





**Urban Resilience and Adaptation for India and Mongolia:** 

619050-EPP-1-2020-1-DE-EPPKA2-CBHE-JP



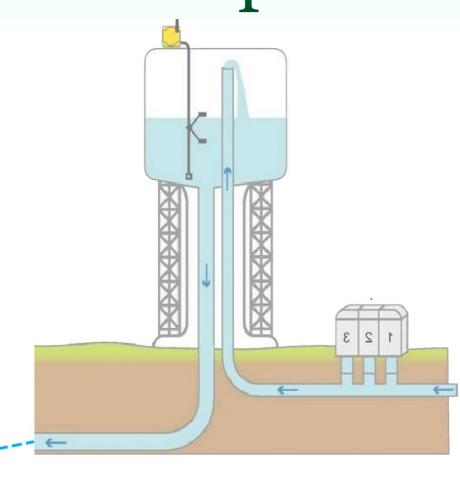




curricula, capacity, ICT and stakeholder collaboration to support green & blue infrastructure and nature-based solutions

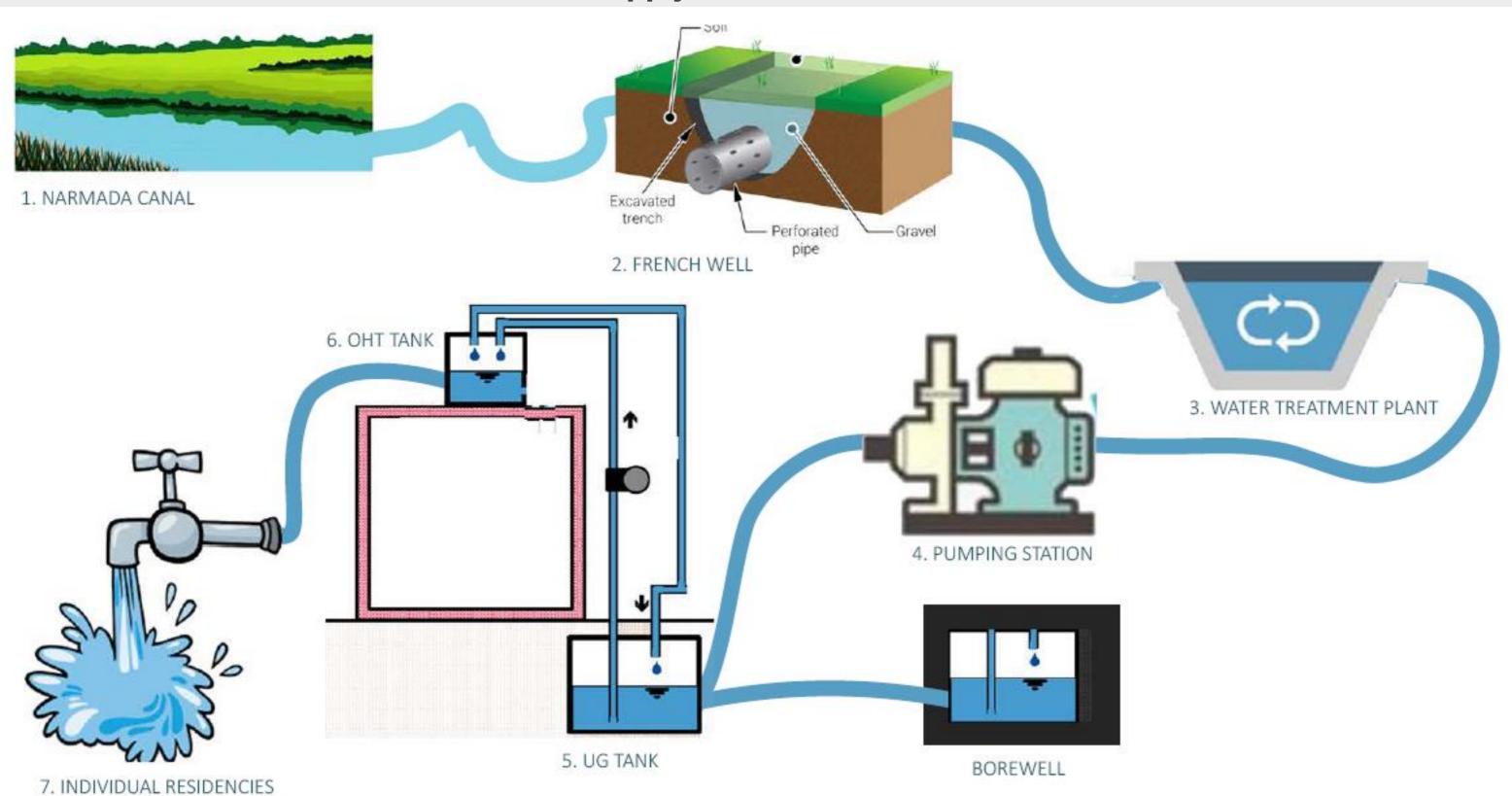
Water Supply: Source to Taps





- 1. The main source of water is the Narmada Canal.
- 2. From there water goes to 5 Frenchwells.
- 3. From the French wells, water goes to WTP. AMC currently operate 3 major Water Treatment Plants namely Kotarpur, Raska, Jaspur. The water treatment plant supplying water to my area is Kotarpur. It has 830 MLD Capacity.
- 4. After treatment water goes to the pumping station.
- 5. Second source of water is the bore well, which supplies water to the units throughout the day.
- 6. The capacity of the underground water tank is 1 lakh litres. It receives water from Narmada 6hours a day.
- 7. From the UGT, water goes to the overhead tank by hydraulic pressure system
- 8. From the overhead tank . the water goes to the residencies. There are two wings ,both contain 44 houses each. Average water consumed per wing is 13,500 litres per day (drinking, cleaning, bathing, all purposes)

