



**R. G. GUPTA**  
CITY / POLICY PLANNER

**UPS CAMPUS**  
**BLOCK-A**  
**PREET VIHAR, DELHI-110092**  
(M) 09811018374  
ram\_gopal\_gupta@yahoo.co.in  
www.rgplan.org, www.uict.org

# URBAN INFRASTRUCTURE

Especially, to make a settlement **'SMART'**

## MAIN IMPORTANT POINTS.

1. Infrastructure has the maximum value and is required for all types of settlements may the smallest, small, medium, large, about 50 Metropolitan Cities, 5 Emerging Mega cities and 5 Mega cities.
2. With the help of infrastructure any settlement can be made Smart. India should work on this line not for specific settlements; but for all.
3. With less or no provision of infrastructure 75% of Delhi is sub-standard in terms of:
  - I. Unauthorized Regularized Residential;
  - ii. Unauthorized Residential;
  - iii. Unauthorized Regularized Industrial;
  - iv. Unauthorized Industrial;
  - v. Unauthorized Regularized Commercial;
  - vi. Unauthorized Commercial;
  - vii. Unauthorized Public and Semi Public buildings;
  - viii. Unauthorized offices.
  - ix. Unauthorized utilities and service connections.
  - x. Unauthorized parking in most of the places.
  - xi. Unauthorized display boards.
  - xii. Unauthorized Street furniture.
  - xiii. Unauthorized entrances to the buildings.
4. THERE ARE MORE THAN 6.5 LAKHS RURAL SETTLEMENTS; WITH A EXPECTED BREAK UP OF 10% GROWTH CENTRES (Primary + Secondary & Tertiary ACTIVITIES); 25% GROWTH POINTS( Primary + Secondary ACTIVITIES) AND 65% AS BASIC ( only with Primary ACTIVITIES) VILLAGES.
5. Provide full infrastructure on the basis of following principles:
  - I. Public Private Partnership in terms of Physical & Financial planning, time, directions etc.
  - ii. Transparency
  - iii. Use TDR(Transfer of development rights) to the extent possible.
  - iv. Allot alternate space to the desired one; on terms of payments and not otherwise.

## TYPES OF INFRASTRUCTURE (URBAN / RURAL SETTLEMENTS) –

- i) **PHYSICAL INFRASTRUCTURE**– Water, Sewerage, Drainage, Power, Solid; Liquid & Electronic Waste Management; Tele-communication; Gas Lines; Street furniture of different types; Interior decoration and Urban beauty on the roads.

ii) **SOCIAL INFRASTRUCTURE**– Health, Education, Security, Safety, Justice, Recreation, Shelter for all income groups, Exhibition halls, Convention halls and Research Centers.

iii) **CIRCULATION INFRASTRUCTURE**– Roads (Express Highways; National high ways; State highways; 30 Mt. & above roads with Road Over Bridges; Road Under Bridges; Foot Over Bridges; Foot Under Bridges with separate movements of trucks at different levels), Integrated freight complexes at the borders in all the directions of the City; Railways (Goods & Passengers); Metro rails, Mono rails, Tram ways; Ring railways; Fast moving trains; Bullet trains. Waterways; rivers; canals and lakes. Airways; International; National and domestic. All types of parking.

iv) **ECOLOGICAL INFRASTRUCTURE**– To stop & control Water, Soil, Air & Noise pollution.

v) **ECONOMIC INFRASTRUCTURE**– Pricing of land based on land use and status of the men (EWS, LIG, MIG, HIG, ELITES etc.) Free hold or lease hold and other system concerning to Land Policy. Trade; Retail, Wholesale, Warehousing & Godowns, Different types of shopping centers with appropriate connected infra structure; Offices (Public; Corporate and Private Offices) .

Finances from Public Private Partnership including supports from – 1. BRICS (Brazil, Russia, India, China, South Africa) Countries, 2. SARAC (India, Afghanistan, Pakistan, Bhutan, Nepal, Bangladesh, Myanmar, Sri Lanka,) Countries, 3. Observing (USA, Australia, France etc.) Countries.

vi) **EMERGENCY INFRASTRUCTURE**– Earthquake, falling of buildings; Floods, Deserts, Tsunami, High Velocity Winds, Volcanoes, Terrorist attacks.

vii) **CHARACTER INFRASTRUCTURE.**  
**TO CONTROL (16 in numbers)** (i) Anger (*Krodh*), (ii) Greed (*Lobh*), (iii) Lust (*Kaamna*), (iv) Jealousy (*Irshya*), (v) Fear (*Bhaya*), (vi) Deceit (*Kapat*), (vii) Rivalry (*Virodh-bhav*), (viii) Malice (*Dwesh-bhav*), (ix) Hatred (*Ghrina*), (x) Hypocrisy (*Pakhand*), (xi) Violence (*Hinsa*), (xii) Selfishness (*Swarth*), (xiii) Ego (*Ahenkar*), (xiv) Partiality (*Bhedbhav*), (xv) Arrogance (*Dambh*) and (xvi) Obstinacy (*Hatth*) etc.

**TO CREATE (15 IN NUMBERS)** (i) Love (*Prem*), (ii) Truth (*Satya*), (iii) Compassion (*Daya*), (iv) Tolerance (*Sahishnuta*), (v) Purity (*Shudh*), (vi) Selfness Service (*Sevabhav*), (vii) Self-Sacrifice (*Tyag*), (viii) Self-control (*Sanyam*), (ix) Serenity (*Shanti*), (x) Fortitude (*Dhairya*), (xi) Forgiveness

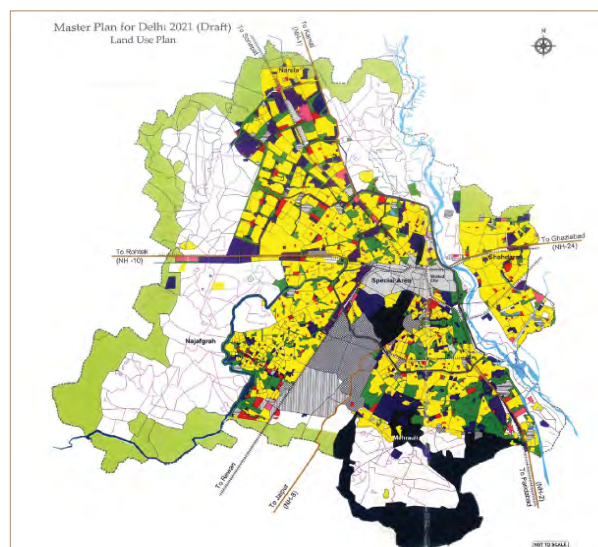
(*Kshamabhav*), (xii) Contentment (*Santosh*), (xiii) Curiosity (*Jigyasa*), (xiv) Asceticism (*Tap*) and (xv) Generosity (*Udarata*) etc.

**TO HAVE (22 IN NUMBERS)** (i) Sublime (*Tejasvi*), (ii) Judicious (*Nayay-sammata*), (iii) Disciplined (*Anushashit*), (iv) Cultured (*Susanskrit*), (v) Balanced (*Santulit*), (vi) Cheerful (*Anandit*), (vii) Positive thinking (*Sakarattmak-soch*), (viii) Industrious (*Udyami*), (ix) Duty-conscious (*Kartavya-Nisth*), (x) Modest (*Vinaysheel*), (xi) Discreet (*Vivekshheel*), (xii) Responsible (*Uttarda*), (xiii) Self-confident (*Atam-vishwaasi*), (xiv) Dedicated (*Samarpit*), (xv) Resolute (*Dradh*), (xvi) Energetic (*Urjawan*), (xvii) Dynamic (*Gatisheel*), (xix) Courageous (*Saahasi*), (xx) Harmonious (*Milansaar*), (xxi) Hospitable (*Athitsatkari*) and (xxii) Broad-Minded (*Vishaal-Hriday*)

viii) **TO CONTROL CLIMATE AND POLLUTION. THIS IS THIRD WORLD WAR, ALREADY STARTED; INVOLVING THE ENTIRE POPULATION OF THE WORLD.**

1. DO NOT PERMIT TO INCREASE THE GLOBAL TEMPERATURE AT ANY COST.
2. TO KEEP THE CLIMATE AND POLLUTION IN LIMITS TAKE THE CONTINUOUS HELP OF TREES, GREEN AREAS; MOUNTAINS; FORESTS ; ALL THE TIMES SOLID AND DUST WASTE MANagements.
3. MAKE AT LEAST 3 CLIMATE CLUBS IN DELHI – I) ONE IN NORTH, II) ONE IN SOUTH, III) ONE IN EAST & MANY OTHERS IN NCR.
4. RICH NATIONS / STATE BE REQUESTED TO GIVE MORE & MORE FUNDS FOR THIS SUBJECT AND HELP EACH OTHER.

