pockets of slum and JJ Clusters which are not required for public/ priority use is the first option for provision of affordable housing for rehabilitation of squatters. Resettlement colonies though planned, are also to be

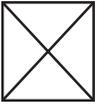


upgraded in a similar way for infrastructure provision. Similarly, unauthorized colonies slated for regularization are proposed to be improved through redevelopment by ensuring participation of inhabitants.

STRATEGY GUIDELINES

The basic objective of redevelopment is to upgrade the area by implementing specific schemes on the basis of existing physical and socio-economic conditions in the following way:

- i) Influence Zone along MRTS Corridor, the Sub-Zones of Special Area schemes for redevelopment and renewal should be identified on the basis of physical features such as metro, roads, drains, high tension lines and control zones of Monuments/ Heritage areas, etc.
- ii) The resident/ cooperative societies/ private developers should get the layout and services plan prepared in consultation with the concerned authority for approval.
- iii) Within the overall Redevelopment/ Regularisation plans, the process of building plan approval is proposed at two stages, Planning Permission and Cluster Block Approval.
 - a) Planning Permission is proposed to be accorded for an area of around 4 Ha. This permission may not be required in case an approved layout / Redevelopment / Regularisation plan exists.
 - b) Cluster Block approval may be accorded for a minimum area of 3000 sqm. The owners should pool together and reorganise their individual properties so as to provide minimum 30% of area as common green/soft parking besides circulation areas and common facilities. Within the framework of cluster block approval, the individual buildings shall be given sanction by the concerned authority.
- iv) Amalgamation and reconstitution of the plots for planning purpose will be permitted. Subdivision of plots is not permitted.
- v) The Public and Semi-public uses and services like hospitals, dispensaries, colleges, schools, police stations, fire stations, post offices, local government offices, parking etc. shall be retained in their present locations and also additional sites could be indicated in the Urban Renewal schemes/ Zonal Plans. The Accommodation Reservation (AR) technique would be applicable for the specified facilities.
- vi) Reduced space norms may be adopted for community facilities/ social infrastructure. The land required for any public purpose may be acquired by the consent of the owner through issue of Development Rights Certificate in lieu of payment towards cost of land as per the prescribed regulations. The concept of Accommodation Reservation i.e. allowing construction of community facilities without counting in FAR may also be utilized.
- vii) Subject to preparation and approval of integrated/ comprehensive Redevelopment Scheme and provision of parking and services, additional FAR may be granted in specific areas/ schemes by payment of additional charges with a view to trigger a process of self-generating redevelopment.



SHELTER

Based on the projected population of 230 lakh by 2021, the estimated additional housing stock required will be around 24 lakh dwelling units. This includes an estimated housing requirement of 20 lakh DUs for additional population added during 2001 to 2021 and backlog of about 4 lakh units. The 4 lakh backlog as per Census 2001 comprises of 1 lakh net shortage and the rest by dilapidated and Kutcha structures requiring replacement.

Around 50-55 percent of the housing requirement would be for the urban poor and the economically weaker sections in the form of houses of two rooms or less. The role of the government would have to be both as a provider and facilitator. Differential density norms have been worked out, to promote housing for the poor and by making such schemes financially viable.

The following density norms, with corresponding category of dwelling unit (DU) sizes as permissible FAR, are proposed:

Slum/EWS housing (upto 25sq.m)	-600 DUs/Ha
Category I (25- 40 sqm) –	500 DUs/ Ha
Category II (50- 70 sqm) –	250 DUs/ Ha
Category III (85 sqm and above) –	175 DUs/Ha

The land required to be developed in new housing will be to the tune of around 450-500 ha per annum.

Bringing Unplanned/Unauthorised Colonies within the mainstream of Planned Development

The unauthorised colonies, whether on private or public land, regularization is proposed by the preparation of proper layout and service plans to ensure that the minimum level of services and community facilities are provided. The resident societies would get the layout and services plan approved by the concerned local body/ DDA, and would undertake the development of infrastructure/community facilities.

Society Flats for Rehabilitation / Relocation of Slum & JJ Clusters

Resettlement, whether in the form of in-situ upgradation or relocation is to be based mainly on built up accommodation of around 25 sq. m with common areas and facilities, rather than on the model of horizontal plotted development. The concept of land as a resource is proposed to develop such housing with private sector participation and investment. Incentives by way of higher FAR, part commercial use of the land and, if necessary, transfer of Development Rights have been provided.

- A cooperative resettlement model is to be adopted with tenure rights being provided through the institution of Cooperative Societies.
- The Master Plan envisages a decentralised model. It envisages that in case of relocation, the sites should be identified with a view to developing relatively small clusters in a manner that they can be integrated with the overall planned development of the area, particularly keeping in view the availability of employment avenues in the vicinity. Very large resettlement sites could lead to a phenomenon of planned slums.
- Suitable arrangement for temporary transit accommodation for families to be rehabilitated is to be made. This may preferably be near or at the same site and the utilization of these may be synchronised with the phases of implementation of the scheme of In-situ Upgradation.



-
- Community Based Organisations (CBOs) and Non-Governmental Organisations (NGOs) are to be closely involved in the resettlement process.

Guidelines for Slum/Jhuggi Jhopri Rehabilitation/Relocation

- (i) Maximum density of the dwelling units- 600 units per hect. \pm 10% variation.
- (ii) The scheme is to be designed in a composite manner with an overall max. FAR of 250 for in-situ rehabilitation.
- (iii) Mixed land use Commercial component upto 10%.
- (iv) Specific situations may require clubbing of scattered squatters JJ sites in the neighbourhood to work out an overall comprehensive scheme.
- (v) The minimum component of the land area for rehabilitation of squatters has to be 60% and maximum area for remunerative use has to be 40%.
- (vi) Area of Dwelling Unit for rehabilitation not to exceed 25 sq. m.
- (vii) The space standards are to be as per IS Code 8888, (1993).
- (viii) Common parking is to be provided which can be relaxed wherever required, except for the parking for remunerative component.
- (ix) No restriction on ground coverage (except set backs)

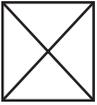
Other Stipulations:

- Rainwater harvesting to be an integral part of the storm water drainage plan at the time of sanction of layout plan for all the plots.
- The natural drainage pattern is not to be disturbed.
- Dual pipe system of recycled water is recommended in new areas and redevelopment schemes.
- Dhalaos including facility of segregation of biodegradable and recyclable solid waste are to be provided.

TRADE AND COMMERCE

In Urban Extension, a linear form of commercial cum facility corridors should be planned along major transport networks. Such corridors will have non-residential uses like Commercial, Recreational, Public and Semi public, Utilities, Service and Repair, etc. with detailed Urban Design and landscape schemes. The aim is to prevent unintended and unplanned ribbon development. The proposed MRTS stations, bus terminals, and other transport nodes shall be integrated within these facility corridors.

Special attention has been given to the low turnover and space extensive shops for fruits and vegetables, service and repair, junk and scrap materials (*kabari*), building materials, automobile workshops etc. The grouping of such activities within planned retail markets leads to conversion of shops into high profit commercial activity. To avoid continuance of this situation, about 10% of the unutilized sites of LSC/ CSC are proposed to be converted into Service Markets. In Urban Extensions, sites for such service markets are proposed to be established in the initial stages of development to avoid unauthorized ribbon development and misuse of residential premises.



INFORMAL SECTOR

Keeping in view the importance of the Informal Sector of Trade, MPD-2021 makes dedicated provisions and norms. The location of such units shall be mandatory in various use zones, markets and public areas. However, it should be ensured that such activities shall not spill over on the right of way. The Government /concerned local agencies should coordinate the policy, keeping in view the following:

- The areas of informal sector shall have suitable public conveniences and solid waste disposal arrangements.
- Formulation of guidelines for schemes, which would include 'Hawking' and 'No Hawking' Zone. Specific areas to be earmarked for stationary and mobile street vendors by the concerned local authority / RWA at neighborhood / cluster level.
- The local authorities to take up new designs of stalls, push-carts and mobile van of various sizes and with cleaning facilities. This should be done giving due consideration of urban design requirement of specific area where informal shopping is being permitted.
- Defining the role and responsibility of NGO's along with the specific obligations on part of hawkers towards the society for maintenance of law and order within the hawking zones and weekly markets.
- An informal unit shall not be permitted within a distance half of the width of the road, from an intersection.
- In new urban areas, informal bazaars are to be part of the planned commercial areas, which could be implemented in the initial planning stages.

WEEKLY MARKETS

Weekly markets, the traditional style of retail shopping is quite popular in Delhi, especially among the lower and middle-income groups. These markets are operating in a systematic manner choosing locations central to a large population centres either on vacant land or on the roadsides. Parking and other open spaces within the service markets, commercial centres could be so designed that weekly markets can operate in these areas during non-working hours.

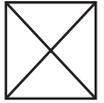
PROPOSED WHOLESALE MARKETS

It is proposed to develop new wholesale markets as counter markets to cater to the demands of the growing population of Delhi only, near the rail and road entry points of NCTD. These should be linked with the proposed Integrated Freight Complexes where the wholesale business could be operated more efficiently in a better environment. In Urban Extensions, about 8-10 ha. of land for the population of about one million persons to be provided for such Sub City Level markets.

INDUSTRY

The Master Plan for Delhi-2021, envisages a restricted policy for industrial development in Delhi by promoting hi-tech and low volume -high value added industries, which are not labour intensive. It stipulates the following guidelines:

- To encourage modernization and technological upgradation of existing industries required for day-to-day needs of the people of the city.



-
- To take corrective measures with regard to industries in non-conforming industrial areas in terms of environmental and other norms as may be prescribed.
 - To provide suitable incentives and disincentives, and other measures, for shifting and relocation of industrial units not conforming to the land use norms.
 - To review, and possibly widen, the scope of permissibility of household industrial units subject to adherence to pollution control norms and environmental considerations, fire safety regulations and other relevant factors, particularly the aspect of infrastructure services.
 - Adhoc licensing of industrial units to be discontinued.
 - To take specific measures to encourage the dispersal of existing industries / development of new industries in the NCR and limiting the growth of new industries within the NCT of Delhi.

Keeping in view the reality, and the imperatives of planned development, the following norms will have to be followed in the redevelopment process:

- Clusters of industrial concentration in non conforming areas over a minimum area of 4 Ha. contiguous area, having more than 70% plots within the cluster under industrial activity / use may be considered for redevelopment on the basis of actual surveys.
- The redevelopment scheme will have to be prepared by the concerned land owning Agency / Society (to be formed by the owners) with the approval of the MCD / DDA, subject to statutory environmental clearances and clearances of other competent agencies.

GOVERNMENT OFFICES

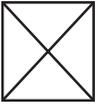
Due to downsizing of government employment and need for generation of resources by the ministries, optimum utilization of existing government offices / land could be achieved by the following measures:

- Intensive utilization of existing government offices/land.
- Surplus land can be utilised by the government themselves for residential development.
- 10% of total FAR can be utilised for commercial uses to make the restructuring process financially feasible.

ENVIRONMENT

Ecology and sustainable development are the determinants of the strategy of land use planning for Delhi-2021. The focus is on pollution control, river and water, conservation of ridge and greenery, green transport, sanitation, sewerage and solid waste management and public health and hygiene. The highlights of approach advocated in the Master Plan are the following:

- The existing water basins shall have to be made self-sustainable in water management by integrating water-sewerage-drainage systems. New projects and upgradation of present infrastructure should be taken up in addition to promotion of water conservation through an integrated and a community driven model. Complimentary short term and long term strategies will be initiated.



