

RAINWATER CONSERVATION

HARVESTING RAINWATER
IN PARKS & OPEN SPACES

NIZAMUDDIN EAST

NEW DELHI, INDIA

CASE STUDY & GROUND REALITY



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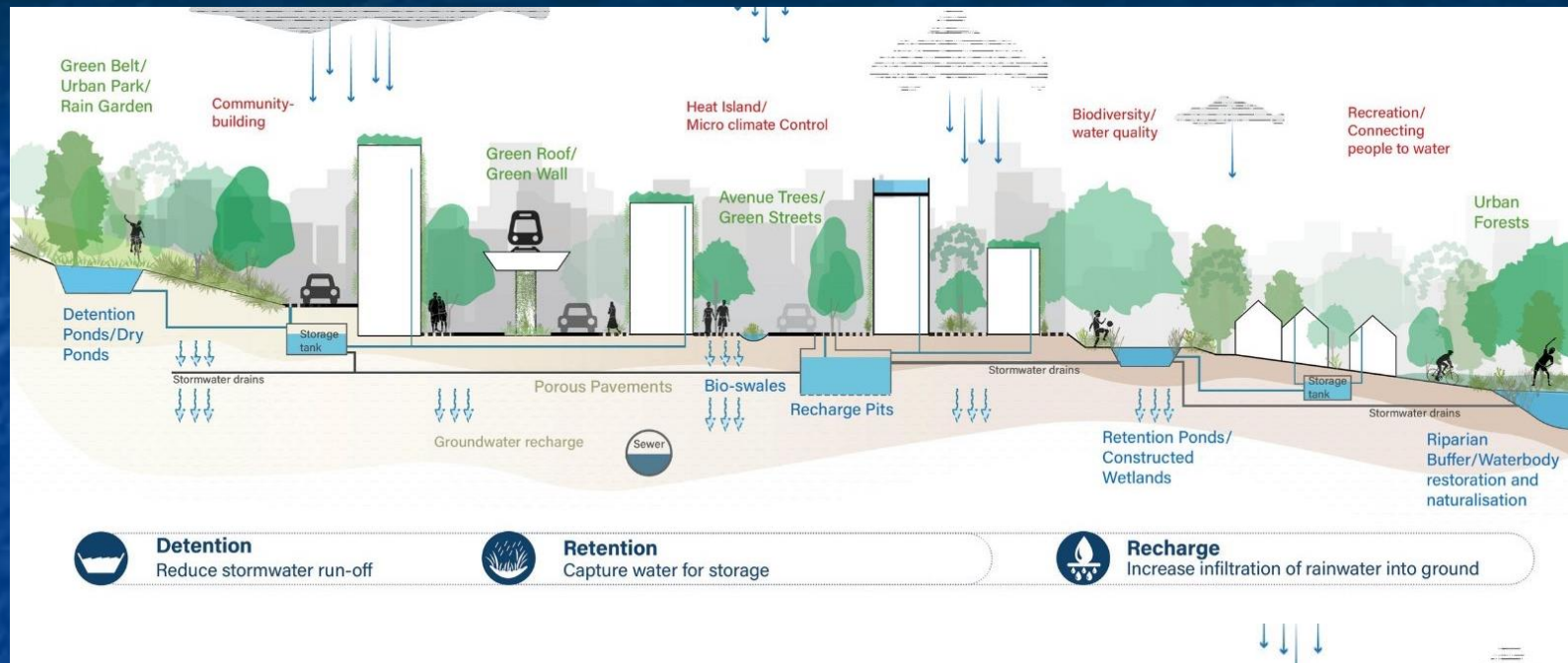
WORKSHOP 1 PARTNERS