## LAND USE PLANNING AS PER MASTER PLAN-2021AD



1. **RESIDENTIAL** - (i) Residential Areas with Density, (ii) Foreign Mission
2. **COMMERCIAL**- (i) Retail Shopping, General Business and Commerce, (ii) District Centre, (iii) Community Centre, (iv) Non Hierarchical Commercial Centre etc., (v) Wholesale & Warehousing, (vi) Cold Storage & Oil Depot, (vii) Hotels
3. **UTILITY**- (i) Water (Treatment Plant etc.), (ii) Sewerage (Treatment Plant etc.), (iii) Electricity (Power Houses Substations etc.), (iv) Solid Waste (Sanitary Landfill etc.), (v) Drain
4. **GOVERNMENT** - (i) President Estate & Parliament House, (ii) Government Offices/Courts, (iii) Government Land (use Undetermined)
5. **INDUSTRY**- (i) Manufacturing, Service & Repair Industry,
6. **RIDGE/REGIONAL PARK**- (i) Ridge/Regional Park
7. **RECREATIONAL**- (i) City Park, District Park, and Community Park, (ii) Historical Monuments
8. **TRANSPORTATION**-(I) Airport, (ii) Terminal/Depot-Rail/MRTS/Bus/Truck, (iii) Circulation – Rail/MRTS/Road of different R/Ws.
9. **PUBLIC & SEMI PUBLIC**- (i) Hospital, (ii) Education & Research University/University Centre, College, (iii) Social-Cultural, Socio Cultural Complex/Centre, (iv) Police/Police Hq/Police Lines/Fire Stations/Disaster Management Centre, (v) Religious – Burial Ground/ Cremation ground, (vi) Transmission Site/Centre, (vii) Sports Facilities/ Complex/Stadium/Sports Centre
10. **GREEN BELT & WATER BODY**- (I) Plants/Nursery, (ii) Green Belt/Urbanizable Area, (iii) River & Water Body, (iv) City Forest

#### SPATIAL PLANNING INCLUDE

- |                                 |                    |
|---------------------------------|--------------------|
| 1) Planning                     | – Re-Planning.     |
| 2) Development                  | – Re-Development.  |
| 3) Construction                 | – Re-Construction. |
| 4) Management                   | – Re-Management.   |
| 5) Maintenance                  | – Re-Maintenance.  |
| 6) Ratio of Females             | – Between 48-50%   |
| 7) Literacy                     | – More Than 80%;   |
| 8) Fighting between men & women | - Zero percent.    |
| 9) Safety                       | – Cent percent     |

#### COMMON POINTS OF SPATIAL INFRASTRUCTURE FOR SUSTAINABLE & SMART DEVELOPMENT.

##### 1. Planning at National (Macro) Policy Level.

(1) Physical + (2) Financial + (3) Time + (4) Direction + (5) Strategy + (6) Transparency + (7) Public-Private Partnership (PPP) + (8) Transfer of Development Rights (TDR) + (9) Continuous use of the developed / built up spaces + (10) Maintenance in normal and emergency time, (11) To educate the public at large, (12) All types of circulation with parking, (13) Preservation and conservation of Natural resources; i.e. Water; Mountains; Deserts; Forests and Sea coasts (14) Control of Emergency infrastructure; i.e. Earthquake; Heavy floods; Tsunami; High speed winds and Volcanoes. (15) Good relations a) with in outside the Region (NCR) b) All Capitals of the country c) All settlements with a population of 1 M and above by 2021 AD.

##### 2. The entire process of Spatial Infrastructure is for all Land uses as given under and shown in map no. 1; on page no. \_\_\_\_

- I. **Residential**–New Housing, Housing for Urban Poor through Slum approaches; on Independent Plots; Re-Development; Group Housing; Employer Housing;
 

Unauthorized regularized colonies & Up-gradation of old areas and traditional villages; Backlog in Housing Stock and their replacement in phases.
- II. **Commercial**– Retail Shopping; General Business & Commerce; District Centers; Wholesale & Warehousing, Informal Commercial Land Uses.
- III. **Utilities & Services**– Water, Sewerage, Power, Solid & E.Waste Management, Drainage, Tele-Communication, Gas lines; Informal unplanned Services.

**IV. Public & Semi-Public Buildings**, Health, Education, Security, Safety, Justice, Recreation (Green Areas of all Types) & Shelter, Religious Buildings, Cremation / Burial Grounds, many informal Buildings without any Sanction in terms of locations and details.

**V. To Control and Stop Water, Air, Noise, & Soil pollution** in all the areas including in Large Green Areas; Historical & Archeological Areas / buildings too.

**VI. Offices**– Government, Semi-Government, Corporate & Private Offices for Different Economic Groups.

**VII. Industry– Manufacturing**; Small Scale Services & House Hold Industries; With ICT (*Information & Communication Technology*) and negligible pollution.

For Noxious and Nuisance industries there should be separate sites on the periphery of the city. Informal Industries; which are common in developing countries due to Physical & Socio Economical reasons should also be taken care of.

**VIII. Circulation Infrastructure**– Details already given:

- (1) International; (National and Local Airports & Helipads ;)
- (4) Waterways (Sea; Rivers, Canals, Lakes),
- (5) Railway for Passengers & Goods Trains, Metro in most of the cities with a population of 5 M and above, Mono Rails in congested cities,
- (6) Express Highways;
- (7) National Highways;
- (8) State Highways; 30mt. wide and above roads with ROB (Road over Bridge), RUB (Road under Bridge), FOB, FUB, Inter-sections at different levels avoiding direct conflict of vehicles; Cycle tracks along roads; adequate parking for different types of vehicles.

**IX. Areas within High Traffic Intensity Corridors** to accommodate more population to have easy access to the place of living; working and enjoying.

**X. City Forest, Ridges**, Large Green Areas, Sports Grounds, Stadiums to have huge recreational areas for everyone especially for players.

**XI. Historical or Archeological Monuments** with all the essential amenities and facilities for the public at Large.

**XII. Focal Points** of different types for different age groups

**XIII. Areas sensitive for emergency infrastructure**

#### PRINCIPLES OF DEVELOPMENT OF SPATIAL INFRASTRUCTURE WITH GOOD SUSTAINABILITY & SMARTNESS

- I. Coordination; Integration; Evaluation & Monitoring at different levels of all the concerned authorities and departments.
- II. See all the earlier records available anywhere on the subject of Planning.
- III. Public-Private Partnership (PPP).
- IV. Transfer of Development Rights (TDR).
- V. All other common points to have a better living, working, enjoying, safety & character.
- VI. Time has maximum value.
- VII. Transparency.
- VIII. To work at Macro; Meso and Micro Levels.
- IX. Higher FAR along High Intensity Traffic Corridors.
- X. Checking details of large projects with cost of Rs. 10 Billions and above by Senior Group of Experts of Public & Private Sectors.
- XI. To work as per existing Law in Force Like NCR Act; D.D. Act; MCD Act; NDMC Act; and Acts concerning to Environment and Historical Monuments etc. (Important sections are 7,8,27, & 28 of NCR); 3,5,6,7,8, & 37 of D. D. Act.; 41,42,43,301, 302, 345a, 348, 416, 421, 425, 427, 428, 429, 489 MCD act; whose details are given in various appendices.
- XII. Provisions of all Infrastructure including Character Infrastructure.
- XIII. Safety for Men and Women of all age groups.
- XIV. To take care of all the past plans in terms of Linkages; & different types of Infrastructure.

#### POINT NO. 2

**GAPS IN SPATIAL PLANNING NOT FOLLOWING THE LAW ESPECIALLY NCR ACT & D. D. ACT. IN THE LAST 60 YEARS, ONLY**

#### SOME SECTIONS WHICH MAY BE CONSIDERED OR ON WHICH DECISION SHOULD BE TAKEN.

**SECTION - 3 THE DELHI DEVELOPMENT AUTHORITY**– (1) as soon as may be, after the commencement of this act, the central government shall, by notification in the official gazette, constitute for the purposes of this act and authority to be called the Delhi development authority (hereinafter referred to as the authority)

**4[(G) three other persons to be nominated by the central government, of whom one shall be a person with experience of town planning or architecture; and]...**

**SECTION 5 ADVISORY COUNCIL** - (1) the authority shall, as soon as, constitute an advisory council for the purpose of advising the authority on the preparation of the master plan and on such other matters relating to the planning of development, or arising out of, or in connection with, the administration of this act as may be referred to it by the authority...

**(B) TWO PERSONS WITH KNOWLEDGE OF TOWN PLANNING OR ARCHITECTURE TO BE NOMINATED BY THE CENTRAL GOVERNMENT...**

#### SECTION-6 OBJECTS OF THE AUTHORITY

The objects of the authority shall be to promote and secure the development of Delhi according to plan and for that purpose the authority shall have **THE POWER TO ACQUIRE, HOLD, MANAGE AND DISPOSE OF LAND AND OTHER PROPERTY, TO CARRY OUT BUILDING, ENGINEERING, MINING AND OTHER OPERATIONS, TO EXECUTE WORKS IN CONNECTION WITH SUPPLY OF WATER AND ELECTRICITY, DISPOSAL OF SEWAGE AND OTHER SERVICES AND AMENITIES AND GENERALLY TO DO ANYTHING NECESSARY OR EXPEDIENT FOR PURPOSES OF SUCH DEVELOPMENT AND FOR PURPOSES INCIDENTAL THERETO...**

Since 1957 to 1979 DDA did not interpret it in the correct perspective therefore **MOUD wrote to DDA vide letter dated 2nd January 1979 to follow section 6 of the act** and clarify in the following 8 clauses... The last paragraph in the letter is as under:

**(G) IN EXERCISE OF ITS ROLE AS CUSTODIAN OF THE MASTER PLAN, THE DDA HAS NECESSARILY TO COORDINATE THE ACTIVITIES OF OTHER SPECIALIZED AGENCIES SUCH AS DESU, MCD, CPWD, DELHI GOVT. ETC. WHO ARE ALSO CONCERNED WITH THE PLANNED DEVELOPMENT OF DELHI...**

#### SECTION-7 CIVIC SURVEY OF, AND MASTER PLAN FOR, DELHI

**(1) THE AUTHORITY SHALL, AS SOON AS MAY BE, CARRY OUT A CIVIC SURVEY OF, AND PREPARE A MASTER PLAN FOR, DELHI.**

**SECTION-8 Zonal development plans** – (1) simultaneously with the preparation of the Master plan or as soon as may be thereafter, the authority shall proceed with the preparation of a zonal development plan for each of the zones into which Delhi may be divided.