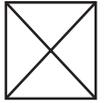
-
- An important element of policy would be to make public transport a mode for personal vehicle users through a mix of incentives and disincentives. Apart from aspects like frequency, inter-modal integration, a possible single ticketing systems, use of parking policy as a means to influence vehicle use, etc., the quality of public transport, particularly buses, would need to be significantly upgraded, inter-alia, keeping the element of clean transport in view. Vehicular congestion and pollution relates to the policy of mixed land use, which will also have to be carefully considered.
 - Policy measures would relate to the operation of existing Power plants to significantly reduce the pollution arising from them, and industries, both in terms of pollution control in designated industrial areas, and relocation of non-conforming industries.
 - By proper land use planning, such as location of public, semi-public and commercial activities along major transport arteries, a buffer can be created for residential zones. Green buffer through thin leaved trees, land formations, mounds, embankments, etc. along major roads could also provide effective barriers to transmission of noise. It is also necessary to improve monitoring and effective implementation of the Noise Pollution (Level) Rules 2000 and, to notify certain areas as 'No Horn Zones'. The design and surface material of roads and pavements should also ensure reduction of noise. The concerned authorities should prepare area wise traffic calming schemes and a Noise Monitoring and Control Plan (NMCP).
 - Environmentally stressed zones in Delhi should be identified and local area environment management plans should be prepared for such areas, together with regular monitoring.

Measures for rejuvenation of River Yamuna

- Steps would be taken to augment ground recharge from the river. The creation of 'regulated flood plane reservoirs', for storing the excess monsoon overflow at suitable locations would augment the water retention capacity of the riverbed. The upstream of Wazirabad Barrage, and some other areas, offer such a potential. To facilitate ground water recharge it may also be ensured that minimum required flow in the river during lean season exists. The reservoirs may be created in low lying areas.
- River Front Development needs to be developed and implemented in a systematic manner. This issue is sensitive both in terms of the environment and public perceptions. Any such strategy will need to take into account the cycle of flood occurrences and flood zones, the ground water recharge potentials and requirements, potential for reclamation derived from the foregoing considerations, designation and delineation of appropriate land uses and aesthetics of the River Front which should be more fully integrated with the city and made more accessible-physically, functionally and visually.

ARAVALI RIDGE / REGIONAL PARK / RECREATIONAL AREAS

- The area of the Ridge as per MPD- 2001 is 7,777 hectares and has been notified as Reserve Forest under section 4 of the Indian Forest Act, 1927, which is proposed to be conserved with utmost care.
- The green/ recreational use constitutes 8,722 ha of land as per MPD 2001, which is around 19% of the total urban land area of 44,777 ha. This includes 1577 ha under the Northern, Central and South Central Ridge (the remaining area of the Ridge is in the rural area). The balance area under recreational/ green use i.e. 7145 ha. is in the form of



District Parks, City Parks, Community Parks etc. comprising around 15% of the total urban land area. In addition to this, a large chunk of green area is provided in the form of Neighborhood Parks/ Tot lots in the gross residential use zones.

- The Master Plan provides for agricultural land as Green Belt along the border of NCT of Delhi in synergy with the provision of Regional Plan 2021 of NCR. This belt extends from the NCTD boundary upto a depth of one peripheral revenue village boundary, wherever possible.

CONSERVATION OF BUILT HERITAGE

Built heritage of Delhi needs to be protected, nourished and nurtured for which policies, strategies and action plans are to be prepared. These should include promotion of conservation of the urban heritage, architecturally significant historical landmarks, living monuments, memorials and historical gardens, riverfront, city wall, gates, bridges, vistas, public places, edicts and the ridge. It will also be necessary to maintain close interaction and coordination between all the agencies.

For area based conservation, the Master Plan has identified the following Heritage Zones:

- i. Walled City of Delhi, Shahjahanabad
- ii. Central Vista
- iii. Nizamuddin and Humayun's Tomb Complex
- iv. Mehrauli area
- v. Vijay Mandal – Begumpur – Sarai Shahji – Lal Gumbad
- vi. Chirag Delhi

A new concept of Archaeological Parks has been proposed, stating with the following parks:

- i. Mehrauli Archaeological Park
- ii. Tughlaquabad Archaeological Park
- iii. Sultan Garhi Archaeological Park

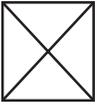
It is proposed that the local body/ land owning agency should formulate “Special Development Plans” for the conservation and improvement of listed heritage complexes and zones. Alteration or demolition of any building is prohibited in the listed heritage complexes and zones without the prior approval of the Competent Authority.

URBAN DESIGN

A city is much more than the functional needs. Its image of urban form and design articulates the quality of life, which is a significant feature of the Master Plan. The following aspects have been considered to arrive at the basis for policies affecting the urban fabric:

- Areas of significance in built environment.
- Visual integration of the city.
- Policy for tall buildings.
- Policy on unhindered access movement, parking and pedestrian realm.
- Policy on Hoardings, Street furniture and Signages.
- Urban Design Scheme.
- Policy for design of pedestrian realm.
- City structure plan and Urban Design objective.

The important mass movement corridors i.e., Ring road/Outer ring road and major radials are used by city dwellers for internal city commuting. These movement corridors along with newly



introduced MRTS corridors have potential to acquire an additional dimension of visual quality and integration. The studies and proposals for ring road and MRTS corridors should be formulated to improve geometrics, landscaping, street furniture, signages, introduction of urban forms at selected points and clearance of unsightly developments.

In order to conserve the personality of the city, following areas have been identified, as the major areas of urban design:

- i) Central vista, President Estate and Parliament House
- i) Riverfront and Ridge areas
- ii) In and around monuments, historical site etc.
- iii) Near road intersections roundabouts and under bridges.

Pedestrian networks affect urban space in a very distinctive way, which reveals its vitality, and provides richness in terms of spatial experience and community interaction.

TRANSPORTATION

The Master Plan provides a comprehensive framework to address to the transportation needs of the city, which is the backbone of the Urban Structures. It envisages an integrated and mutually complementary multi-modal transportation and traffic plan comprising the Road, Rail and Metro-rail networks. The Plan also explores other options and possibilities such as, Light Rail/Tramway/Mono-rail systems, the objective being optimal use of the existing road network and full development by removing all impediments. The Master Plan emphasizes the following:

- Expansion and restructuring of the existing network through expressways, arterial roads, elevated distributors and relief roads with a view to creating-alternate access ways and reducing congestion on the existing roads to the extent possible Urban Relief Roads are also to be identified to reduce congestion as an additional or alternative link roads, wherever possible.
- Planning of new road network in such a manner as to prevent possibilities of future congestion by modifying road sections to accommodate road side parking, and space for widening, expansion and provision of grade separators.
- Planned and targeted expansion of the Metro-rail network.
- Expansion and strengthening / restructuring of the Ring Rail System.
- Developing an integrated relationship between the road, rail and metro-system to provide for seamless multi-modal transport, through provision of additional stations, park and ride facilities, introduction of single multi-modal ticketing, etc.
- Development of a comprehensive parking policy in line with the broad aims of the Plan for transportation mentioned earlier, including measures for linking new vehicle registration with owner parking facilities.
- Establishment of a quick and efficient transport network between the NCR and the NCT of Delhi.
- Provision of directional Goods and Passenger terminals with adequate infrastructure.
- Provision of arrangements for by-pass of through National Highway traffic without having to pass through the city.
- Review of the licensing policy and systems, and effective arrangements for training of drivers / transport operators.

The Master Plan has identified for development a network of Urban Relief Roads, to decongest the over saturated areas and roads. An innovative feature of the Master Plan is exploring



subterranean space for circulation parking and underground roads. In order to reduce road congestion and the level of pollution, the possibility of having Underground Roads or Tube roads in critical areas has been proposed. Such measures, together with provision of Metro Services, will also help to convert historically important areas like Connaught Place, Chandni Chowk and Karol Bagh etc. into pedestrian areas.

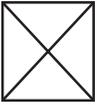
The Master Plan has proposed enhanced parking norms, transport entertained with a public strategy, as given below:

- An area of 1-2 Km radius around the grade separators should invariably have a specific traffic management plan. Preparation of detailed plans to facilitate and encourage direct pedestrian access to the Metro Rail System/Station.
- Preparation of detailed multi-modal transport plans with reference to each major Metro Station, with particular reference to bus transport routes, which could provide inter linkages and feeder arrangements.
- Parking arrangements at Metro Stations both for short and medium stay viz. for those who would travel for local level requirements such as shopping, etc. and those who would need parking by way of a Park and Ride facility.
- Provision of Park and Ride facilities at identified points from where feeder bus services would be available, or convenient direct pedestrian access would be feasible.
- Comprehensive redevelopment schemes of the influence area of MRTS stations be prepared.
- Bus connectivity would need to be planned to a considerable extent in the form of feeder services to the Metro Rail Stations and the Ring Rail System.
- Park and ride facilities will have to be developed at important bus terminals.
- The quality and design of buses would have to be significantly upgraded.
- Wherever possible, within the existing road right of way of arterial/primary roads, dedicated bus ways should be developed for high capacity buses.
- Fully segregated cycle tracks should be provided along selected traffic corridors with provision for safe parking in park and ride lots.
- In specific areas, the use of cycles/rickshaw as a non-motorised mode of transport should be planned which should ply within the residential areas only.

TRAFFIC CONVERGENCE ZONES

The interchange points of Regional Road, MRTS, Ring Rail and any other future rail network should be developed as interchange stations/convergence zone. The change over facilities should include approach roads, pedestrian walkways, shuttle services, parking areas, feeder buses, and public conveniences,. A major concern of Delhi is crunch of the parking space for which the concept of multi level parking, using the latest available technologies has been proposed, besides the following measures :

- In all Commercial / Business/ Industrial centres, adequate parking on the surface as well as below and above the ground must be provided on the basis of revised parking norms in terms of Equivalent Car Space (ECS).
- For the development of multi level parking incentives may be provided by way of land use and FAR etc.
- The use of basement wherever provided for parking, must be strictly adhered to.



- Stringent provisions by way of fine and other penal actions need to be provided for violation of parking rules.
- A graded parking fees structure should be evolved as of measure of parking demand management, and encouraging use of public transport.
- To evolve a policy linking registration of new vehicles to availability of owner parking facilities.
- The use of bus terminals and depots for public parking alongwith buses.
- Based on the site feasibility, parking can be created under the open spaces without disturbing the green areas on the surface and surrounding environment.

DEVELOPMENT CONTROL NORMS FOR MULTI LEVEL PARKING

- i. Minimum Plot Size-1000 sqm
- ii. In addition to the permissible parking spaces (ECS) on max. FAR, 3 times additional space (ECS) has to be provided for parking component only.
- iii. Max. FAR : 100

SOCIAL INFRASTRUCTURE

The Master Plan has proposed norms for social infrastructure to be provided at City, Sub-city, Zonal, District Community and Neighbourhood levels. Keeping in view the shortage of urban land, the norms for various facilities have been reviewed, while Floor Area Ratio has been enhanced, so that within reduced norms, the needs of the community are adequately served. For health/hospitals, the Master Plan envisages provisions of 5 beds/1000 populations compared to 2.2 beds at present. Besides 4 categories of hospitals, other health facilities, include maternity home, nursing home, family welfare centre, polyclinic, pediatric centre, geriatric centre, diagnostic centre, etc. For health care of animals and pets the following 3- tier of health facilities has been proposed. Comprising of Veterinary Hospitals, Dispensaries and Pet clinic.