Nizamuddin and the network of nalas in the Barahpula Nala system

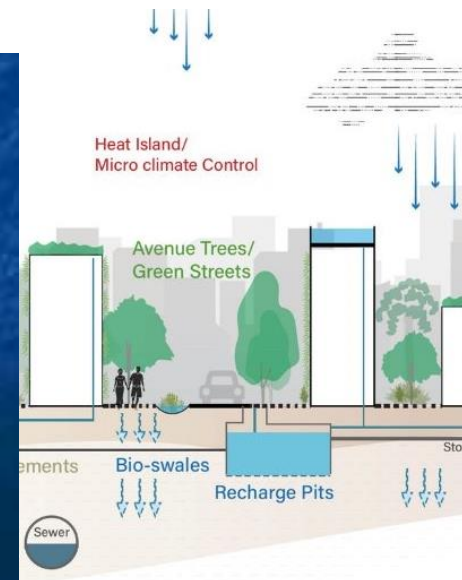


WSUDP FOR CONTEMPORARY DEVELOPMENT OF CITIES



Potential for rainwater harvesting in residential open spaces

SOURCE: WRI India
Illustration by Sindhuja Janakiraman



COMMUNITY AND STAKEHOLDERS

WHAT DRIVES US ?

- ❏ POLICY FOR WATER HARVESTING- 2001
- ❏ ADDRESSING THE PROBLEM OF WATER LOGGING
- ❏ OPPORTUNITY TO IMPROVE INFRASTRUCTURE
- ❏ A COMMUNITY INITIATIVE FOR SUSTAINABLE DEVELOPMENT



NATURE OF COMMUNITY

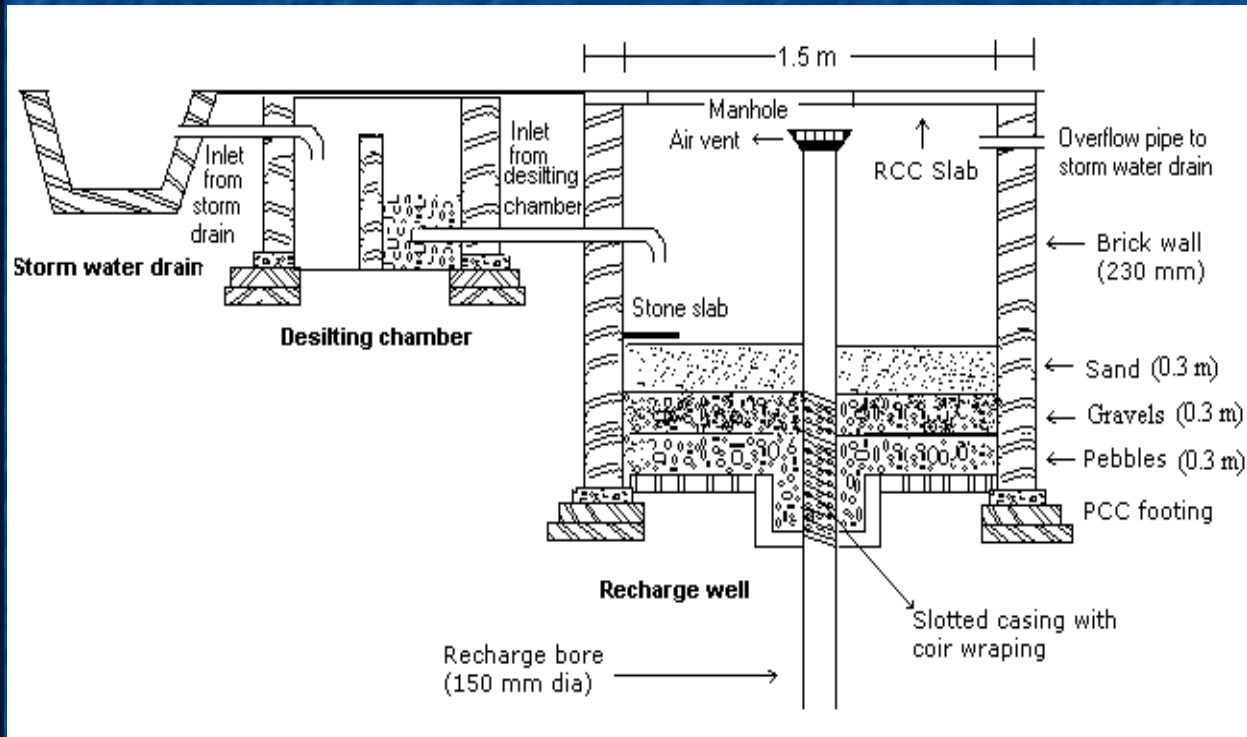
- ❏ SMALL COLONY - 200 SMALL & MEDIUM PLOTS, 50 LARGE PLOTS
- ❏ MANY PARKS
- ❏ FAIRLY LARGE NUMBER OF TENANTED PROPERTIES
- ❏ NO SOURCE OF INCOME FOR RWA
- ❏ ENTHUSIASTIC RWA



