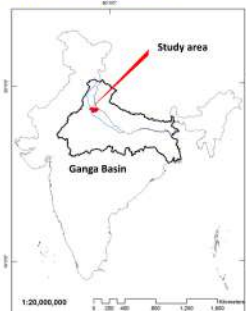


Sponsored Thesis Project Competition on "Re-imagining Urban Rivers"

Reinventing the Lost Trilogy of Ponds, Natural drains and Ground Water with Focus on Shekha Jheel : A Case study of Aligarh

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Course Discipline: **M. Plan (Environmental Planning)**

Introduction

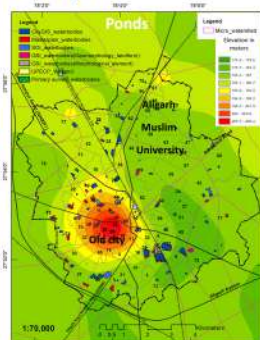


City Characteristics-
Population: 8,74,408 (Census of India 2011)
30.69% Decadal Growth rate
21,627 p/sq km
53rd most populous city in India
Severally polluted area
(CEPI score is 64.42 in 2018)
Population: 13,21,579 (2021)

Objectives

1. To assess status of water bodies and Groundwater and analyse inter-relationship with people and activity.
2. To identify issues and prioritise ponds/drains for conservation.
3. To develop a connect between people and ponds/drains.
4. To reinvent the lost trilogy by rejuvenation of ponds/drains and sustainable use of Groundwater.

Analysis



1. No universal definition of pond
2. Ambiguity in document sources of the ponds/water bodies.

74 | 30 | 27 | 28 | 22 | 10 | 8 | 4

After the Union from all the sources

106 Ponds

were studied.
Solid waste, no monitoring, Industrial effluent, GW Depletion, Multiple ownership resulting in dispute and causing Encroachment and disappearance of Ponds.

Isolated Interventions by ULBs, Waste water inflow, Ground water depletion are also adding the cause of degradation for most of the ponds.

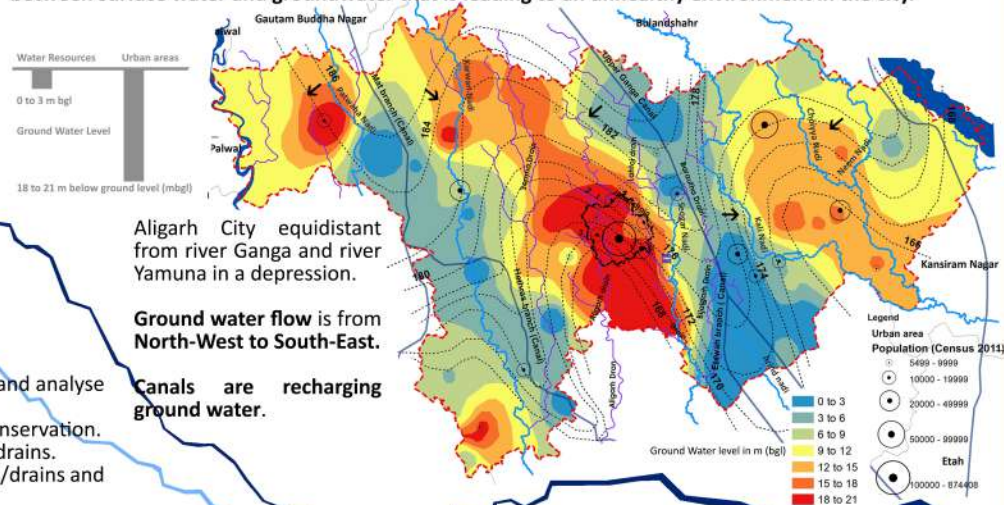
Kali deh was selected after getting max points(63/75) 84% on 16 parameters in the prioritization process and kali deh support near 20 Ecosystem services.