Differential norms and standards have been prescribed for various educational institutions, in the light of the norms of the University Grants Commission (UGC) / All India Council for Technical Education (AICTE) / Directorate of Education, GNCTD /Central Board of Secondary Education (CBSE) etc..

Nursery Schools have been envisaged as part of Primary School/ Secondary School/ Senior Secondary School and are also permitted, by way of mixed land use in residential premises.

SPORTS FACILITIES

A major innovation of MPD-2021 is dedicated provision for Sports Infrastructure, as a part of Social Infrastructure, with the following hierarchy and norms:

S.No	Category	Planning Norms & Standards	
		Pop./ Unit (Approx.)	Plot Area (Ha)
1.	Divisional Sports Centre	10 lakh	30.0
2.	District Sports Centre	5 lakh	10.0
3.	Community Sports Centre	1 lakh	3.0
4.	Neighborhood Play area	10,000	1.0
5.	Housing Area Play Ground	5,000	0.5



An area of about 200 ha shall be reserved for International Sports events.

Max ground coverage	:	20% including amenity structures
Max. FAR	:	40
Parking	:	2 ECS/ 100 sqm of floor area.

To incentivise development of sports facilities and swimming pool within the group housing areas, schools, clubs, etc. (upto a maximum of 100 sqm) shall not be counted towards Ground Coverage and FAR.

DISASTER MANAGEMENT

According to the Indian Seismic Zone map, Delhi is placed in Seismic Zone IV, which is high damage risk zone. In the past, five earthquakes of Richter magnitude 5.5 to 6.7 have occurred in the National Capital Territory of Delhi. Two major lineaments namely Delhi-Haridwar ridge and Delhi-Muradabad faults pass through the territory, both having potential of generating earthquakes of the magnitude upto 6.5 to 6.7 in future. Such natural and man made disasters neither can be prevented nor predicted. However to mitigate the after effects of the disaster, the areas of vulnerability can be identified and necessary measures can be planned in advance. These include micro zonation and land use interface development of disaster Contingency Plans, Disaster Management Centres, Early Warning System, and updating the building bye-laws to safeguard against disasters and ensure effective enforcement.

INFRASTRUCTURE: PHYSICAL

For the first time the Infrastructure Plans of providing agencies form part of the Master Plan, which become the commitment of concerned service agency for synchronized development. Projected requirements for the year 2021 are as under:

	Availability*	Requirement**		
	2001	2001	Projected 2021	Additional 2001-2021
Water (mgd)	650	1096	1150	500
Sewerage (mgd)	512 ²	877	920	408
Power (mw)	2352	3265	8800	6448
Solid Waste(tons/day)	5543	7100	15750	10207

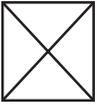
* Availability 2001 as per Perspective Plan of DJB, Transco and CSE (MCD)

** STP Capacity only. Actual sewerage is 652.4mgd (512.4 mgd from DJB supply, 100 mgd from private generated & 40 MGD from industrial waste)

WATER

Water is a critical service, which needs a multi pronged action plan at policy, strategic and operational levels. Some of the high lights of the proposals are given below:

- Recycling of treated wastewater with separate lines for potable water and recycled water (dual pipe supply system)
- Ground water recharging through rain water harvesting, conserving water bodies and controlling groundwater extraction. Groundwater extraction is to be controlled through registering boreholes and recharging according to test yields.
- To prepare and implement rain water harvesting schemes.
- The watershed management, to ensure the conservation of natural valleys, water bodies



and aquifers. The concepts of 'zero run-off drainage', with retention ponds, sediments traps and balancing lakes should be adopted, with a segregated wastewater disposal system. A green network overlapping the blue network would protect the ecology of aquifers, and also provide a pleasant environment. Simple methods like porous/semi permeable paving, drop inlet/down pipe, sediment trap, retention ponds, etc. will contribute in maintaining ground water table.

- Yamuna River, major drains and canals, need strict pollution control measures and eco-sensitive land use controls. Water flow needs to be controlled and stabilized and marked at each kilometer station. The valleys should be zoned as water portals, so that these are flanked with greenery, farmlands and forests.
- To improve the quality of river-water, to secure its continuous flow and to encourage the return of aquatic life. This needs improvement of drainage, waste water treatment and pollution abatement by sewerage improvement. The surplus water during the monsoons should be retained in balancing ponds along the riverbed.
- The drains and waterfront to be landscaped in the form of interconnected parkways.
- Water supply in new areas should incorporate separate lines – one for washing, water coolers and garden taps, the second for supplying potable water. All non-residential buildings having a discharge of over 10,000 litres a day should incorporate wastewater recycling.
- The wasteful practices to be replaced by efficient methods of water conservation, use, and recycling as standard and mandatory procedures. There is a need to incorporate the mandatory stipulation of water saving/waterless flushing system in the Building Bye-laws.
- Reducing water losses and thefts of water.

DRAINAGE

Master Plan links drainage with the ecology and green networks, by introducing the concept of "bio-drainage". It also suggests various measures for drainage as given below:

- Drainage to be integral part of Road Development Plans/ flyover/ Grade Separators.
- GIS based drainage mapping and planning.
- Subwells need to be developed under flyover for trapping rainwater. Pump houses in low-lying areas should be operational given back-up power.

POWER

Besides meeting the needs of power by generation, transmission and distribution, the Master Plan emphasises the concept of Energy Efficiency and Zero-fossil Energy Development.

The concept of energy efficiency and the idea of Zero-fossil Energy Development (ZED) envisage an urban form and design of passive building envelope that reduce the demand for power to the point where it becomes economically viable to use energy from renewable resources. This involves a holistic approach combining the levels of planning, design, construction and maintenance, leading to a sustainable and energy efficient regime. The city geometry, restructuring and zoning with self-contained neighbourhoods could minimise the need to travel and substantial saving of recurring energy/fuel consumption. Integrated mass transport system, traffic and transit operation and management, better tele-communications, promoting bicycles and NMV transport, is another major area of energy efficient habitat. The introduction of energy audit and design of energy efficient buildings by site planning, heights, form, construction and materials and reducing energy demand by passive micro-climatic design approach, intelligent energy controls,



heat recovery, landscape, opening design, furnishings, etc., are the critical considerations. The cybernetic form of sustainable energy, integrates symbiosis, recycling and energy chains.

- Load management techniques and energy accounting should be adopted. To minimise power thefts/losses by improved metering arrangements should be enforced.
- Non-conventional energy sources like recovering energy from sewerage, solar energy should be used for street lighting, lighting at public spaces, open areas, traffic signals, hoardings, etc. for which the following stipulations are proposed:
 - For all establishments with floor area of more than 300 sqm, solar energy should be mandatory.
 - Compulsory Solar Panels for public advertising, lighting in open areas, public utilities, streets, etc.
 - As alternate mandatory arrangement during power cuts to replace generators/inverters etc.
 - Adoption of Load Management Technique.
 - Tariff restructuring and improved metering arrangement to minimize power thefts/losses.
 - Interim solutions of single point connection in unauthorized colonies and jhuggies.
 - Private Sector Participation in different stages of Power generation, transmission and distribution, including Non-conventional sources.
 - Incentivising energy savings and use of energy efficient gadgets, LEDs, CLFs etc.
 - Public awareness, capacity building and training.

SOLID WASTE

A series of innovative concepts for Solid Waste Management have been projected in the Master Plan, which revolve around the following themes:

Decentralised Solid Waste management at the community and neighbourhood levels.

Segregated collection of biodegradable and recyclable waste.

- Recycling of waste
- Alternatives to landfills, such as vermiculture, fossilisation, composting.
- Waste Minimisation Circles (WMCs) should be constituted.

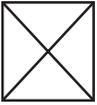
Implementation and monitoring of Bio-Medical Wastes (Handling & Management) Rules, 1998.

Keeping in view the fact that finding new sanitary landfill sites in Delhi is becoming extremely difficult, there is no option, but to resort to alternative and decentralised methods of waste treatment, reduction, recycle and reuse.

MIXED LAND USE

Mixed land use may be permitted on residential plot facing selected streets/road of minimum 18.0 mts. width with the following stipulations:

- Mixed use shops only on ground floor upto the maximum of ground floor coverage.
- There should be unconditional surrender of front setback, which should not have boundary and shall be only used for parking.
- Parking @ 2.0 ECS per 100 sq.m. shall be provided within the premises.



PLAN REVIEW AND MONITORING

The review and monitoring of the Master Plan is a major area of innovation. The follow up of the Master Plan had always been a slow starter and could not meet projected targets adequately. Enforcement, monitoring and availability of upto date maps and basic information have been other problems. Local level participation in the planning process, its transparency and coordination, building approvals, slum rehabilitation, social housing and legal reforms also requires attention for implementation of provisions addressed in the Master Plans through indicators of physical and socio-economic changes. For this it is proposed that a dedicated monitoring unit with modern data processing facilities should be set up.

BRIDGE GAP BETWEEN PLANNING AND IMPLEMENTATION

In order to bridge the gap between planning and implementation and for putting in place various ideas and concepts projected in the Master Plan, it is proposed to organize the following management action groups:

DELHI SUB REGION PLANNING GROUP

As a follow up of Regional Plan-2021, under Section 17 of the NCRPB Act 1985, Delhi State Govt. is required to prepare a Sub-Regional Plan for Delhi. It is proposed that a high powered Delhi Sub-Regional Planning Group (DSPB) should be established to plan and coordinate with the concerned states and agencies at the level of DMA.

ENVIRONMENT PLANNING AND COORDINATION GROUP

The Group will evolve strategies for sustainable development, with major issues as conservation of Yamuna River bed and flood plain (including defining the same), Ridge etc. It will evolve a mechanism to coordinate the interventions of the several organizations involved in this cross-cutting task.

DELHI UNIFIED METROPOLITAN TRANSPORT GROUP

This group shall be responsible to prepare an action programme to coordinate a sustainable and balanced public transport system and will prepare traffic management strategic action plans with emphasis on movement of people and goods. The group will also evolve a parking policy and identify a Parking Authority for Delhi.

INFRASTRUCTURE DEVELOPMENT GROUP

The Infrastructure Development Group (IDG) will comprise of experts and agencies namely the PWD, MCD, NDMC, NHAI, DMRC, I&F Deptt, DJB, Power Companies, DDA, etc. This group will streamline infrastructure planning strategies and practices and formulate projects with latest technological and management interventions.

ENFORCEMENT AND PLAN MONITORING GROUP

The Enforcement and Plan Monitoring Group (EG) may comprise of the professionals, concerned local bodies and residents and evolve strategic action plans to ensure enforcement of the Plan. It will work out the implementation strategy and Monitoring System to review the progress periodically.



SPATIAL DATA INFRASTRUCTURE (SDI) GROUP

The SDI Group will ensure that the documentation, information with respect to settlements, colonies, villages, buildings, utilities, transport network, land use etc. incorporating upto date Geographical Information System, land/ground surveys, layout plans and land use plans are systematically organized and disseminated. This will develop a common database and provide a platform for documentation, planning and timely implementation of the Plan.