ON SITE PROBLEMS & DESIGN SOLUTIONS



TYPICAL STRUCTURE



SOURCE : CSE



B BLOCK PARK

SURFACE RUNOFF AND STORMWATER DRAIN
CONNECTED THROUGH DE-SILTING CHAMBERS
TO A CENTRALISED STRUCTURE



BUNGLOW NO.1

STRUCTURE LOCATED IN PARK, ABLE TO CATCH
STORMWATER DRAIN WATER THROUGH BAFFLE &
DE-SILTING CHAMBER

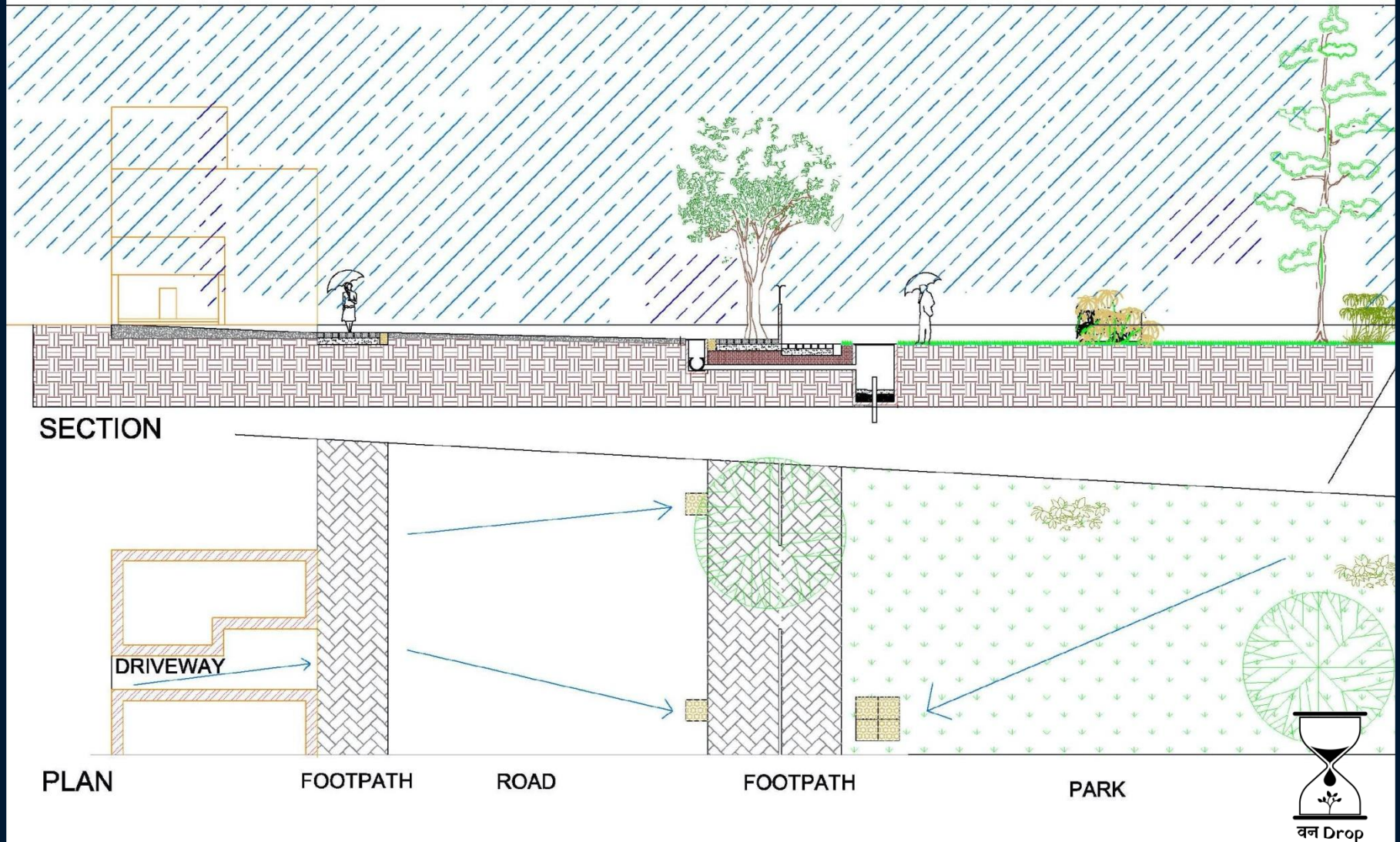
MCD DESIGNED AND BUILT STRUCTURE- ONLY STREET RUN-OFF COLLECTED



PROJECT EXECUTED IN 2003

- FUNDS RAISED – Rs.2, 08,500
- TOTAL EXPENDITURE – Rs.1,78,987
- TOTAL STRUCTURES – 11 NEW
– 2 OLD REPAIRED
- COST PER STRUCTURE - Rs.15,817

WATER HARVESTING THROUGH GRADING



SUSTAINABILITY & MAINTAINENCE

EXPENDITURE ON MAINTAINENCE