Aligarh, located in the Ganga-Yamuna fertile doab plains, in the state of Uttar Pradesh once selected by Sir Syed Ahmed Khan for establishing Aligarh Muslim University because of its 'aab-o-hawa' is suffering owing to depletion and degradation of water resources due to rampant urbanization, increase in impervious surface, blocking and re-routing of drainage channels etc. The area is surrounded by mango grooves as per Ibn Batuta and there were Bain /Baolies, Jhils and dhak jungle.

Ponds, Natural drains, Rivers and Ground water are the part of "The system"

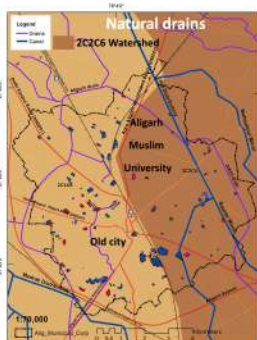
The need of the study arose from the dismal condition of the waterbodies and the disconnectedness between surface water and groundwater that is leading to an unhealthy environment in the city.



Aligarh City equidistant from river Ganga and river Yamuna in a depression.

Ground water flow is from North-West to South-East.

Canals are recharging ground water.

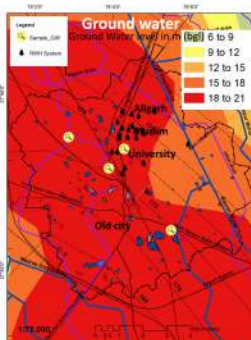
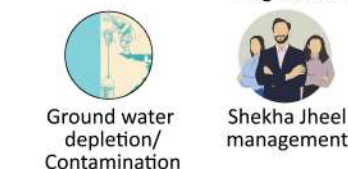
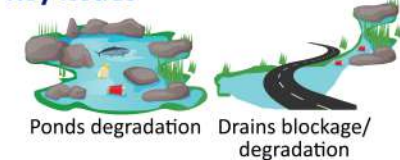


1. Natural drains are channelized / rerouted. Twelve stretches of 5 drains were studied.

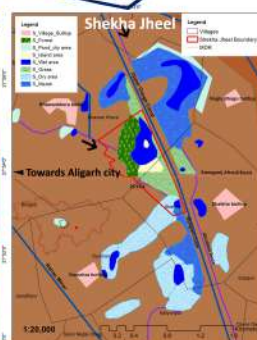
2. Four stretches shows that domestic waste water, Industrial effluent, Solid waste dump, Agriculture runoff, Cattle wading, Storm water are the probable pollution sources.

A stretch of Aligarh drain is identified after getting max points in 4 criteria in the prioritization process.

Key issues



1. Decreasing at the rate of 1 to 1.2 m/year and city is in "over exploited" Category.
2. Increasing dependency for Irrigation and in Various uses
3. Only 32 locations have RWHs in the city.
4. Illegal construction of borewell due to shortage of water supply.



1. Acting as a tourist spot and blessing for Aligarh.
2. Only a smaller portion is notified and rest is being used as agriculture.
3. No management plan and influx of waste water from bijaygarh drain.
4. Migratory birds and tourist counts are decreasing.

Proposals

1. Ecological based
Assess the water quality status, Deepening of the ponds, Use of constructed wetlands, ICETP near ITI Industrial area.
2. Space and Land Use based
Strategies for waterbody rejuvenation, Buffer Zone around ponds, Creation of blue-green network, Immediate WASH infrastructure provisioning to squatter settlements
3. Institutional and Regulatory
GIS based mapping and inventory of waterbodies, Establish a cell in the Municipal Corporation for coordination, Ground water extraction to be regulated. Implementation of UP GW (Management and Regulation), Act, 2019
4. Cultural/ People Connect
To promote a shift in mindset of people from Design of green spaces around the waterbodies to focus on inclusive and safe. Educational institutions to be involved. E.g. Adopt a waterbody, Cleanup Drives.

Kali deh Pond rejuvenation

1. Catchment Interventions
2. Pond rejuvenation
3. Financial resources
4. Enhancement of Ecosystem services.



Graded landscape | Aesthetics | Circulation
Native & colored and fruit species | Holistic Approach



The Project is aligned with achieving almost 5 Sustainable Development Goals (SDGs)