LOCAL LEVEL PARTICIPATORY PLANNING GROUP

The Group will define local areas and work out systems and procedures so that the local governments could take up the preparation of local level plans by participatory process. The institutional capacity building for this purpose should be taken up as a priority.

COMMON PLATFORM FOR BUILDING APPROVALS

To streamline the process of building approvals and to bring together many agencies involved in planning permissions and approvals, the Group shall work out the establishment of a common platform. The aim will be to devolve the process of building approvals and to deregulate, wherever necessary, and to review the Building Bye-laws and procedures.

SLUM REHABILITATION AND SOCIAL HOUSING GROUP

The Group will work out policies, physical and financial strategies and organizational structure for slum & JJ rehabilitation with the objective to make Delhi Slum free within a time frame.

LEGAL FRAMEWORK REVIEW GROUP

It is time that the present legal framework is reviewed and the framing of the following Regulations are taken up:

- a) Land Assembly and Private Sector Participation in Housing and Land Development
- b) Regularisation & Up gradation of Unauthorised Colonies and areas of mixed land use.
- c) Local level Planning Regulations

CONCLUSION

“We can't solve problems by using the same kind of thinking we used when we created them”.

References

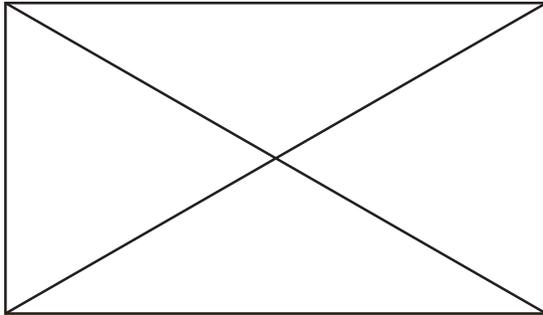
1. *Delhi Development Authority (2005) : Draft Master Plan for Delhi-2021.*
2. *Delhi Development Authority: Unpublished Report of Various Sub-Groups for Master Plan for Delhi-2021.*
3. *Directorate of Economics and Statistics (2004), Delhi Statistical Handbook, 2004, Govt. of NCT of Delhi.*
4. *Government of India (2002) : The Tenth Five Year Plan, the Government, New Delhi.*
5. *National Capital Region Planning Board (NCRPB) 2004, Draft Regional Plan for the NCR-2021, New Delhi.*



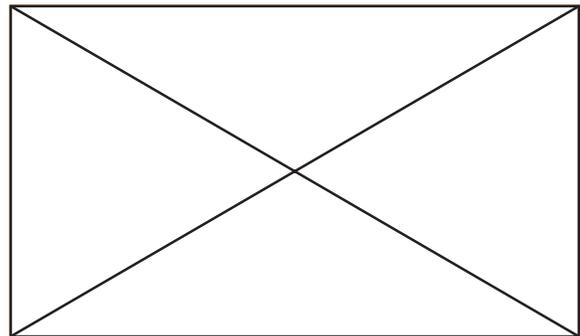
DRAFT REGIONAL PLAN 2021 FOR NCR - MAJOR POLICIES AND PROPOSALS

Shri J.N. Burman. Joint Director, NCRPB.

Delhi, the National Capital, has been attracting population and activities, since Independence

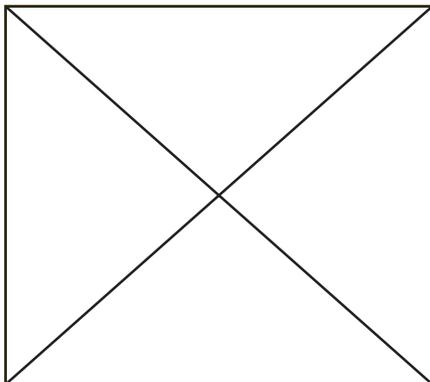


POPULATION GROWTH & MIGRATION PATTERNS



Decadal growth rate of NCT Delhi declined below 50% for first time during 1991-2001 since independence

ALARMING GROWTH IN POPULATION CAUSING STRESS ON INFRASTRUCTURE AND RELATED ACTIVITIES



DELHI TO BE PLANNED & DEVELOPED IN ITS REGIONAL CONTEXT

EVOLUTION OF NCRPB

- 1956 Interim General Plan suggested that 'serious consideration should be given for a planned decentralisation to outer areas & even outside the Delhi region'.
- 1961 High Powered Board set up under Union Minister for Home Affairs
- 1962 MPD emphasized Planning of Delhi in regional context
- 1973 High Powered Board reconstituted under Union Minister for Works & Housing
- 1985 National Capital Region Planning Board Act, 1985 passed by the Parliament with the concurrence of Haryana, U.P. and Rajasthan

NCR Planning Board set up to promote growth and balanced development of the Region



CONSTITUTION OF THE BOARD

Union Minister	Urban Development	Chairman
Chief Ministers	UP; Haryana; Rajasthan & Delhi	
Union Ministers	Railway; Road Transport & Highways; Telecom & Power	
Lt. Governor	Delhi	
Minister of State	Urban Development	
Urban Dev. Mins.	U. P.; Haryana ; Rajasthan	
Chief Secretaries	Haryana ; Rajasthan; UP & Delhi	
Secretary	Min. of Urban Development	
Secretary	Housing & Urban Dev. U.P	
Chief Planner	TCPO	
Member Secretary	NCR Planning Board	Member Secretary
Chief Minister	Madhya Pradesh	
Chairman	Railway Board	
Principal Advisor	HUD, Planning Commission	
Secretaries (GOI)	M/O Commerce & Industry, RT&H Finance (Expenditure), Power	
Secretaries (States)	Depts. of Housing & U D of Punjab & MP	
Vice Chairman	DDA	

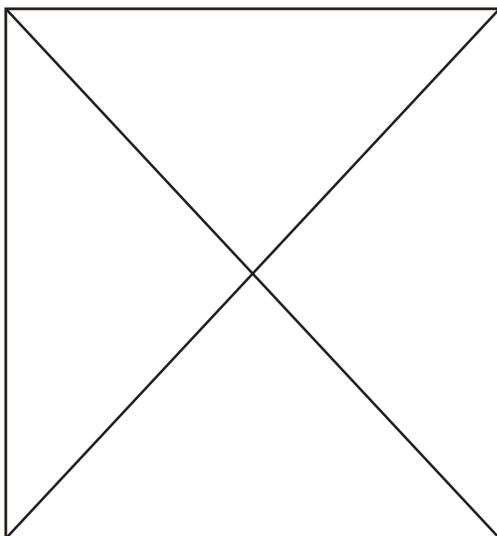
The Board ordinarily shall meet at least once in every six months for the transaction of the business

FUNCTIONS OF THE BOARD

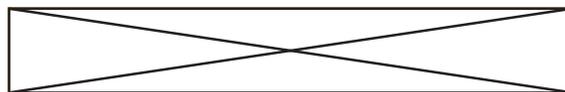
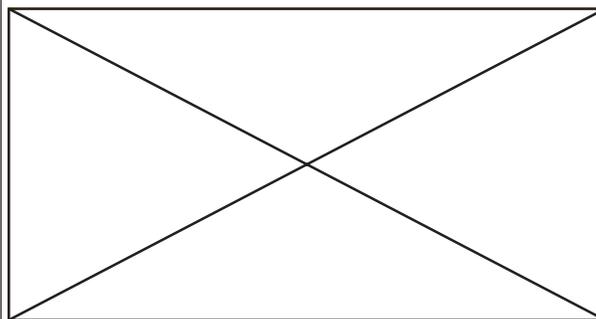
- Prepare Regional Plan & Functional Plans
- Arrange preparation of Sub-Regional Plans & project plans by the participating states
- Co-ordinate enforcement, implementation & monitoring of such plans & projects through participating states
- Ensure proper and systematic programming by the constituent states in regard to project formulation, determination of priorities & phasing of development
- Arrange for financing of selected development projects within NCR
 - through central and state plan funds
 - other sources of revenue

NCR CONSTITUENT AREA

	RP2001	RP2021 (Area in sq. km)
NCT Delhi	1483	1483
Haryana	13413	13413
U.P.	10853	10853
Rajasthan	4493	7829
Total area	30,242	33,578



PLANNING PROCESS





DRAFT REGIONAL PLAN 2021: Aspects

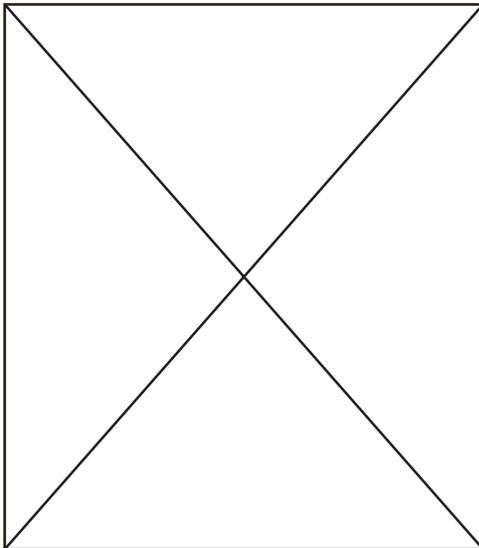
- Demography
 - Settlement System
 - Economic Profile
 - Rural Development
 - Regional Land Use
 - Housing
 - Environment
 - Tourism
 - Disaster Management
 - Counter Magnet Areas
 - Resource Mobilization
 - Management Structure
 - Infrastructure Development
- Physical Infrastructure:**
- ◆ Transport
 - ◆ Power
 - ◆ Water Supply
 - ◆ Sewerage & Drainage
 - ◆ Solid Waste Management
 - ◆ Telecommunication
- Social Infrastructure**
- ◆ Education
 - ◆ Health

AIMS AND OBJECTIVES

TO PROMOTE GROWTH AND BALANCED DEVELOPMENT OF THE NATIONAL CAPITAL REGION THROUGH

- PROVIDING SUITABLE ECONOMIC BASE FOR FUTURE GROWTH IN IDENTIFIED REGIONAL SETTLEMENTS TO ABSORB ECONOMIC IMPULSE OF DELHI
- PROMOTING SUSTAINABLE DEVELOPMENT
- PROVIDING RATIONAL LAND USE PATTERN
- DEVELOPING URBAN INFRASTRUCTURAL FACILITIES
- PROVIDING EFFICIENT AND ECONOMIC RAIL & ROAD BASED TRANSPORT NETWORK
- MINIMIZING ADVERSE ENVIRONMENTAL IMPACT
- INNOVATIVE METHODS OF RESOURCE MOBILIZATION AND ATTRACTING PRIVATE INVESTMENTS

POLICY ZONES



	Area (Sq. Km.)	
	2001	2021
NCT DELHI (INNER ZONE)	1483	1483
CNCR/DMA (CENTRAL ZONE)	1696	2000
HIGHWAY CORR. ZONE	0	300
REST OF NCR (OUTER ZONE)	27063	29795