- ❑ 2005 – Rs. 500 per structure
- ❑ 2020- Rs. 2000 per structure



PRE MONSOON MAINTAINENCE

Desilting of storm water drains
Cleaning of roofs and RWP's
Preparation of structures



Leaf compost is abundant

CONCLUSIONS

BENEFITS

CSE GROUNDWATER MONITORING DATA

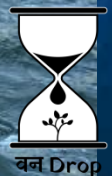
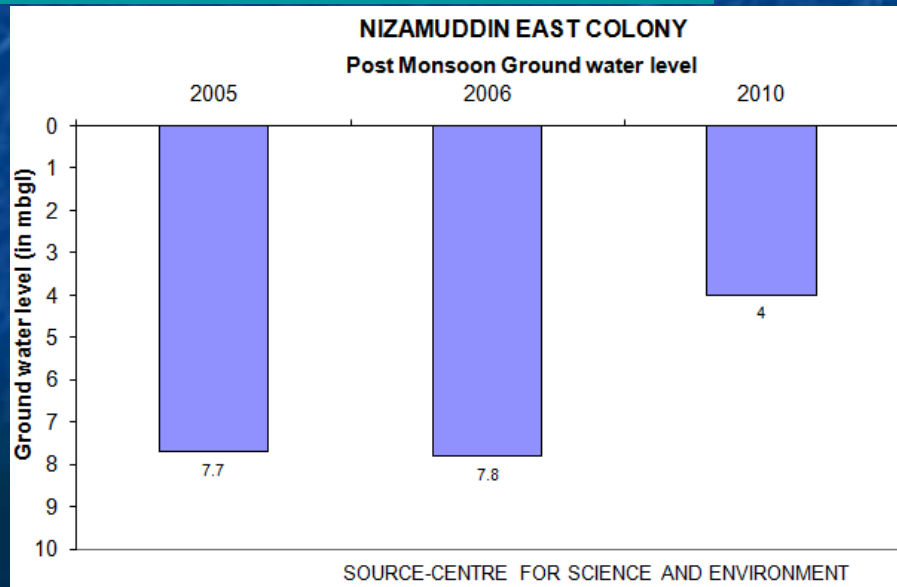
Total rooftop and surface area: 2,00,916 square meters (sq m)

Average annual rainfall in Delhi: 611 millimeters (mm)

Total volume of rainwater harvested: 48,531 cubic meters (m³) or 4,85,13,149 liters

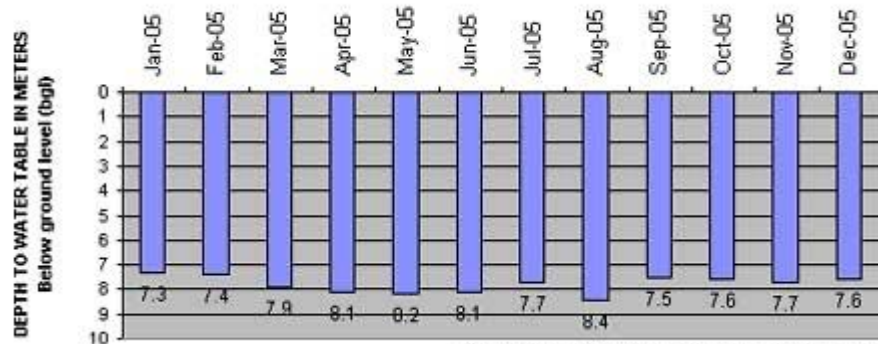
Therefore, 39.6 per cent of total rooftop and surface runoff is being harvested.