(2) Azonal development plan may-

(a) Contain a site-plan and **USE-PLAN FOR THE DEVELOPMENT OF THE ZONE AND SHOW THE APPROXIMATE LOCATIONS AND EXTENTS OF LAND-USES PROPOSED IN THE ZONE FOR SUCH THINGS AS PUBLIC BUILDINGS AND OTHER PUBLIC WORKS AND UTILITIES, ROADS, HOUSING, RECREATION, INDUSTRY, BUSINESS MARKETS, SCHOOLS, HOSPITALS, AND PUBLIC AND PRIVATE OPEN SPACES AND OTHER CATEGORIES OF PUBLIC AND PRIVATE USES...**

**(II) THE ALLOTMENT OR RESERVATION OF LAND FOR ROADS, OPEN SPACES, GARDENS, RECREATIONS GROUNDS, SCHOOLS, MARKETS AND OTHER PUBLIC PURPOSES...**

**(V) THE ALIGNMENT OF BUILDINGS ON ANY SITE...**

**SECTION – 37 POWER OF AUTHORITY TO LEVY BETTERMENT CHARGES.**

- (1) Where, in the opinion of the authority, as a consequence of any development having been executed by the authority in any development area, the value of any property in that area or in any area than the development area, which has been benefited by the development, **HAS INCREASED OR WILL INCREASE, THE AUTHORITY SHALL BE ENTITLED TO LEVY UPON THE OWNER OF THE PROPERTY OR ANY PERSON HAVING AN INTEREST THEREIN A BETTERMENT CHARGE IN RESPECT OF THE INCREASE IN VALUE OF THE PROPERTY RESULTING FROM THE EXECUTION OF THE DEVELOPMENT...**
- (2) Such betterment charge shall be an amount to develop the areas

**POINT NO. 3**

**SOME POLICY PLANNING POINTS FOR DELHI, CNCR (CENTRAL NATIONAL CAPITAL OF DELHI), AND NCR (NATIONAL CAPITAL REGION).**

**FOLLOWING POLICIES BE FOLLOWED: -**

1. Study and follow Connected Urban Planning Provisions in Five year/ annual plans of 4 states namely: 1) Delhi, 2) Uttar Pradesh, 3) Haryana, and 4) Rajasthan and in-corporate in the policy planning of the entire system. For example:
  1. **NO TAXATION ON THE BORDERS OF DELHI AND SETTLEMENTS OF NCR, SO AS TO HAVE SMOOTH FLOW OF TRAFFIC.**
  2. **INTEGRATED SYSTEM OF TRAFFIC & TRANSPORTATION ESPECIALLY BY METRO, MONORAIL, PUBLIC BUSES AND ALL OTHER TYPES OF TRANSPORTS.**
  3. **SOME UNIFORMITY IN PHYSICAL, SOCIAL, ECOLOGICAL & ECONOMIC INFRASTRUCTURE.**
  4. **CONTROL THE POPULATION OF VARIOUS SETTLEMENTS ESPECIALLY OF CNCR. DO NOT PERMIT ANY CONSTRUCTION TILL APPROVED BY COMPETENT AUTHORITIES INCLUDING FROM NCR PLANNING BOARD.**
  5. **PREPARE THE PLANS OF VARIOUS SETTLEMENTS OF CNCR 2031 AD IN CORPORATING THE INFRASTRUCTURE INCLUDING CIRCULATION AT TRUNK LEVEL.**

**POINT NO. 4**

**NEW MASTER PLAN OF DELHI (2001-2021) SHOULD HAVE BEEN IN EXISTENCE FROM 2001 BUT, SO FAR, NOT AND STILL UNDER REVIEW. THIS POINT SHOULD BE TAKEN SERIOUSLY, AND PLAN BE COMPLETED ONLY WITH THE HELP OF PUBLIC PRIVATE PARTNERSHIP, TRANSPARENCY; OTHER IMPORTANT INSTRUMENTS LIKE HIGH INTENSITY TRAFFIC CORRIDORS & PARKING PROBLEMS.**

1. First Master Plan after DD Act was from 1962 to 1981 but **continued upto 1990**
2. Second Master Plan was from 1990 to 2001 but **continued upto 2007.**
3. Third Master Plan was from 2007 upto 2021 AD. Its review was started from 2012.
4. **Let somebody prepare a NEW MASTER PLAN FROM 2016 TO 2031 I.E. OF 15 YEARS incorporating all the plus points of earlier 26 Plans/ important documents available so far, and urban planning provisions in the 13th, 14th & 15th five year plans of the 4 states and vice versa concerning to Delhi.**
5. **In-corporate all the infrastructure at the trunk level –**
  1. **Physical**
  2. **Circulation**
  3. **Social**
  4. **Ecological**
  5. **Economic**
  6. **Emergency**
  7. **Character**
  8. **Time**

**POINT NO. 5**

**USE ALL THE PLUS POINTS OF EARLIER 26 MASTER PLANS / IMPORTANT POLICY DOCUMENTS OF NCR, CNCR, & DELHI. NAMES ARE GIVEN UNDER.**

1. Detailed Master plan of **Walled city of Delhi: 1870.**
2. Document of shifting of the **Capital from Kolkata to Delhi – 1912.**
3. Outlines of **Delhi Improvement Trust – 1936.**
4. **1<sup>st</sup> detailed plan of Delhi in five volumes- 1956** under the Ministry of Health.
5. **Work-studies of the Master plan -1961** in two volumes with all the details.
6. **1st Master plan of Delhi – 1962.**
7. Development of **Sub-standard areas – 1982.**
8. Comprehensive Report of “**regularization of Unauthorized colonies**” – 1984.
9. **Mini Master Plan of Delhi – 1984.**
10. Report of **High Power Committee on Land inventory – 1986.**
11. **Second Master plan of Delhi – 1990-2001.**
12. **NCR – Plan, 1985**
13. **NCR Plan – 2000**
14. **NCR Plan – 2021 AD**
15. **Draft NCR Plan – 2013 AD**
16. **Sub-Regional Plan** of Uttar Pradesh in Nineties;
17. **Sub-Regional Plan** of Rajasthan in Nineties;
18. **Sub-Regional Plan** of Haryana in Nineties
19. **Sub-Regional Plan** of National Capital Territory of Delhi in Nineties.
20. **Third Master Plan of Delhi – 2007 - 2021.**
21. **Sub-Regional Plan** of Uttar Pradesh in; 2021/31
22. **Sub-Regional Plan** of Rajasthan in; 2001/31
23. **Sub-Regional Plan** of Haryana in; 2021/31
24. Important points of the **11th five-year plans** of Delhi.
25. Important points of the **12th five-year plans** of Delhi.
26. Uses to be permitted in **Lal Dora & Extended Lal Dora of the villages.**

**POINT NO. 6**

**COMPILATION & FORMULATION OF POLICIES BASED ON THE LAST 50 YEARS & THEIR RESULTS.**

2. **Basic tools**
  - (i) Land, (ii) Land Use, (iii) Zoning Regulations, (iv) Density; (v) Growth of the settlement, (vi) Coverage, FAR
3. **Infrastructure**
  - vii) Physical; Water, Sewerage, drainage, Power, SWM & Gas.
  - viii) Circulation – Roads, MRTS, Mono rails; Railways, RING Railways; To mark high intensity traffic corridors; Tram ways; Parking's lots, Waterways; Air ways and Street Furniture.
  - ix) Social – Health, Education, Safety, Security, Justice, Recreation and Shelter.
4. **Important and difficult Planning tools**
  - (i) Public-Private Partnership, (ii) Transfer of Development Rights, (iii) Transparency with the help of web sites and discussions from time to time, (iv) To have comprehensive planning.
5. **Finance (X) has been calculated after adding cost of land; Trunk, Peripheral & Internal Infrastructure). On this some formula is given may be wrong or right.**
  - (i) EWS 50% of X, (ii) LIG – 75% of X, (iii) MIG – equivalent to X, (iv) HIG – 2 X or more, (v) Commercial Use – 20 X or more; depending upon implementation of the project; taking care of all the land uses.
6. **Common available areas, where to calculate inputs and outputs are difficult or rather impossible.**
  - (i) Slum Areas, (ii) Re-settlement Colonies, (iii) Unauthorized Colonies, (iv) Urban Villages, (v) Rural Villages, (vi) Corrupt system of sanction of building plans and issue completion certificate.