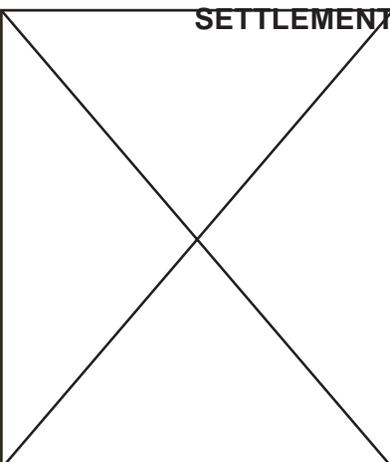
SETTLEMENT

- DOVETAIL THE PROJECTED POPULATION INDICATED IN THE REGIONAL PLAN WITH SUB-REGIONAL, DISTRICT AND MASTER PLANS;
- PROJECTED POPULATION WILL BE REVIEWED AFTER 2011 CENSUS.
- SIX HIERARCHICAL LEVELS OF SETTLEMENTS PROPOSED

Hierarchical Level	Population Range
● Metro Centre	10 lakhs +
● Regional Centre	3 - 10 lakhs
● Sub-regional Centre	0.5 lakhs – 3 lakhs
● Service Centre	10,000 – 50,000
● Central Village	5,000 – 10,000
● Basic Village	below 5,000



SETTLEMENT PATTERN



7 METRO CENTRES/ COMPLEXES (10 LAKHS & ABOVE) <ul style="list-style-type: none">• FARIDABAD• GHAZIABAD-LONI COMPLEX• MEERUT• GURGAON• NOIDA• SONIPAT- KUNDLI COMPLEX• GREATER NOIDA	11 REGIONAL CENTRES <ul style="list-style-type: none">• BAHADURGARH• PANIPAT• ROHTAK• PALWAL• REWARI-DHARUHERA-BAWAL• HAPUR• BULANDSHAHR-KHURJA• BAGHPAT-BARAUT COMPLEX• ALWAR• GREATER BHIWADI• BEHROR-SHAHJAHANPUR
--	---

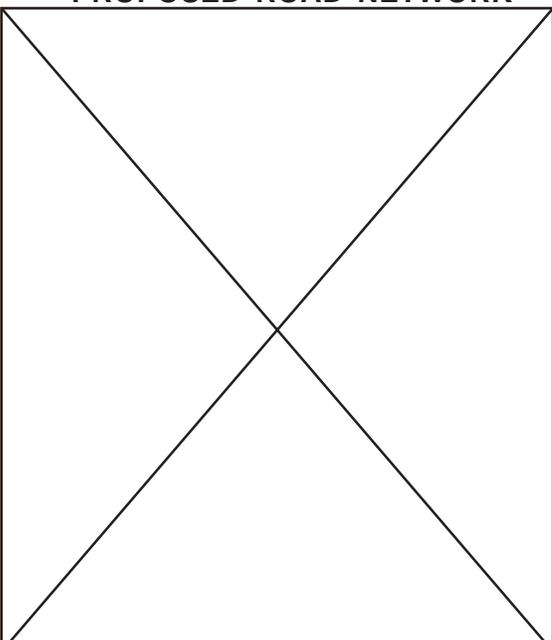
ECONOMIC ACTIVITY AND POLICY MEASURES

- FACILITATE VALUE-ADDED HIGH-TECH SERVICE SECTOR IN DELHI IN THE CONTEXT OF ITS EMERGENCE AS A GLOBAL CITY IN THE WORLD ECONOMY
- ADOPT INVESTMENT STRATEGIES TO RESTRICT LESS DESIRABLE ECONOMIC ACTIVITIES BY NOT ALLOWING NEW INDUSTRIAL AREAS, WHOLESALE TRADE AREA AND OFFICE SPACES IN DELHI
- ONLY HIGH TECH INDUSTRIES IN DELHI
- RESTRICT NUMBER AND SIZE OF GOVERNMENT OFFICES/ PSUs IN DELHI
- SHIFT SPACE EXTENSIVE/ HAZARDOUS WHOLESALE TRADES OUTSIDE DELHI
- MODEL INDUSTRIAL ESTATES/ SPECIAL ECONOMIC ZONES (SEZs) SHOULD BE DEVELOPED OUTSIDE NCT DELHI
- UNIFORMITY IN TAX REGIME - SALES TAX, VAT ETC.

TRANSPORT

- TO PROVIDE FASTER AND EFFICIENT TRANSPORT LINKAGES AMONGST METRO / REGIONAL CENTRES IN NCR AND WITH DELHI
- TO INTERLINK SUB-REGIONAL CENTRES AND HIGHER ORDER SETTLEMENTS TO FACILITATE FAST MOVEMENT OF TRAFFIC
- UNRESTRICTED MOVEMENT OF BUSES, TAXIS, AND AUTO-RICKSHAWS WITHIN NCR
- DECONGEST DELHI BY DIVERTING THROUGH TRAFFIC
- TO CREATE A UNIFIED METROPOLITAN TRANSPORT AUTHORITY FOR NCR

PROPOSED ROAD NETWORK

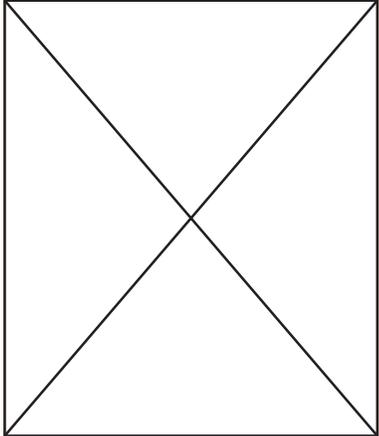


**EXPRESSWAYS
(CONCEPTUAL ALIGNMENTS)**

- 88km WESTERN PERIPHERAL EXPRESSWAY
- 105km EASTERN PERIPHERAL EXPRESSWAY



PROPOSED RAIL NETWORK



REGIONAL RAPID TRANSIT SYSTEM
* DEDICATED TRACKS
* STRENGTHENING
ORBITAL RAIL CORRIDOR
NEW RAIL LINKS

- REWARI TO BHIWADI
- ROHTAK TO HANSI

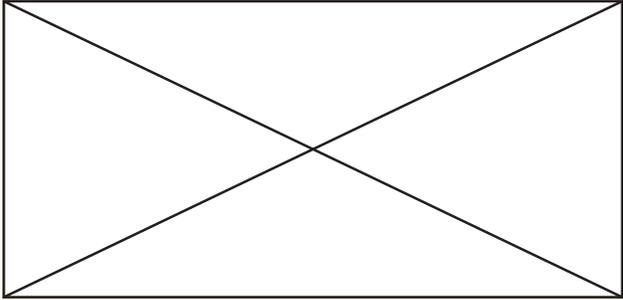
LEGEND
SETTLEMENT
REGIONAL RAPID TRANSIT SYSTEM
INTEGRATED RAIL CUM BUS TRANSIT SYSTEM
EXISTING RAIL NETWORK
ORBITAL CORRIDOR
PROPOSED NEW TRACK
DMRC CORRIDORS
INTERCHANGE STATIONS



POWER

- ADDITIONAL 23,344 MW OF POWER TO BE GENERATED /OBTAINED BY 2021
- STATE GOVTS TO ARRANGE FOR POWER WITH POWER GENERATION COMPANIES TO MAKE-UP SHORTFALL
- IF REQUIRED, STATES CAN PLAN DEDICATED POWER PLANTS IN THE REGION FOR THE BALANCE DEMAND
- IMPROVEMENT IN T & D, NCR TO BE SUB-GRID OF THE NORTHERN GRID AND UNIFIED POWER AUTHORITY FOR NCR
- PROMOTION FOR NON-CONVENTIONAL ENERGY RESOURCES
- SUB-COMPONENT PLAN BY THE MINISTRY OF POWER
- PUBLIC PRIVATE PARTNERSHIP AND COMMERCIAL APPROACH

DRINKING WATER SUPPLY



LPCD – Litre Per Capita per Day
* Does not include the industrial demand

DRINKING WATER SUPPLY

- PREPARATION OF INTEGRATED REGIONAL SCHEME TO AUGMENT DRINKING WATER SUPPLY IN THE REGION
- CONSTRUCTION OF UPSTREAM RESERVOIRS TO STORE EXCESS WATER DURING MONSOON FOR USE IN LEAN PERIOD
- AUGMENT UNDERGROUND WATER RESOURCES THROUGH RAIN WATER HARVESTING
- TO PROTECT & RESERVE 2-5% AREA UNDER WATER BODIES
- WATER CHARGES TO COVER AT LEAST O&M COST
- NO INTENSIVE DEVELOPMENT IN GROUND WATER SHORTAGE AREAS IDENTIFIED BY CGWB
- EMPHASIS ON QUALITY OF WATER AS PER STANDARDS



SEWERAGE

- SEWERAGE MASTER PLANS FOR ALL TOWNS
- 100% SEWERAGE AND TREATMENT FACILITIES IN METRO / REGIONAL CENTRES
- ALL OTHER TOWNS/VILLAGES TO INITIALLY HAVE LOW COST SANITATION
- LAND ALLOCATIONS IN MASTER PLANS FOR SUCH FACILITIES
- 50% OF THE WASTE WATER TO BE RECYCLED FOR NON DRINKING USES
- SEWAGE CESS TO COVER THE O&M / REPLACEMENT COST OF THE SYSTEM

STATUS 2001

Sub-Region	Coverage (% area)	STPs
Delhi	80	17
U.P.	30-70	Ghaziabad & Noida
Haryana	40-70	Faridabad, Gurgaon, Sonapat and Panipat
Rajasthan	3-5	Nil

SOLID WASTE MANAGEMENT

- SOLID WASTE MANAGEMENT PLANS FOR ALL TOWNS
- LAND ALLOCATIONS IN MASTER PLANS/ DEVELOPMENT PLANS FOR SWM
- EMPHASIS ON ALTERNATIVE TECHNOLOGIES LIKE COMPOSTING, PELLETISATION ETC. & RECYCLING
- NOT MORE THAN 50% OF SW TO BE DISPOSED OFF THROUGH SANITARY LANDFILL

Garbage Generation in Towns

Sub-Region	2001	2021
Delhi	8782	15070
U.P.	2270	6066
Haryana	1540	4760
Rajasthan	180	1043
Total	12772	26939

Landfill area required for Delhi 2021 : 27.75 sq kms

ENVIRONMENT, TOURISM & HERITAGE

- PROTECTION & CONSERVATION OF GOOD AGRICULTURAL LAND
- LAND SUITABILITY ANALYSIS IN MASTER / DEV. PLANS FOR LANDUSE ALLOCATIONS
- TO INCREASE THE AREA UNDER FOREST FROM 4% TO 10%
- ENVIRONMENTALLY SENSITIVE AREAS SUCH AS FORESTS, WETLANDS, WATER BODIES ETC. TO BE PROTECTED
- REGULAR MONITORING OF AIR, WATER, NOISE & LAND POLLUTION BY THE RESPECTIVE STATE POLLUTION CONTROL BOARDS
- PROTECTION OF IDENTIFIED NATURAL AND MANMADE HERITAGE SITES FOR THE PROTECTION OF BIO-DIVERSITY AND CULTURE
- DEVELOPMENT PLAN TO BE PREPARED FOR THE PROTECTED AREAS
- PROMOTE TOURISM AS AN IMPORTANT SOURCE OF EMPLOYMENT AND PREPARATION OF TOURISM DEVELOPMENT PLAN