WATER TABLE & QUALITY



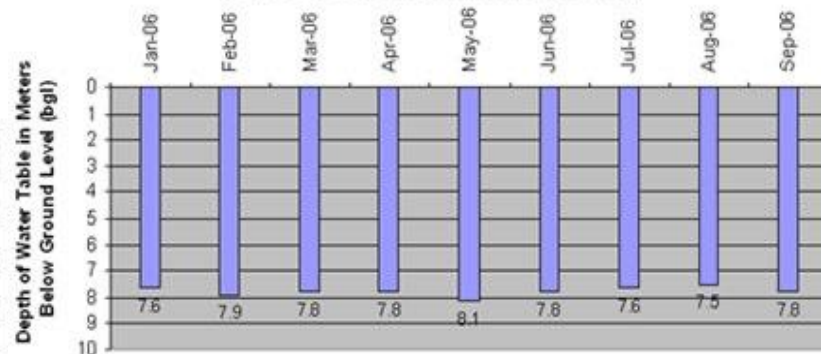
WATER TABLE – PRE & POST MONSOON

Water Level Trends at Nizamuddin East Colony



SOURCE: CENTRE FOR SCIENCE AND ENVIRONMENT

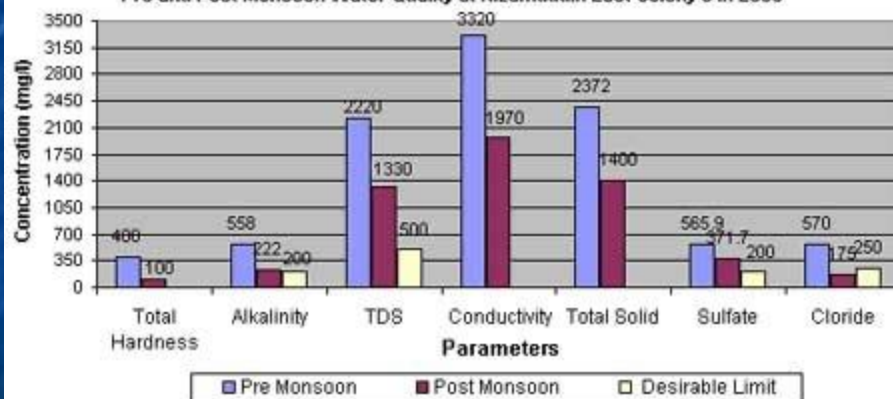
Water Level Trends at Nizamuddin East Colony