**POINT NO. 7**

**PLANNING; RE-PLANNING; DEVELOPMENT; RE-DEVELOPMENT; CONSTRUCTION; RE-CONSTRUCTION & MANAGEMENT OF 90 ESSENTIAL ELEMENTS REQUIRED FOR LIFE.**

**(1) HOUSING, (6 in nos.)**

- (1) Housing for Urban poor, (2) Houses on Independent Plots, (3) Group Housing, (4) Employer Housing, (5) Redevelopment in Unauthorized & Unauthorized Regularized colonies of different years, (6) Other Housing areas including Up-gradation of Old areas viz; Traditional /Villages;

**(2) PHYSICAL INFRASTRUCTURE (8 in nos.)**

- (7) Augmentation of water, (8) Construction of new treatment plants, (9) Augmentation of sewerage Treatment Plants, (10) Construction of new sewerage treatment plants, (11) Augmentation of power distribution system, (12) Development of sanitary landfill sites, (13) Construction /development of compost /incineration plants, (14) Municipal Solid Waste.

**(3) SOCIAL INFRASTRUCTURE –**

**Health (6 in nos.)**

- (15) Hospital A (501 beds & above beds), (16) Hospital B (201 beds & 500 beds), (17) Hospital C (101 beds & 200 beds), (18) Hospital D (Up to 100 beds), (19) Veterinary hospitals, (20) Dispensary for pet animals,

**Education (9 in nos.) –**

- (21) School for physically handicapped, (22) School for mentally handicapped, (23) Vocational Training Centre, (24) General College, (25) Professional College, (26) Medical college, (27) Nursing and Paramedic Institute, (28) Training cum research Institute in Veterinary Sciences, (29) University Campus Including International Education Centre (IEC),

**Communication (2 in nos.) –**

- (30) Head post office- administrative office, (31) Telephone exchange

**Security Police (10 in nos.) –**

- (32) Police Line Station, (33) Police Station, (34) District Jail, (35) District office and battalion, (36) Police training institute/college, (37) Police firing range, (38) Traffic and police control room,

**Safety – Fire –**

- (39) Fire Station, (40) Disaster Management Centre, (41) Fire Training Institute,

**Socio-cultural facilities (5 in nos.) –**

- (42) Multipurpose community hall, (43) Community Recreational Club, (44) Recreational Club, (45) Socio Cultural Activities Centre, (46) Exhibition sites,

**Other community facilities (10 in nos.) –**

- (47) Old Age Home, (48) Working Women hostels, (49) Night Shelters, (50) Care Centre for mentally and physically challenged, (51) Adult Educational Centres, (52) Orphanage, (53) Science Centre, (54) Religious Premises at sub-city level in urban extension, (55) Cremation grounds, (56) Cemetery/burial grounds,

**(4) TRADE & COMMERCE (11 in nos.) –**

**a) Metropolitan City Centre**

- (57) Preparation of integrated schemes & specific projects of Sub CBD, (58) Preparation of integrated schemes & specific projects of District Centres, (59) Preparation of integrated schemes & specific projects of Sub District Centres, (60) Up-gradation of existing commercial areas, (61) Centres under implementation, (62) New locations in urban extension, (63) New locations in urban extension/projects, (64) Redeveloped /Up-gradation, (65) New locations in urban extension, Government Offices / District Court, (66) Redeveloped /Up-gradation, (67) New locations in urban extension,

**(5) ENVIRONMENT (9 in nos.) – New landscape / Recreational Area**

- (68) City Park, (69) District Park, (70) Community Park, (71) City Multipurpose ground, (72) District multipurpose ground, (73) Community Multipurpose ground, (74) Divisional Sports Centres, (75) District Sports Centres, (76) Community Sports Centre,

**(6) TRANSPORT (8 in nos.)**

- (77) Fully/Partially segregated cycle tracks, (78) MRTS, (79) Construction of grade separators, (80) Development of urban relief roads, (81) Construction of interstate bus terminals, (82) Construction of Metropolitan Passenger Terminals, (83) Integrated Freight Complexes, (84) Petrol pumps & CNG stations,

**(7) RE-STRUCTURING ALONG MRTS NETWORK (2 in nos.)**

(85) Up-gradation of existing areas, (86) New locations in urban extension,

**(8) GOVERNMENT OFFICES & DISTRICT COURT (2 in nos.)**

(89) Redeveloped/Up-gradation, (90) New locations in urban extension.

**POINT NO. 8**

**WHILE REVIEWING THE MASTER PLAN – 2021 A.D. DON'T INCREASE F.A.R (FLOOR AREA RATIO) WITHOUT TAKING CARE OF PARKING & ALL OTHER REQUIRED INFRASTRUCTURE.**

- 10) Do all the activities by E. Governance & M. Governance.
- 11) Trunk physical infrastructure; Water; Sewerage; Drainage and Tele-communication, & Gas
- 12) Power; generation, transmission, distribution and metering.
- 13) Solar power as a Backup power.
- 14) Planning, Re-planning; Development, Re-development; Construction, Re-construction; Management, Re-management; Maintenance, Re-maintenance of all (i) Resettlement colonies, (ii) Tenements in slum areas, (iii) Unauthorized and Unauthorized regularized colonies of different land uses, (iv) Urban villages, (v) Rural villages vi) Census towns etc.
- 15) Special planning of river Yamuna with reference to i) to increase the water and ii) to clean the water; including connecting rivers like Hindon and all other drains falling into it.
- 16) Solid Waste Management with collection; separation; transportation and conversion into electricity and lastly manure to the extent possible.
- 17) Special care of floods after study of all the available literatures DATA.
- 18) Trunk circulation infrastructure including i) Express ways; High ways with Road Over Bridge/Road Under Bridge; MRTS; Mono rail etc:
- 19) Railways including parking of different types of vehicles with other facilities.
- 20) Trunk Ecological Infrastructure:
- 21) Parking at different levels including in basements & below the parks.
- 22) Incorporation of all approved plans.
- 23) To finalize policy plans after discussions them in Public-Private Partner-ship and with transparency.

**POINT NO. 9**

**INDUSTRIAL AREA OF DELHI**

1. For New Industrial Area - Policies should be based as given in MPD-2021 AD restricted to "hi-tech inputs and out puts"
2. NUMBER AND NAMES OF INDUSTRIAL AREAS IN THE LAST 60 YEARS.  
**Before the 1st Master Plan – 7 in nos.**
  1. Najafgarh Road;
  2. Okhla industrial area phase IV;
  3. GulabiBagh;
  4. SISI Complex Okhla near Modi Flour Mill;
  5. Hindustan Prefab Ltd. and two others.
3. **29 Industrial areas from 1962 to 1998**
  1. Naraina;
  2. Jhandewallan Flatted Factory;
  3. Motia Khan Scheme;
  4. ShahzadaBagh;
  5. Rajasthan Udyog Nagar on G.T. Road near Jahangirpuri;
  6. SMA Co-op. Industrial Estate on G.T. Road near Jahangir puri;
  7. SISI Industrial Area on G.T. Road near Jahangir puri;
  8. G.T. Karnal Road Area near Rana Pratap Bagh;
  9. Industrial Area near Shivaji Railway Station (Minto Road);
  10. Okhla Ph-I;
  11. Okhla Ph-II;
  12. Okhla Ph-III;

13. Mohan Co-op. Indl. Area;
14. Kirti Nagar;
15. Mayapuri Ph-I;
16. Mayapuri Ph-II;
17. Udyog Nagar Rohtak Road;
18. KeshavPur Leather Tannery Scheme near Vikaspuri;
19. Wazirpur;
20. Lawrence Road;
21. Mangolpuri Ph.I;
22. Mangolpuri Ph.II;
23. Jhilmil;
24. Patparganj;
25. Friends Colony Indl. Area;
26. NarelaIndl. Estate;
27. Bawana;
28. Khanjhawala Indl. Estate;
29. PVC Bazar Tikri Kalan and some other complexes.

**4. 20 Unauthorized Industrial areas**

1. Anand Parbat
2. Shahdara;
3. Samai Pur Badli;
4. Jawahar Nagar;
5. Sultan pur Mazra;
6. Hastsal Pocket-A;
7. Naresh Park Extension;
8. Libaspur;
9. Peeragarhi Village;
10. Khyala;
11. Hastsal Pocket-D;
12. Shalimar Villages;
13. New Mandoli;
14. Nawada;
15. Rithala;
16. Swarn Park – Mundka;
17. Haiderpur;
18. Karawal Nagar;
19. Dabri;
20. Basai Darapur

**Total: 7+29+20 = 56 Industrial Estates of different types & characteristics.**

**POINT NO. 10**

**PROPER CONTROL OF (I) SOLID WASTE MANAGEMENT (SWM); (II) LIQUID WASTE MANAGEMENT (LWM) AND (III) E. WASTE MANAGEMENT (EWM) IN DELHI**

**POLICY OF SOLID WASTE MANAGEMENT FROM SUB STANDARD AREAS TO CITY LEVEL TO MAKE HUMAN BEING HAPPY IN TERMS OF:**

**(I) LIVING, (II) WORKING, (III) ENJOYING, (IV) SECURITY**

- Spatial Planning – Coordination, Integration, Evaluation and Monitoring of Physical, Financial, Directional and Time Planning
- (1) Ecological Infrastructure, (2) Global Warming, (3) Security Infrastructure, (4) Physical Infrastructure, (5) Circulation Infrastructure, (6) Economic Infrastructure, (7) Social Infrastructure, (8) Time Infrastructure, (9) Safety Infrastructure and (10) Character Infrastructure
1. Background
  2. Existing situation and Issues
    - 2.1 Lack of knowledge of the Local Bodies
    - 2.2 Non-availability of suitable land for Solid Waste Disposal in Environmental Friendly Manner
    - 2.3 Lack of Public Awareness
    - 2.4 Non-Availability of Funds
    - 2.5 Piecemeal Approach for Handling of Solid Waste
    - 2.6 Dependence on Departmental Staff causing Labor related problems
  3. Other Deficiencies
  4. Policies and Proposals
    - 4.1 Identification of Land for Treatment / Disposal of Waste

- 4.2 Waste Minimization-Recycling/Recovery of Resources
  - 4.3 Public Awareness and Training
  - 4.4 Institutional Improvements
  - 4.5 Resource Mobilization
5. Other Recommendations
  6. Plan of Action and Phasing of Implementation of strategies/policies/proposals
  7. Solid Waste Management
  8. Landfill Sites
  9. Dimensions of SWM as given in all the Zonal Plans of Delhi
  10. Plan of Action and Phasing of Solid Waste Management
  11. Newspapers clippings

**POINT NO. 11**

**"KEEPING PROPER RECORDS OF LANDS IN DDA"**

In 1986-87, DDA in its meeting held on 15.4.1986, constituted a 'HIGH POWERED COMMITTEE' on the subject. 10 meetings were held in which various subjects were discussed.