DISASTER MANAGEMENT

- VULNERABILITY & RISK ASSESSMENT, PREVENTION, PREPAREDNESS, RESPONSE AND POST DISASTER MANAGEMENT PLAN FOR MITIGATION OF THE IMPACT OF NATURAL HAZARDS: EARTHQUAKES, FLOODS, HIGH WINDS & FIRE
- AMENDMENTS IN THE RESPECTIVE ACTS, BYE-LAWS AND DEVELOPMENT CONTROL REGULATIONS
- SEISMIC MICRO-ZONATION FOR IMPORTANT SETTLEMENTS AND FLOODING TRENDS FOR MAJOR RIVERS BE PREPARED
- ENFORCEMENT OF NATIONAL BUILDING CODE BE GIVEN PRIORITY BY THE PARTICIPATING STATES



REGIONAL LAND USE

1. CONTROLLED AREA

- URBANISABLE AREA
 - ◆ MASTER PLANS TO BE PREPARED WITHIN THE FRAMEWORK OF RP2021
 - ◆ DENSITIES AS PER NORMS GIVEN IN RP2021
- AGRICULTURAL (RURAL) ZONE WITHIN CONTROLLED AREA
 - ◆ ACTIVITIES AS PER ZONING REGULATIONS OF RP2021 TO BE PERMITTED
- GREEN BUFFERS
 - ◆ TO BE MAINTAINED ALONG TRANSPORT CORRIDORS AS PER DEVELOPMENT PLAN
 - ◆ ACTIVITIES AS PER ZONING REGULATIONS OF RP2021 TO BE PERMITTED

2. HIGHWAY CORRIDOR ZONE

- TO PREVENT RIBBON DEVELOPMENT, A REGULATED ZONE TO BE PROVIDED
- MINIMUM WIDTH OF 500 METERS ON EITHER SIDE OF RIGHT OF WAY TO BE DECLARED AS CONTROLLED AREA
- BOUNDARIES OF THE HIGHWAY CORRIDOR ZONE TO BE DELINEATED BASED ON REVENUE VILLAGES

Contd..

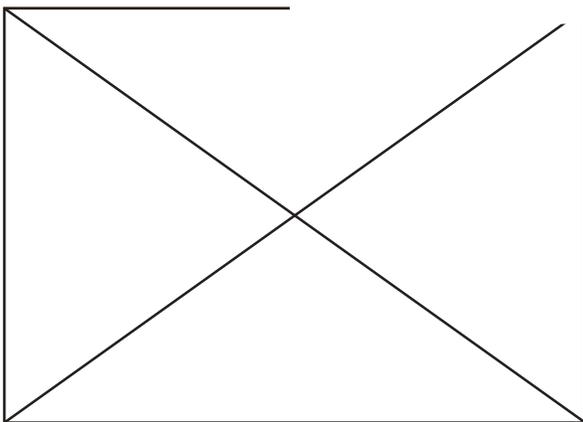
3. NATURAL CONSERVATION ZONE

- ARAVALLI RIDGE TO BE DEVELOPED IN ACCORDANCE WITH NOTIFICATIONS ISSUED BY MOEF
- AREA FOR GROUND WATER RECHARGING TO BE KEPT FREE FROM ENCROACHMENT/ DEVELOPMENT
- DETAILED CONSERVATION PLANS TO BE PREPARED FOR THESE AREAS

4. AGRICULTURAL (RURAL) ZONE OUTSIDE CONTROLLED AREA

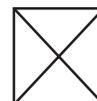
- EXISTING CULTIVATED LAND TO BE CONSERVED FOR AGRICULTURAL USE
- MEASURES TO BE INITIATED FOR PROTECTION OF PRIME AGRICULTURAL LAND
- USE OF LESS VALUABLE LAND FOR URBAN EXPANSION/DEVELOPMENT PURPOSES

COUNTER MAGNET AREAS



COUNTER MAGNET AREAS

- STRENGTHENING OF ECONOMIC BASE THROUGH
 - ◆ IDENTIFICATION OF AREAS IN CMA_s FOR SEZ / INDUSTRIAL GROWTH CENTRES / PUBLIC-PRIVATE PARTICIPATION / FDI
 - ◆ QUALITY INFRASTRUCTURE TO PROMOTE ECONOMIC ACTIVITIES
- UPGRADATION OF PHYSICAL AND SOCIAL INFRASTRUCTURE
 - ◆ SPECIALIZED SOCIAL, CULTURAL AND INSTITUTIONAL ACTIVITIES TO BE ESTABLISHED
 - ◆ TO BE ENCOURAGED AS DESTINATIONS FOR TOURISTS
 - ◆ CMA DEVELOPMENT AUTHORITIES TO PREPARE JOINT PROJECTS, WHICH COULD BE SUPPORTED BY NCRPB
- STRENGTHENING OF REGIONAL LINKAGES
 - ◆ LINKAGES WITH HINTERLAND AND OTHER METRO CENTRES TO BE STRENGTHENED



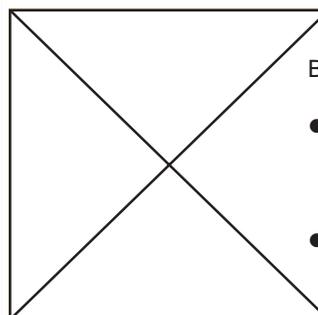
THRUST AREAS

- DEVELOPMENT OF METRO CENTRES AND REGIONAL CENTRES AS POWERFUL GROWTH NODES TO ATTRACT MAJOR ACTIVITIES
- PROVIDE REGIONAL TRANSPORT LINKAGES – REGIONAL RAPID TRANSIT SYSTEM (RRTS) & ITS INTERFACE WITH DELHI METRO
- CONSTRUCTION OF PERIPHERAL EXPRESSWAYS AND ORBITAL RAIL CORRIDOR AROUND DELHI
- DEVELOPMENT OF CORE URBAN INFRASTRUCTURE (TRANSPORT, POWER, WATER SUPPLY, SEWERAGE, DRAINAGE ETC.) IN NCR TOWNS
- FACILITATE DEVELOPMENT OF THE REGION'S ECONOMY THROUGH MODEL INDUSTRIAL ESTATES, SPECIAL ECONOMIC ZONES ETC. OUTSIDE NCT-DELHI
- DEVELOPMENT OF 5 COUNTER MAGNET AREAS OUTSIDE NCR – GWALIOR, BAREILLY, KOTA, HISSAR AND PATIALA
- PUBLIC-PRIVATE PARTNERSHIP

INTEGRATED RAIL CUM BUS TRANSIT SYSTEM

Corridor	Length (Km)	Cost* (Rs. Crs.)
Ghaziabad-Shahdara	14.93	667
Sahibabad-Minto Bridge	17.36	618
DayaBasti-Gurgaon	30.53	954
Total	62.82	2239

* 2002 Prices



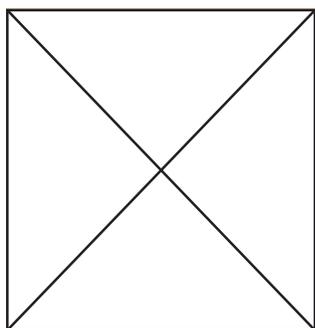
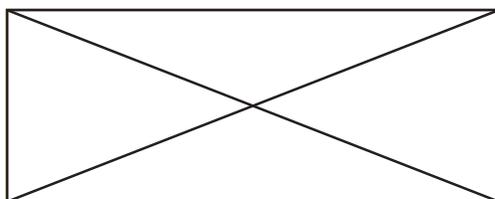
BENEFITS

- Better connectivity between DMA & Other Towns of NCR with Delhi
- Facilitate shifting of Industrial and Other Economic Activities outside Delhi
- Decongestion of Delhi
- Improvement of Environment

IRBT CORRIDORS (Ph. I)
DMRC CORRIDORS (Ph. I)
INTERCHANGE POINTS



PERIPHERAL EXPRESSWAYS



BENEFITS

- Through Traffic will not enter Delhi
- Better connectivity with DMA & Other Towns of NCR
- Facilitate shifting of Industrial and Other Economic Activities outside Delhi
- Improvement of Environment

MANAGEMENT OF CIVIC INFRASTRUCTURE PROJECTS

- NEED FOR SPECIAL COMPONENT PLAN
- CENTRALLY SPONSORED SCHEMES FOR INFRASTRUCTURE DEVELOPMENT (WATER SUPPLY, SEWERAGE, STP, DRAINAGE, ROADS, STREET LIGHTING ETC.)
- EXTERNAL DEVELOPMENT CHARGES TO BE SPENT FOR INTEGRATED PHYSICAL INFRASTRUCTURE DEVELOPMENT OF TOWNS
- INSTITUTIONAL CAPACITY BUILDING, INVOLVEMENT OF NGOS AND PRIVATE SECTORS
- MASS AWARENESS TO SAVE WATER, POWER / WASTE MINIMIZATION / RECYCLING OF WASTE



MASTER PLAN AS A BASIC INSTRUMENT OF LAND-USE PLANNING

*Shri S. P. Jakhanwal, IAS (Retd.),
Director, Amity School of Urban Management*

Planning for cities through rigid master plans as also the socio-economic planning through centralized plans have both become outdated and irrelevant for the present era. Most virulent attacks on master plan as a single rigid, sacrosanct document for the growth of a city came from practitioners who found the document too in-elastic to suit the changing scenarios. It was also argued that physical planning for land and infrastructure will remain a theoretical exercise unless it is laced with socio-economic considerations, analysis of capital investment in infrastructure as also the economic activities of the city.

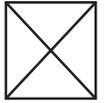
More-or-less, similar arguments were heard coming from neo-planners who found centralized planning neither sub-serving nor capable of adapting to the changing needs. Over emphasis in centralized decision making mechanism and excessive faith in the public sector organizations in taking business decisions were found to be unrealistic. It was found that investments in response to market demands were more efficient as compared with investment decisions made by centralized planning agencies.

Shri Jakhanwal pleaded for retaining the best from both the models; and for discarding the negative elements therein. In other words, he commended master plan as a basic instrument of land-use planning, and said that it should continue to be available with the urban planners and managers. But things should not just end-up there. A chapter in each master plan should be devoted to the socio-economic aspects and investments needed for infrastructure. How the funds are likely to be available should also be discussed at least in basics. A trend is already emerging and has been scripted as "Vision Document", "City Development Strategy", etc.

At the end, Shri Jakhanwal observed that AMDA is playing a very meaningful role as a forum for exchange of views and experiences of metropolitan development authorities and local bodies. He referred to his recent visits to certain towns where rivers, canals and other water bodies are integral elements of cityscape. He lamented the neglect in which the canals and river fronts have been left to take care of themselves. Instead of serving a useful economic purpose like irrigation or transport, water ways, canals are becoming the dumping grounds for all the garbage and rubbish of the town. Stagnant waters in canals breed mosquitoes leading to serious epidemics meningitis and malaria.

In this connection, he referred to 6 kms.- long Hindon-Cut-Canal passing through East Delhi in the NCTD. He also referred to the historic canal passing through the main Lucknow City. The low lying areas along the canal embankments have allowed the slum clusters to grow. Similarly, the river fronts in almost all the metropolitan cities have escaped the attention of urban designers. He recalled the of-quoted fact that more than 80% of the world's population resides on river fronts, mouths of rivers and sea coasts, where water fronts can be a very valuable and natural asset. He also observed that while the urban planners have, in the recent times, given some attention to the planning of hill cities, precious little has been done on planning of river/water fronts in the cities.