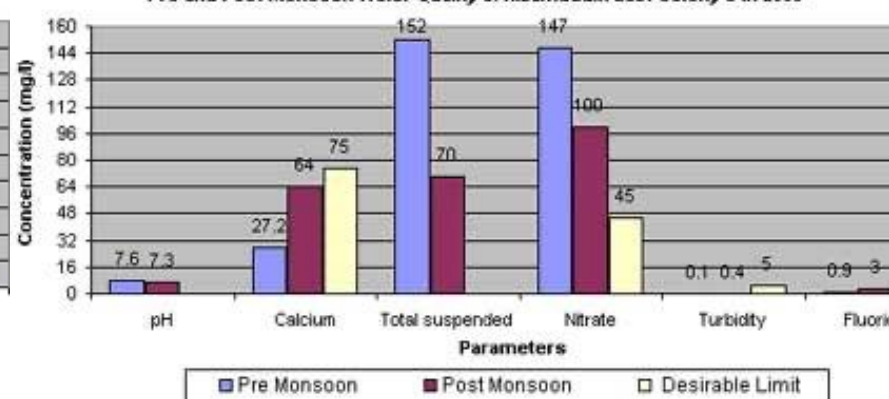
SOURCE: CENTRE FOR SCIENCE AND ENVIRONMENT

WATER QUALITY

Pre and Post Monsoon Water Quality at Nizamuddin East Colony's in 2005

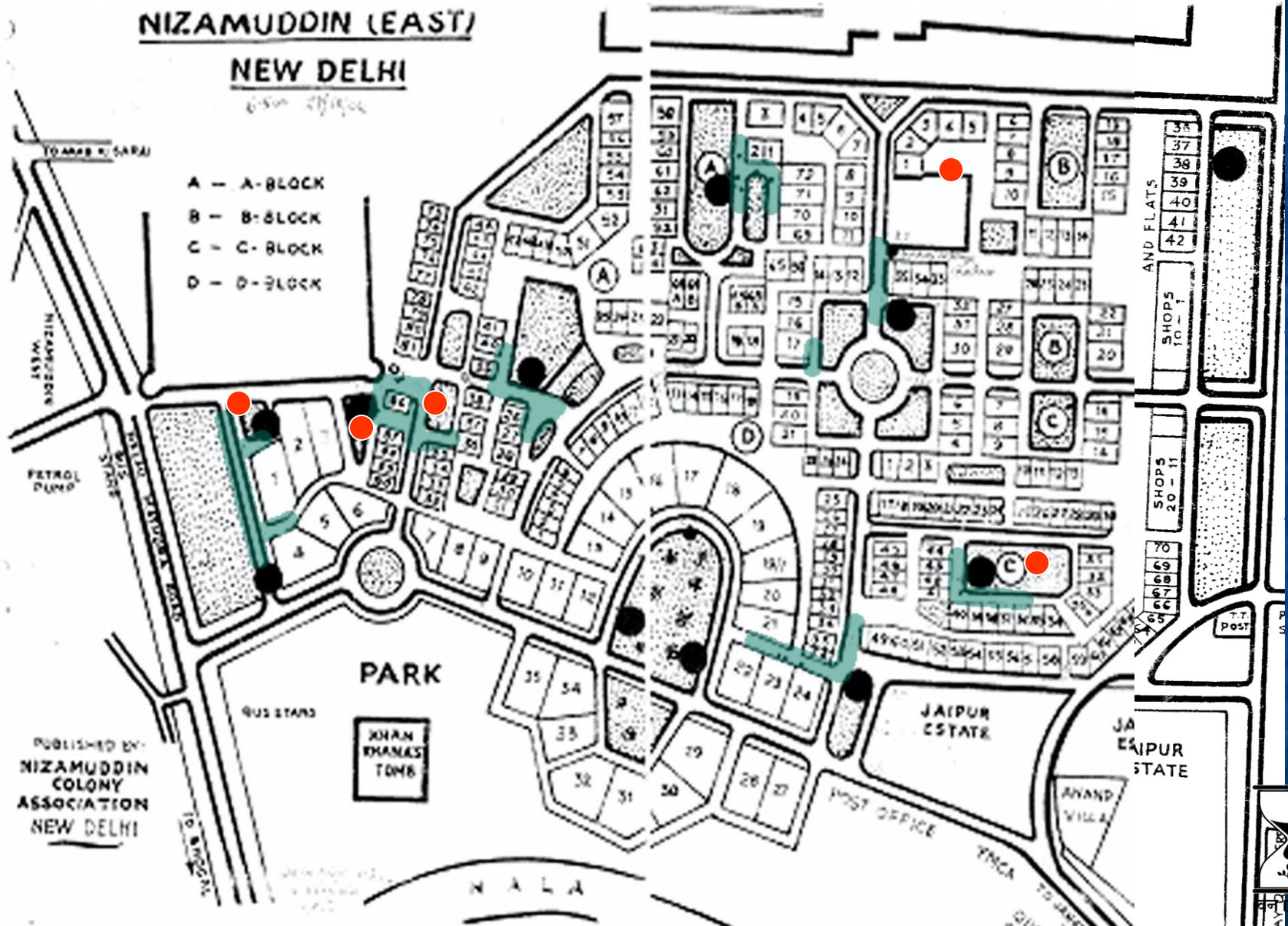


Pre and Post Monsoon Water Quality at Nizamuddin East Colony's in 2005



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EXPANSION AND PHASES



Thank You

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