An Interim report containing 11 chapters should be available in DDA

1. Old Nazul Estate
2. Colonies developed by Delhi Improvement Trust
3. Colonies developed under 'Large Scale Acquisition Development and Disposal of Land' (Nazul-II)
4. Commercial Estates
5. Lands Transfer from Ministry of Rehabilitation
6. Recovery of Damages
7. Cases under Litigation
8. Department of Horticulture
9. Department of Housing
10. Building Department
11. Resettlement Colonies

I think, part of the problem can be solved by the DDA with the help of this report and further Research on the subject done in Lands Department, Delhi Govt. in 1992.

**PROVISIONS OF GREEN AREAS**

1. Dimensions of Green Areas in Delhi; from 50s and onwards up to 2021 AD.
  - 1.1 Delhi is a green city from the very beginning. Priority of 1<sup>st</sup> Master Plan for Delhi. Total Green area was in 844 hect. For a population of 2.6M @ 3.5 sq.mt. per person. Maximum green area (495.6 hect.) in Lutyen Delhi and 144.9 hect. in Civil Lines.
2. 2<sup>nd</sup> Master Plan. Actual at 2001 green areas were as under:
  - (a) Development done in terms of:

Regional Park 03 Nos. -	867 hect.
Urban Forest 26 Nos. -	1980 hect.
Distt. Parks 39 Nos. -	1560 hect.
Green Belts 16 Nos. -	240 hect.
Zonal Greens 21 Nos. -	315 hect.
Sports Centre 08 Nos. -	88 hect.
3. Regional Parks: The ridge of Delhi designated as regional park area consists of:

Northern Ridge	87.77 hect.
Central Ridge	864.00 hect.
South Central Ridge	686.00 hect.
Southern Ridge	620.00 hect.
4. Stadiums, Sports Complexes and Ecological Parks etc.
  1. Important Stadiums (11 in Nos.)
  2. Other Sports Complex (15 in Nos.)
  3. Important Ecological Parks & Other Focal Points (43 in Nos.)
  4. Important Parks with areas developed as in 1989 in different colonies (46 Nos.)
1. ALL SETTLEMENTS AS SMART in the country– My aim is to make all the settlements urban & rural

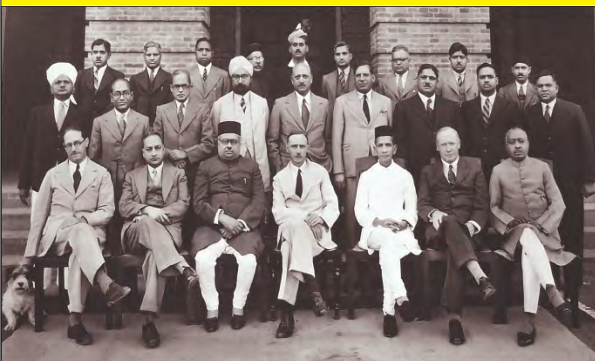
as smart and I am working on this and will be success full. IT IS VERY SIMPLE. PROVIDE 110 TYPES OF INFRASTRUCTURE.

**2. CASE EXAMPLE OF SOME PLANS OF DELHI**

- 2.1 First plan of City Of Delhi was prepared in 1873 by Municipal Committee of Delhi in a scale of 1:100 ft. in 12 sheets.
- 2.2 Shifting of capital from Kolkata to New Delhi-
- 2.3 System of working in DIT(Delhi Improvement Trust)1936

**Introduction: ambivalence, antagonism, biography**

On 3 August 1935 Arthur Parke Hume (1904-65) was commissioned by the Government of India to write a report on the relief of urban congestion in Old Delhi. The transfer of the capital of British India from Calcutta had led to a population influx that New Delhi was unable to accommodate. The recommendations of Hume's report were accepted and on 2 March 1937 the Delhi Improvement Trust came into being. Home served as the Chairman of the Trust until 1941.



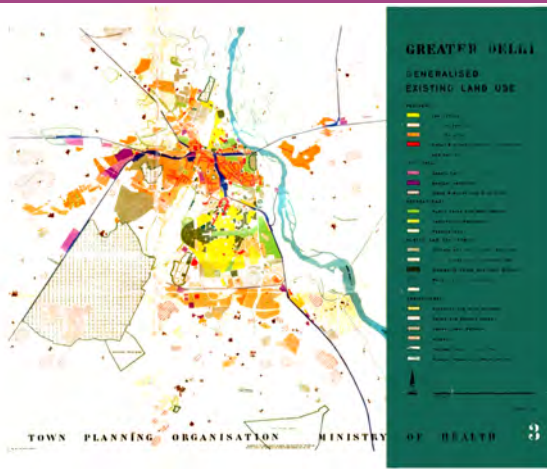
**Standing First Row:** Mr. ShantiSuvan, Mr. M.S. Ramayyar, Mr. GanpatRai, Dr. KhiaratiLal, Mr. Raghbir Singh, Mr. Bakhshllahi, Mr. G.B.Deolalikar, Mr. B. C Sircar, Mr. M. Z. Khan.

**Standing Second Row:** L. Kali Ram, Mr. M. K. Sen Gupta, Mr. ZahidHussain, S. B. SardarSobha Singh, K. B. Mohd. Sulaiman, Mr. S. Rahmatullah, R. B. M. S. Mathur, Mr. H. P. Sinha, Mr. Om Prakash.

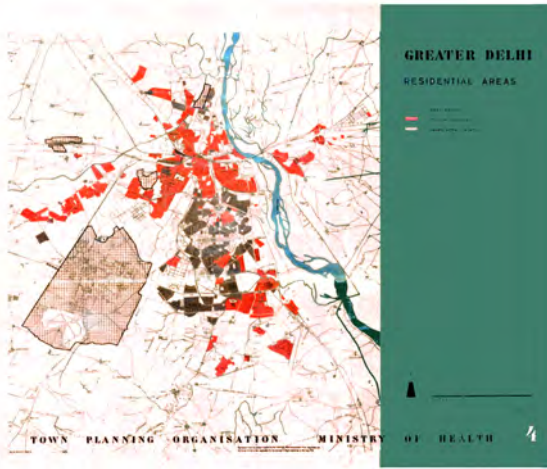
**Sitting** - Major W.H.Crichton, Mr. G. K. S. Sharma, R. B. L. Harish Chandra, Mr. A. P. Hume, LalaShri Ram, Mr. A. W. H. Dean, K. B. S. M. Abdullah.

- 2.4 Plans prepared in 1956-57 by Town Planning Organization MOH.
- 2.5 Work Studies in 1961
- 2.6 First Master Plan of Delhi in 1962
- 2.7 Second Master Plan of Delhi 1990
- 2.8 Third Master Plan of Delhi in 2007
- 2.9 First Master Plan of NCR 1985
- 2.10 Sub-regional plan of U.P. 1995
- 2.11 Sub-regional plan of Haryana 1995
- 2.12 Sub-regional plan of Rajasthan 1995
- 2.13 Sub-regional plan of NCTD 1995
- 2.14 Second Master Plan of NCR 2000
- 2.15 Third Master Plan of NCR 2005
- 2.16 Sub-regional plan of U.P. 2014
- 2.17 Sub-regional plan of Haryana 2014
- 2.18 Sub-regional plan of Rajasthan 2014
- 2.19 Review of NCR Plan 2013