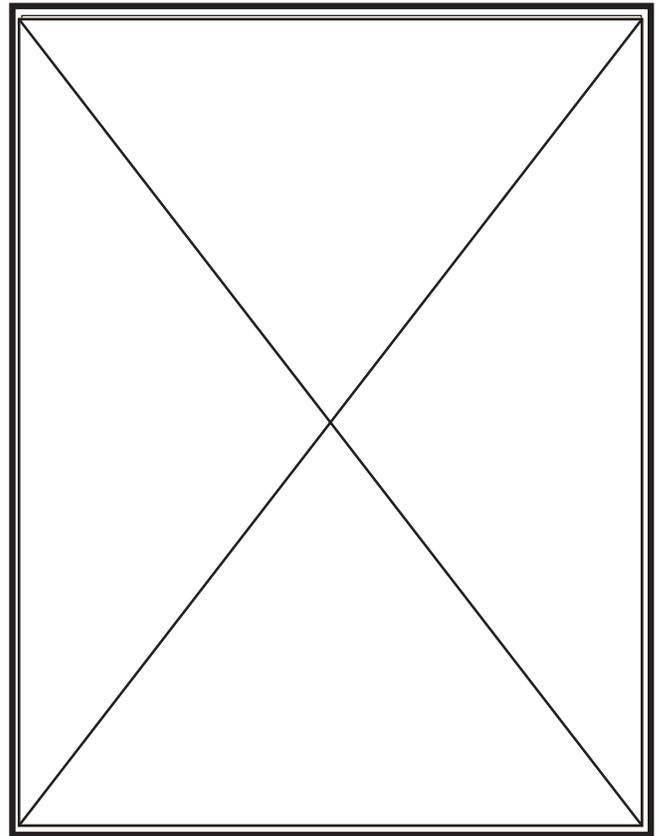
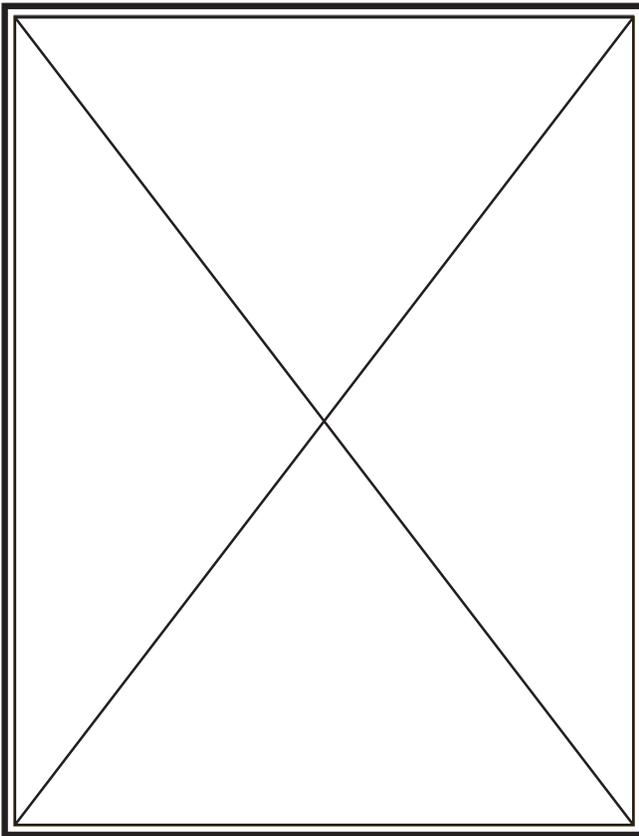
He pleaded that the AMDA, being a representative body of metropolitan towns, may seriously consider organizing a national/regional seminar on "Development of Water Fronts in Cities". He assured that the Amity School of Urban Management (ASUM) would be willing to be a partner in this effort.



Annex-IId

PLANNING THE FUTURE DEVELOPMENT OF JAIPUR AND WORKING OUT COMPREHENSIVE URBAN DEVELOPMENT POLICY

*Shri Satish K. Sharma,
Dy. Town Planner, Jaipur Development Authority, Jaipur*



IMMEDIATE ATTENTION

- Impact of real estate boom mainly along Highway corridors.
- Direction of growth to take into account the physiography of Jaipur Region.
- Main Highways to act as Urban Economic Corridors attracting development.
- Comprehensive development of urban areas to accommodate city/sector level facilities.
- Encourage development of Satellite towns-Initiatives



LEGAL BACKING...

- The Jaipur Development Authority Act 1982.
- The Rajasthan Urban areas (Subdivision Reconstitution and improvement plots) Rules 1975.
- The Rajasthan improvement Trust (Disposal of Urban Land) Rules 1974.
- Development area – 1996.
- Transfer of developed schemes to J.M.C.1993.
- JDA Highway Control Belt Regulations 2003.
- Master Development Plan 2011 w.e.f.1/9/98.
- JDA Building Regulations 2000.
- JDA Private developers Residential Schemes and Mini- Township Regulations 2002.
- The Rajasthan Municipal area (Change in Landuse) Rules 2000

TOWNSHIP DEVELOPMENT

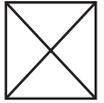
- First effort by JDA in 1996
- Replaced in 1998
 - Very poor response
 - Only one developer registered
- Present regulations - 1/1/02
 - Non conducive to Integrated township development
 - No minimum area limit
 - Khatedar need not have technical/ financial competence
 - NOC can be issued anywhere (subject to CILU)
- Result - No comprehensive township during last 3 years

ISSUES UNDER CONSIDERATION FOR TOWNSHIP DEVELOPMENT POLICY

- Should there be minimum area restriction? If yes, What?
- Can land pooling model be adopted (Gujarat pattern)? If yes, will it require any changes in present legal framework or can be achieved through available legal tools?
- Jaipur to be brought at par with other world class cities - required initiatives.
- To evolve ideal model for integrated Townships – Lessons from other states.
 - Separate legal frame work to achieve the above
 - Or can it be accommodate within the set of rules in vogue.

ISSUES UNDER CONSIDERATION FOR TOWNSHIP DEVELOPMENT POLICY

- To address and explore the possibility of physical development of potential areas falling in Ecological Zone without disturbing the ecological fabric of the Zone.
- To address the problems related with Real estate boom and residential development.
 - How the Authority can utilize the Real estate boom in the overall development of the Jaipur City and its environs.



Annex-Ile

INNOVATIVE ASPECTS OF IMPLEMENTATION OF DEVELOPMENT PLAN, 2011 AD

*Surendra Patel, Chairman,
Ahmedabad Urban Development Authority*

A. INTRODUCTION

1. What do Cities Need?

- Serviced urban land for rapid growth
- Physical Infrastructure: roads, water supply, drainage, street lighting, landscaping
- Social Infrastructure: schools, parks and gardens, facilities for informal sector, etc.

2. Salient Features of the Plan

- Release of 65sq.km of additional land for urbanized development - check on rising land prices and speculation
- No new reservations for acquisitions
- The plan adopted rational principles for zoning and road network planning
- Zoning of three types of residential areas:
 - Residential I: High density
 - Residential II: Medium density
 - Residential III: Low density

A proposal for removal of green belt arrested leap-frogging development

B. PUBLIC – PRIVATE PARTNERSHIPS TO BUILD THE CITY

Providing Serviced Land for Urban Use

Implementation of Development Plan of AUDA is through preparing and implementing Town Planning Schemes:

- From 1978 to 1999 (20 years), 18 TP Schemes (2300 ha.) implemented
- From 1999 till date 50 TP Schemes (5028 ha.) have been completed
- 47 new TP Schemes (4890 ha.) are under preparation
- Aprox. 100 TP Schemes are completed and in progress

C DOING AWAY WITH LAND ACQUISITION

1. Bulk Land Acquisition Method

- Bulk land is acquired from farmers by the development agency under the Land Acquisition Act, 1894
- Compensation is paid to farmers based on agricultural land prices
- Master Plan is prepared for the entire area with roads, amenities, plots for sale, etc.
- Roads and infrastructure are built and plots are sold for urban use at market rates, much higher than the rate of land acquisition
- This method is adopted by development authorities in most states in India – e.g. DDA, CIDCO

2. Town Planning Scheme Mechanism

- An equal portion of land is deducted from every agricultural plot as contribution of land for physical & social infrastructure, and to raise resources



- land remaining with land owner is reconstituted – so that he gets regular shaped plots and frontage on public road
- Land owners contribute fund in proportion to land holding to finance infrastructure development cost
- This method is adopted by Gujarat, Maharashtra and occasionally also in Tamil Nadu, Andhra Pradesh, Kerala
- Similar to “land pooling” in Germany, Australia, Japan, Taiwan, South Korea

3. Adopting TP Schemes for Providing Serviced Land

Bulk Land Acquisition

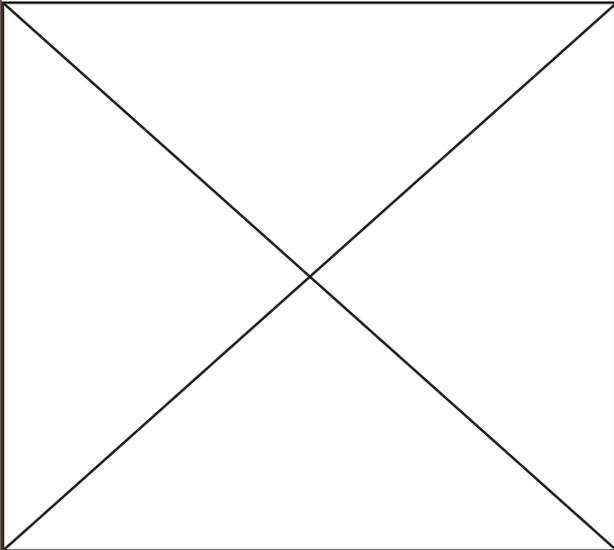
- A centralized approach
- Consistent with the pre-liberalization / centralized development policy
- Creates a monopoly in land supply, raises land cost and impedes rapid development

Town Planning Scheme

- A more *democratic, people-friendly and participatory* approach
- More relevant in a liberal economy, where the government:
 - ◆ is only a *facilitator* - not a provider
 - ◆ does not take unnecessary commercial risk
 - ◆ limits its size and involvement in the economy
- Creates a vibrant land market, keeps land prices in check and assists rapid development

Doing away with reservations for land acquisition helped in faster implementation, lesser delays & greater acceptance of the development proposals by the people

D. BUILDING AHMEDABAD'S SARDAR PATEL RING ROAD USING TP SCHEMES



1. Building City Level Roads and Flyovers

- A number of major radial roads are widened and improved
- A number of smaller roads have been completed to ease traffic movement
- 300 km of TP Scheme roads is completed.
- 250 km of street - lighting is complete

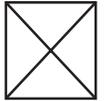
2. Building City Level Infrastructure

Water Supply

- AUDA has prepared an overall project plan of Approx. 285 Cr. For western area, covering 35 settlements having population of 12.5 lakh & future population of 48 lakhs.
- Treatment plant is one of its kind in India.
- Treatment plant is complete and ready to distribute treated water to end users.