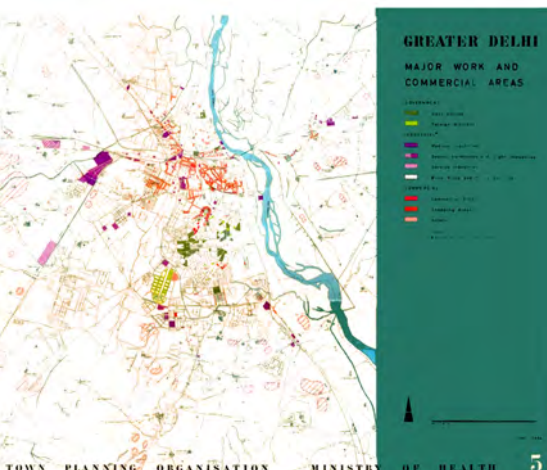
**GREATER DELHI GENERALISED EXISTING LAND USE**



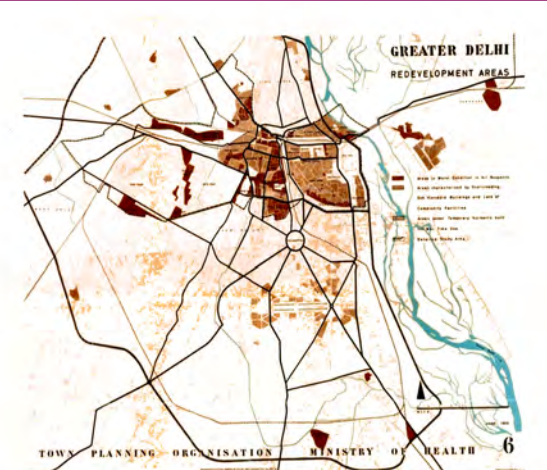
**GREATER DELHI RESIDENTIAL AREAS**



**GREATER DELHI MAJOR WORK AND COMMERCIAL AREAS**



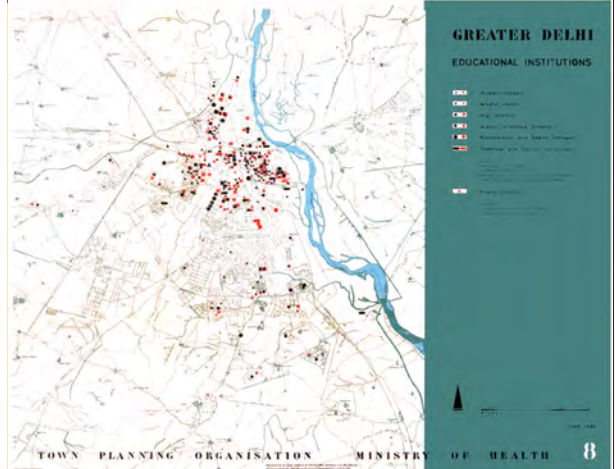
**GREATER DELHI REDEVELOPMENT AREAS**



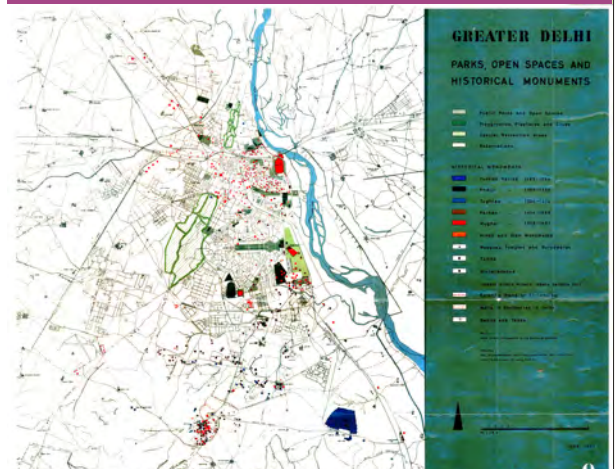
**DELHI STATE EDUCATIONAL INSTITUTIONS**



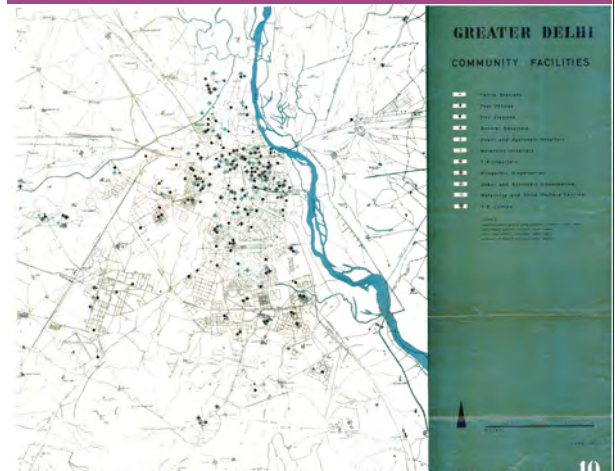
**GREATER DELHI EDUCATIONAL INSTITUTIONS**



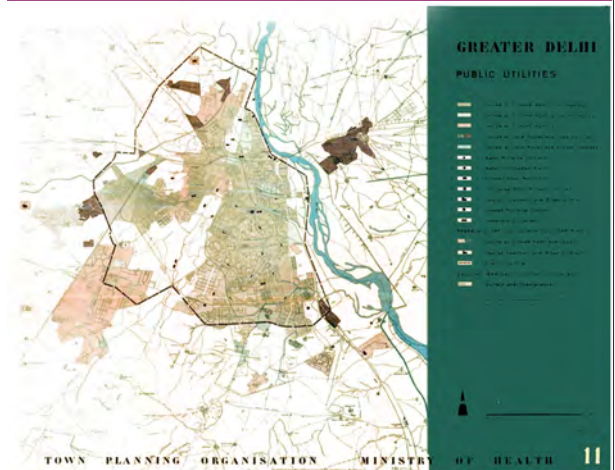
**GREATER DELHI PARKS OPEN SPACES AND HISTORICAL MONUMENTS**



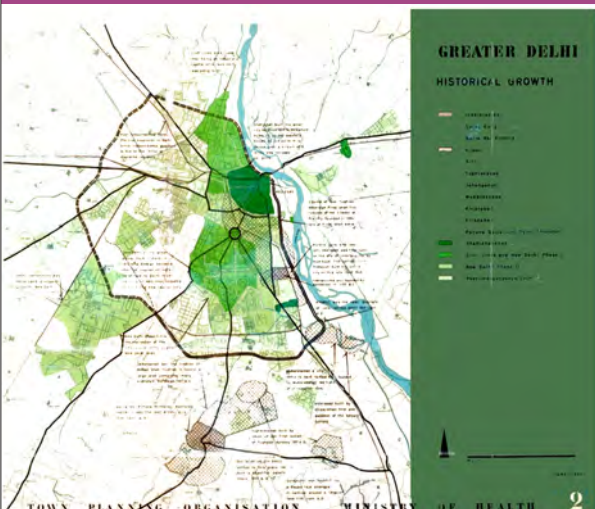
**GREATER DELHI COMMUNITY FACILITIES**



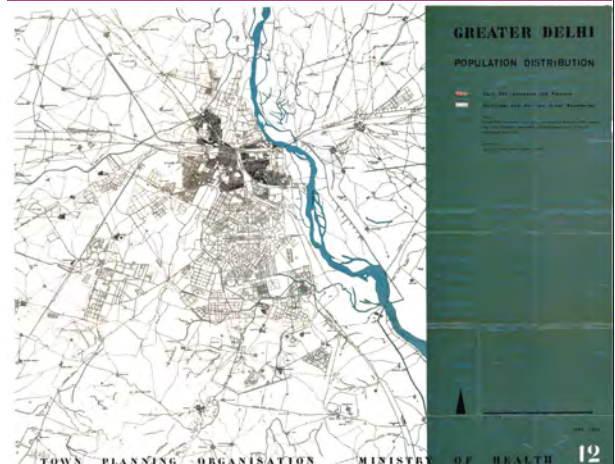
**GREATER DELHI PUBLIC UTILITIES**



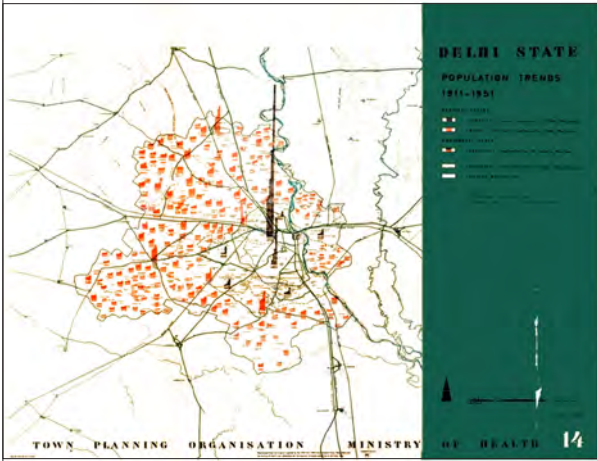
**GREATER DELHI HISTORICAL GROWTH**



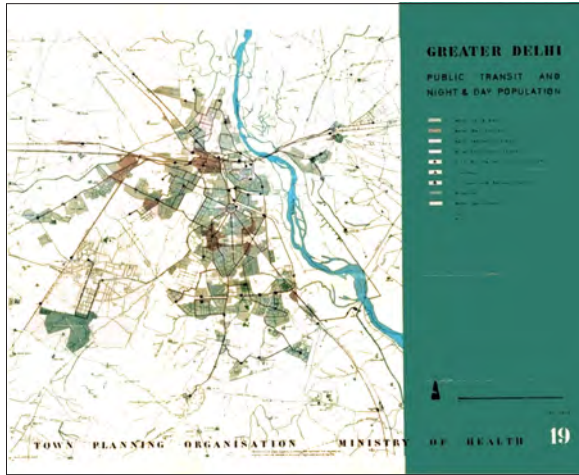
**GREATER DELHI POPULATION DISTRIBUTION**