Sewerage Disposal

- Western part covered and functioning.
- Eastern part project implementation started at the cost of 75 Crores



E. IMPROVING ENVIRONMENTAL CONDITIONS

1. Planning for the Environment
 - Concept of "Green Belts" have failed throughout the world
 - 35 sq.km has been designated as a Residential - III Zone. (very low intensity development area)
 - This will result into garden bungalow type development. It will have privately developed green spaces
 - The periphery now has vast green areas acting as the permanent "lungs" of the city
 - A virtual green belt is being created with private sector involvement
 - Upto 5% land in TP Schemes will be developed as gardens to provide green pockets in between development
2. Lakes Interlinking and Redevelopment
 - Talavdis (ponds) were being encroached upon, polluted and being filled up
 - AUDA carried out survey of 22 severely degraded lakes

- AUDA proposes to undertake revival, catchment area development, interlinking and beautification of 10 lakes
- Storm water pipes take rainwater to lakes

F. PROVIDING HOUSING FOR THE POOR

- Policy of direct land allotment to EWS society no longer followed, now AUDA itself provides housing units to EWS people
- Approx. 6000 EWS houses has been constructed & allotted, and another 5000 houses in pipeline

G. RATIONALIZING DEVELOPMENT CONTROL REGULATIONS

- Area-based zoning: differential residential zones – R1, R2 and R3
- Improved compliance due to simplifying byelaws that are rational and based on market demand
- "Gross FSI" calculated without exemptions, preventing jugglery of numbers
- A due process for making variances by constituting "Appeal Committee"

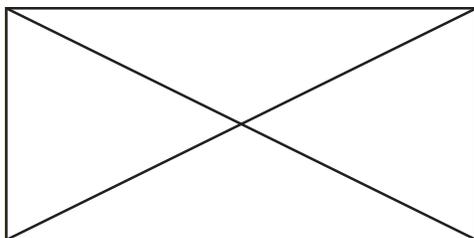
- Property Guidance Cell provides information on legal status of buildings to protect consumers
- Post earthquake, new regulations with respect to structural safety being implemented

H. FINANCIAL REPORT

Consolidated Income & Expenditure Summary as well as Comparison to Salary & Admn. Expenditure of last five financial year were presented in the presentation.

I. CONCLUSIONS

Impacts of Rapid Implementation of the Development Plan using TP Schemes



AUDA's implementation of innovations in the Development Plan are ensuring that new urban growth takes place in a planned manner and follows infrastructure provision rather than preceding it

Pilot Project - VASTRAPUR LAKE REDEVELOPMENT, Ahmedabad

1 Development Issues

Micro Level

- Faced with over 20 years of neglect and development pressure of the surrounding area the Vastrapur Talav had become a:
 - Collection point for sewerage water
 - Garbage dump
- The talav was encroached – 700 hutments housing 320 families and about 100 commercial establishments. This further deteriorated the environment
- The natural water drainage channels were blocked, resulting in a dry talav and water logging in the nearby areas
- The ground water recharge function was compromised

Macro Level

- The city has several lakes of which 22 are facing severe problems of environmental degradation
- Lakes have been encroached by slum developments and have become solid waste dumps
- Blocking of drains that lead water to the lakes and inter linkages between lakes results in dry talavs and creates the problem of water logging in nearby areas



- The city is facing severe problems of depleting ground water levels. With no water in the talavs the ground water recharge is hampered
- They offer opportunity to develop recreational facilities and open spaces that the city sorely needs.

2 AUDA's Vision for Lake Redevelopment

- To rejuvenate the Vastrapur Lake and transform it in into a high quality recreational space for the citizens of Ahmedabad
- To redevelop other talavs in an innovative manner and transform Ahmedabad into a city offering good quality of life
- AUDA identified 22 lakes out of which 10 were undertaken for Redevelopment on a priority basis

1 Vastrapur	2 Makarba
3 Prahladnagar	4 Memnagar
5 Sola	6 Chandlodia
7 Ambli	8 Gota
9 Tahltej	10 Bodakdev

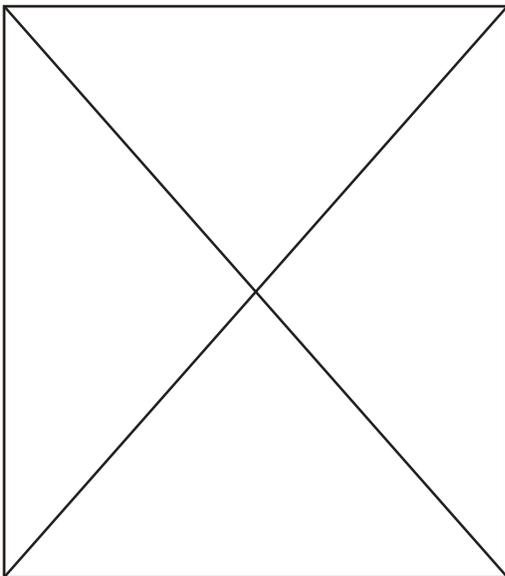
3 Comprehensive Development Strategy

- AUDA adopted a comprehensive strategy for the development of lakes and talvas at both macro and micro scales
- At the macro level several initiatives were commenced:

- ◆ Interlinking of lakes so that the overflow of lake would feed into the next, ultimately leading to the draining of excess water into the River Sabarmati
- ◆ Comprehensive sewerage / storm water project for west AUDA, so that the sewerage was not dumped into the lakes and the storm water could be diverted into the lakes / river
- ◆ Comprehensive water supply project for west AUDA, so that part of the water from Narmada Canal could be released into the lakes
- At micro level, redevelopment of 10 lakes was undertaken on priority at a cost of Rs. 44 crores through AUDA internal resources. This included:
 - ◆ Desilting, deepening of lakes
 - ◆ Landscaping works and development of recreational facilities around the lakes such as parks, jogger tracks, amphitheatres, eating joints etc
 - ◆ Construction of percolation wells within lakes to facilitate ground water recharge
 - ◆ Construction of storm water network around the talavs to capture the runoff
- Several benefits are envisaged:
 - ◆ Redevelopment of various talavs along with recreational facilities will create breathing spaces for the dense urban areas
 - ◆ Construction of percolation wells will enhance the ground water recharge
 - ◆ Interlinking of talavs will result in better management of the storm water

- ◆ Environmental improvements will discourage slum encroachments, enhance land values and foster high quality urban development
- As a pilot project the redevelopment of Vastrapur Lake was initiated

4 Vastrapur Lake Redevelopment



- Vastrapur Talav is located adjoining the Vastrapur Gamtal and is part of the Vastrapur T P Scheme (FP No. 209)
- The total area is about 51,000 sq m

Process and Project Components

- A. Sewerage system in the surrounding areas
- B. Storm water in the surrounding areas
- C. Development of access roads
- D. Rehabilitation of slum dwellers
- E. Removal of encroachments
- F. Desilting and deepening works
- G. Construction of Percolating Wells
- H. Reclamation of of periphery for activities
- I. Architectural and landscape design
- J. Cost estimates

A. Sewerage System in the Surrounding Area

Features

- AUDA initiated comprehensive sewerage project for west AUDA area
- Area around Vastrapur is linked to the system and all residential areas given permanent drainage connections
- Public toilets as well as public taps provided by Vastrapur Gram Panchayat to the hutments surrounding the Vastrapur lake are also linked to the system



Benefits

- The flow of sewerage from the surrounding areas into the lake was stopped, resulting in cleaning up of the lake
- Open defecation into the lake reduced, resulting in cleaner environment

B. Storm Water Network in the Surrounding Area

Features

- AUDA commenced the laying of storm water network in surrounding area of Vastrapur lake site
- A network of 6 km length, covering a catchment area of 500 ha was laid
- Cost of works: Rs. 25 lakhs

Benefits

- Storm water in the subsequent was diverted into the lake resulting in water retention, ground water percolation and reduced flooding in the surroundings

C. Development of Access Roads

Features

- All the TP Scheme roads in the vicinity of Vastrapur lake were widened
- New linkages with major roads were established

Benefits

- Better accessibility to the talav
- Reduction in traffic congestion

D. Rehabilitation of Slum Dwellers

Features

- 314 slum units were identified
- Complete rehabilitation of all the slum dwellers envisaged
- Ownership rehabilitation package proposed
- 314 EWS units consisting of 21 sq m of area with G+1 structure constructed in FP 489
- Successful and willing rehabilitation strategy and program worked out:
 - Individual / door to door meetings were held with all the owners
 - Occupants convinced to accept the rehabilitation package – they would get better living conditions and more critically, get legal tenure
 - Land and infrastructure not charged
 - Two types of units one costing = Rs 62,500 and the other Rs. 81,500
Rs. 5000 borne by beneficiary; Remaining amount given as soft loan by AUDA; Beneficiaries to pay a monthly installment of Rs 550

E. Removal of Encroachments

Features

After working out a successful rehabilitation strategy and package about 100 commercial encroachments were removed/demolished

Reclaimed land was used in road & lake periphery development

Benefits

Lake became accessible to the people
T.P. Scheme roads around the lake widened

F. Desilting and Deepening Works

Features

- Desilting and deepening of the lake
- About 65000 cum of earth was excavated and used for reclamation

Benefits

- Bottom surface cleaned to achieve better percolation
- Water storage/retention capacity enhanced

G. Construction of Percolation Wells

Features

- 2 percolating bore-wells of 600 mm dia and 300 mm dia PVC slot pipe were constructed upto a 35 m depth
- The space between PVC pipe and 600 mm dia earth drilling was filled up with pebbles

Benefits

- Recharge of ground water by the rain water is enhanced

H. Reclamation of Periphery for Activities

Features

- Reclamation to facilitate development of recreational facilities

Benefits

- Earth thrown up while desilting / deepening was used and an interesting profile was generated
- 15000 sq m of land reclaimed at road level, leaving about 35,000 sq m as lake

I. Architectural & Landscape Design

Features

- Activities defined by levels, softscape & hardscape
- Lake functionally divided in 2 parts:
- A portion with a depth of 3.5 m that is envisaged to be used for multi-purpose activities such as amphitheatre, stage show and other activities
- A larger portion with a depth of 10.5 m is envisaged as water storage area that will support boating, fountains along with other amenities

Benefits

- Public place with daily as well as multipurpose activities
- Much needed breathing space in dense built environment



I. Architectural & Landscape Design

J. Cost Estimate (Direct Expenditure)

● Excavation of Lake	= Rs. 45.00 Lacs.
● Storm Water Drainage Network	= Rs. 50.00 Lacs.
● Water Recharging Percolating well	= Rs. 05.00 Lacs.
● Stone Pitching	= Rs. 56.00 Lacs.
● Garden Development & Landscaping	= Rs. 30.00 Lacs.
● Amphitheatre	= Rs. 30.00 Lacs
● Encroachment Removal Charge	= Rs. 05.00 Lacs
● Peripheral Road Network	= Rs. 50.00 Lacs
Peripheral Compound Wall With Decorative Cast Iron Grill Paved Parking Area	
Walking Track (Two Levels)	= Rs. 30.00 Lacs.
● Rehabilitation of Slum Dwellers	= Rs.260.00 Lacs.
● Design & Supervision	= Rs. 05.70 Lacs.
● Total	= Rs. 575.70 Lacs.

5. ACHIEVEMENTS AND INNOVATIONS

- A fine recreational open space created for Ahmedabad, further developing series of lakes will add to quality open / recreational spaces for residents
- Interlinking of lakes is a unique concept that has been practically implemented for the first time in India. 10 lakes have been interlinked
- Increased ground water recharge
- Decrease in slum encroachments