**DELHI STATE POPULATION TRENDS 1911-1951**



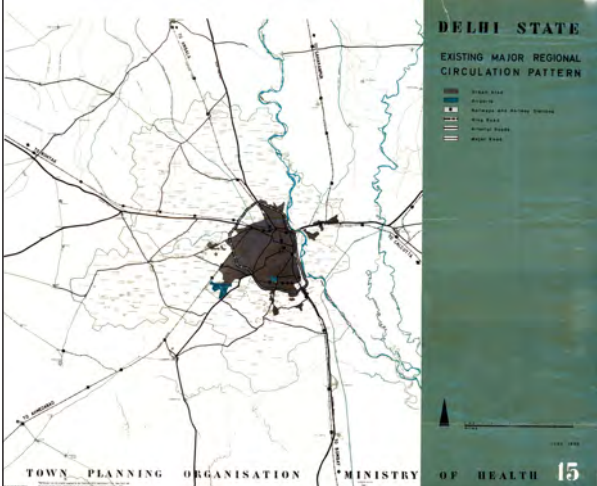
**GREATER DELHI PUBLIC TRANSIT AND NIGHT & DAY POPULATION**



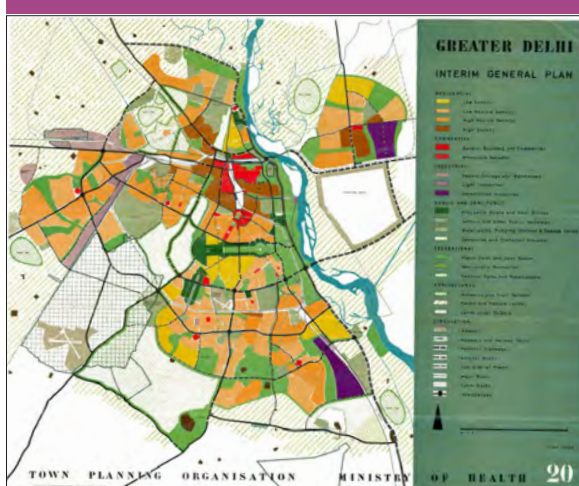
DELHI 1993



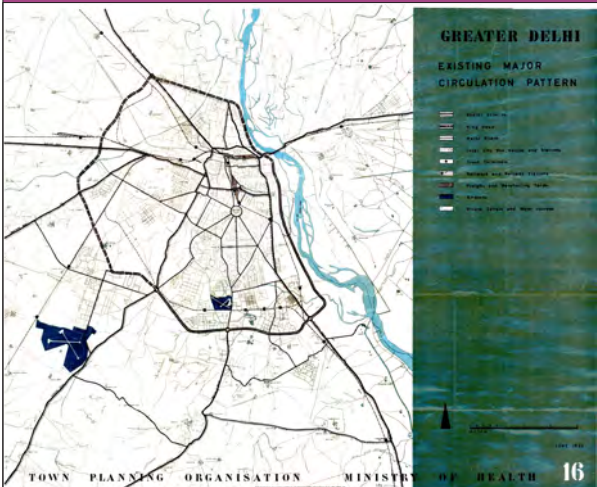
**DELHI STATE EXISTING MAJOR REGIONAL CIRCULATION PATTERN**



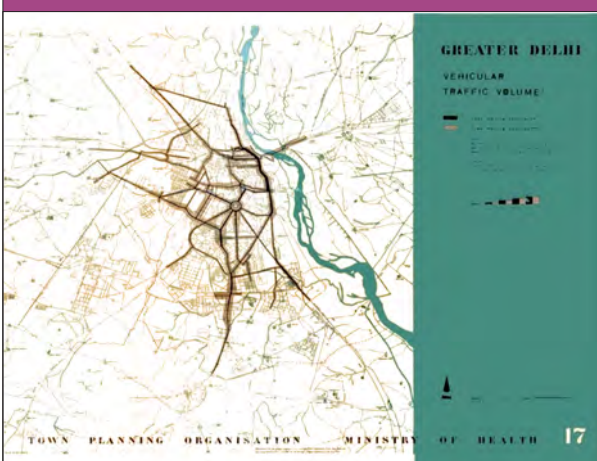
**GREATER DELHI INTERIM TRAFFIC VOLUME**



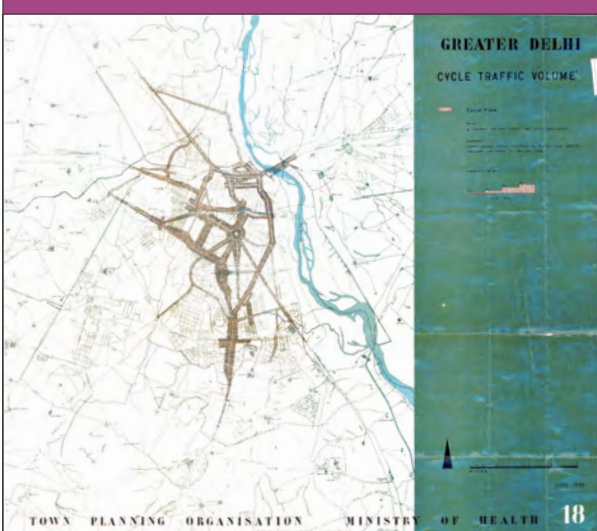
**GREATER DELHI EXISTING MAJOR CIRCULATION PATTERN**



**GREATER DELHI VEHICULAR TRAFFIC VOLUME**



**GREATER DELHI CYCLE TRAFFIC VOLUME**



**5.1 Water Supply**

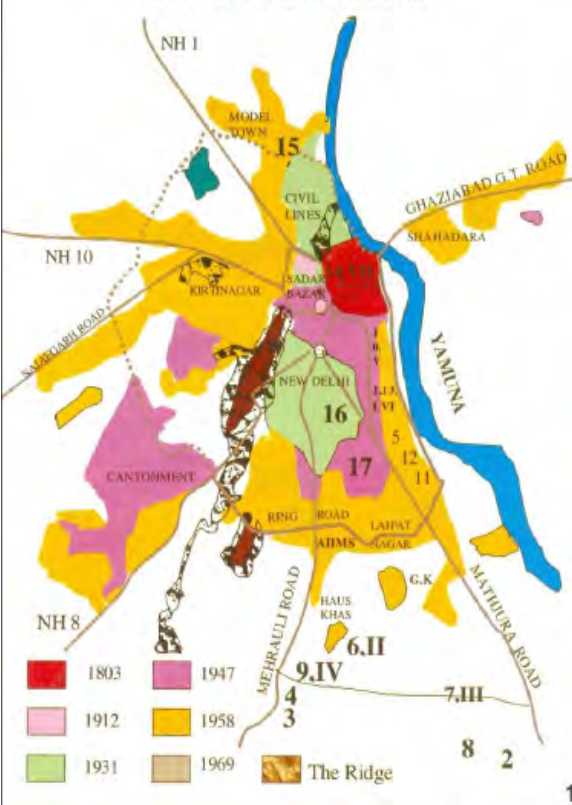
Every year various parts of Delhi face water scarcity. Delhi is dependent for raw water from distant sources and augmentation of raw water from Delhi has been a permanently unsolved issue i.e. escalating population cannot be matched by proportionate increase in the raw water availability. The water supply to citizens of Delhi is through water treatment plants i.e Chandrawal (90mgd), Wazirabad (120mgd), Haiderpur (200mgd), Shahdara (100mgd) and rest through Ranney Wells/Tubewells .

**1.2 The Post Independence Era**

After independence, the Delhi Improvement Trust, (DIT) which had started functioning way back in 1937, continued functioning till mid fifties. However, the limited role being played by the Trust and its failure to deliver a comprehensively planned urban environment, resulted in the DIT Inquiry Committee (Birla Committee) recommending the creation of a Central Authority for making plans, schemes and to administer them with adequate powers. Following the recommendations of the Committee, on the one hand Delhi Development (Provisional) Authority was created and on the other hand, Town Planning Organisation (TPO) was established by the Ministry of Health, under the chairmanship of the then Chairman, DIT in 1955.



**PHYSICAL GROWTH OF DELHI 1803-1959 & SEVEN-SEVENTEEN DELHIS**



**5.1.2. Levels of Water Supply**

The Water Supply in Delhi is far from uniformly distributed. The NDMC area/Delhi Cantonment area gets average supply above 450 liters per capita per day while Narela/Najafgarh zone gets less than 80 liters per capita on an average with some parts getting less than 35 liters per capita per day water supply. Except the NDMC area the rest of the city has water problems i.e. low water pressure, erratic municipal water supply.

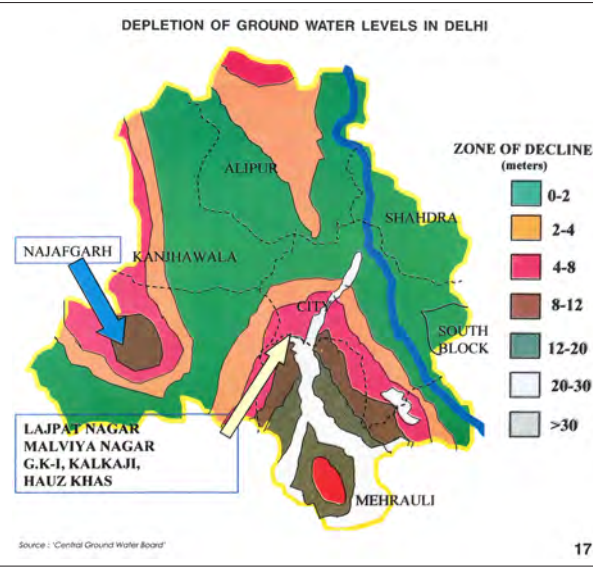
**1.6 Delhi 1993**

As a part of review exercise, the NCR Planning Board obtained the remote sensing IRS-1 B data for the entire National Capital Region for the year 1993 which were digitally processed. The analysis of this data indicates a built up area of 60,340 ha. as against the built-up of 57,880 ha. in 1986.



### 5.1.3 Depletion of Ground Water

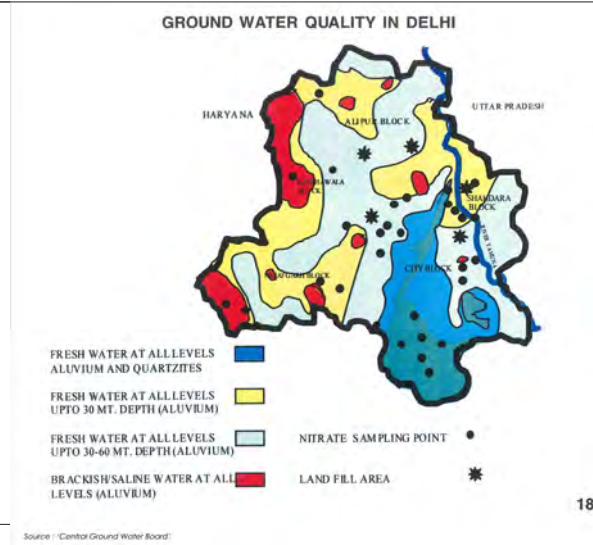
In order to meet the water demand - supply gap ground water withdrawal in the NCT Delhi has emerged as a common place phenomenon resulting in the ground water levels falling in the range of 20-30 meter below land surface in south and south western parts of Delhi. Over exploitation of ground water has disturbed the hydrological balance leading to decline in productivity of wells, increasing pumping cost, more energy requirement and brackish water upcoming etc.



Source: 'Central Ground Water Board'

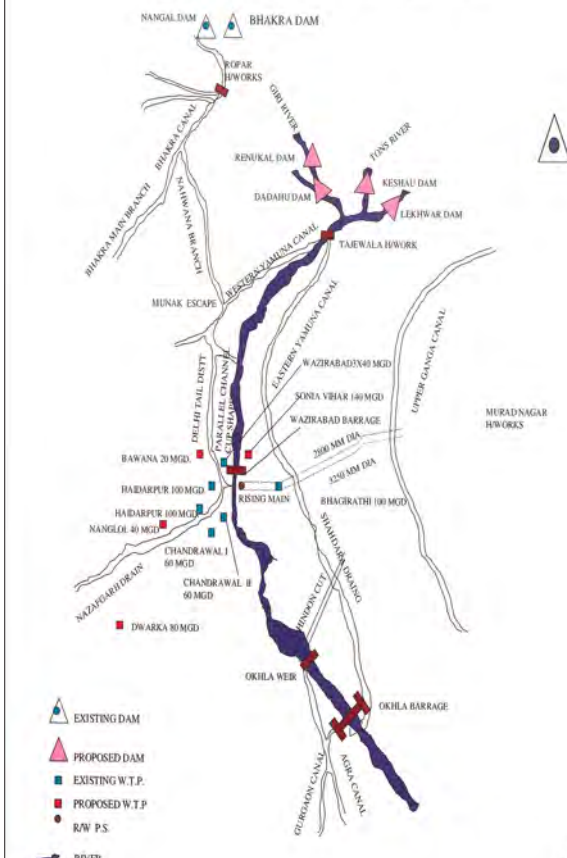
### 5.1.4 Ground Water Quality

Besides the quantity, quality of potable water is another serious concern as it directly affects the health of citizens. Instances have been noticed in the past where, in many places, the sewage water got mixed up with water supply thus contaminating it. The quality of ground water is also variable in space and depth. In the areas west of the ridge comprising blocks Najafgarh, Kanjhawala, Alipur, City (part) and Mehrauli (part) the salinity of ground water generally increases towards South-West and North-West direction being fairly high in areas around Dhansa, Raota in South-West and Auchandi, Kanjhawala and Tikri Kalan in North-West. Occurrence of high nitrate concentration are at several locations i.e. Saboli (Shahdara) and Kutabgarh (Kanjhawala) have nitrate contents above 1000 mg/l in ground water. Such high levels of nitrate concentration in shallow ground water could be due to leaching from solid wastes, discharge from sewage water etc. The ground water in vicinity of the landfill in Yamuna floodplains also have high nitrate concentration. Similarly Fluoride and other harmful chemical concentrations beyond permissible limits are observed in the ground water at several locations in Delhi.



Source: 'Central Ground Water Board'

### FUTURE SOURCES OF RAW WATER FOR DELHI



Source: WAPCOS

carrying sewage and industrial effluents from the city. As a result the water quality in the river has been deteriorating and the water in the river is at present unfit for animal drinking and agriculture use.

At present only about 75% of the population in Delhi is covered by sewerage facilities. The sewerage system is non-existent in large parts of trans-Yamuna area, all resettlement colonies and, of course squatter settlements. The 113 urban villages possess internal sewerage system. In other parts of the city sewerage lines, laid decades ago are now unable to carry the increasing quantities of sewage and are in a state of virtual collapse. The trunk and branch sewers have settled at many locations and have not been repaired for a long time. This appears to be one of the major reason for the over flow of sewage into the storm water drains and into the river Yamuna.

### DRAINAGE SYSTEM IN DELHI



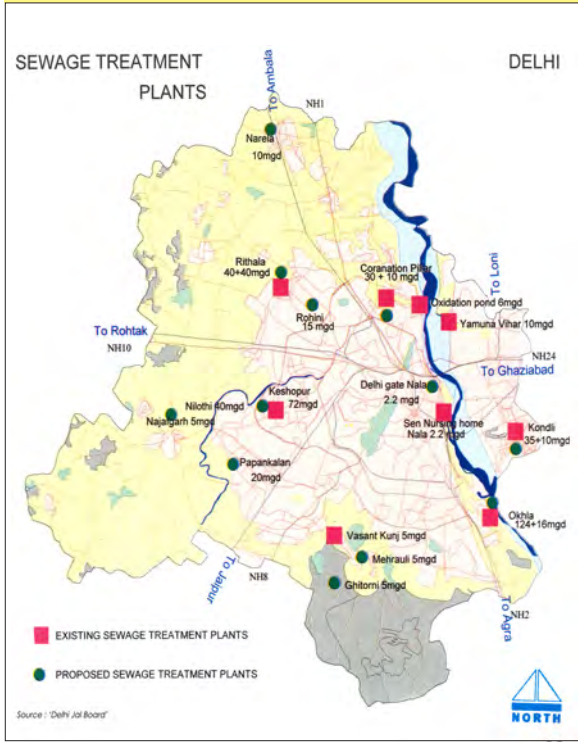
Source: WAPCOS

## 5.2 Sewage Disposal & Treatment

The existing sewage treatment plants in Delhi are Okhla (124 mgd), Coronation Pillar (30 mgd), Keshopur (72 mgd), Rithala (40 mgd), Shahdra (35 mgd), Wazirabad Oxidation Ponds (6 mgd), Vasant Kunj (5 mgd), Yamuna Vihar (10 mgd) and Sen Nursing Home Nalla (2.2 mgd) with a total capacity of 324 mgd (1478 mid).

### 5.2.1 Discharge of Effluents in Yamuna

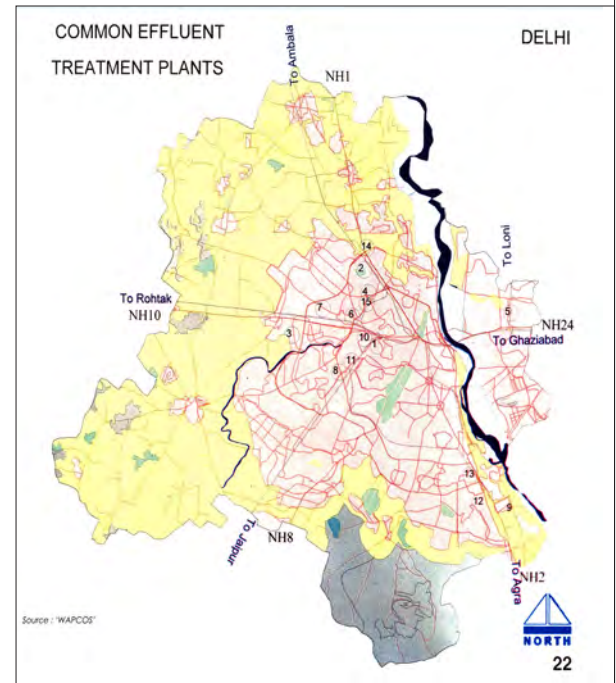
Delhi generates large quantities of sewage. At present, the total quantity of sewage generated is 2,871 mid while the total capacity of the sewage treatment plants in Delhi is 1,478 mid while the remaining untreated sewage (1,393 mid) finds its way into river Yamuna through the 19 major drains outfalling into the river



Source: 'Delhi Jal Board'

### 5.2.2 Common Effluent Treatment Plants in Delhi

Of the total sewage generated in Delhi, it is estimated that 218 mid (48 mgd) consists of industrial effluents. Delhi State Industrial Development Corporation Ltd. (DSIDC) has proposed construction of 15 common Effluent Treatment Plants CETP's in Delhi as per directions of the Hon'ble Supreme Court of India. The treated effluent will be discharged in the same drains in which it is flowing at present. The Proposed locations of CETPs are as follows:



Source: WAPCOS