## The Entire Process of Water Supply- From Water Reservoir to Individual Houses



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## **Bachelors of Architecture**

Drashti Bhavsar, Mahek **Student(s):** Ruparelia, Faiz Agharia

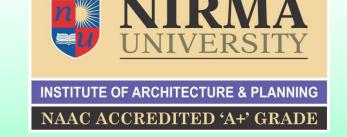
Faculty: Dr Swati Kothary

#### **URGENT Cross-Cutting Theme:**

Integrative Smart Green & Blue Urban Planning, including science, policy and management for adaptation, mitigation and urban NBS

3 ECTs **Credits:** Type of Course: Elective Semester: VIII Sem Year: 2018

**Introduction to Infrastructure Planning (New Course)** 





Satluj River (Sunni)









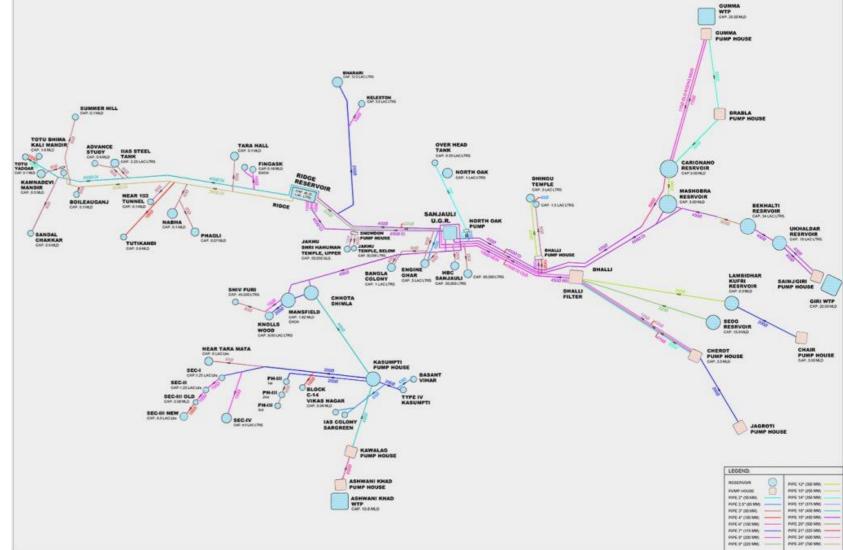


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#### **SHIMLA** DUMMI RD 1740, RL 1736 Weir RL 1186 Devidhar RD 3565 RL 1306.55 RESERVOIR For 35% Discharge RD 9090 RL 2205.45 Road to Dhami RD 700 DWADA RD 7980 RL 1176.00 RD 6510 MUSEUM Existing line RESERVOIR RD 2910 RL 2160 INDEX Raw water Tank Storage Tank Pumping Station 1st Stage, RL-654.09, RD 0 Note: - RD's (Reduced Distance) restarted from zero from each reference point whereas RL's (Reduced Level) have been kept with same reference point. RL 664.05, RD 60

SOURCE	CAPACITY (IN MLD)
Dhalli Catchment	1.80 MLD
Churat Nallah	4.8 MLD
Chair Nallah	2.5 MLD
Nauti Khad	19.75 MLD
Ashwani Khad	10.8 MLD
Giri Khad	20 MLD
Gumma	3.65 MLD

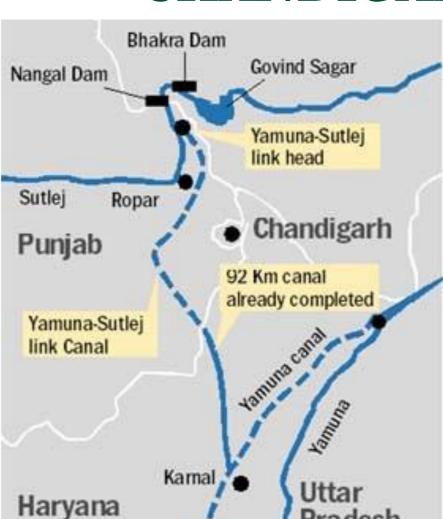




- Shimla has more than century old lift water supply systems and one of its kinds in India. The water is lifted at an average head of 1470 meters from the various sources and transported by the high pressure water conveyor system to the reservoir situated at the outskirts of Shimla city.
- The Shimla water supply scheme started in 1875 with the capacity of 4.54 MLD, catering to a population of 16,000.

# animajra1 WV Save Each! Kajauli WW LEGENDS

## **CHANDIGARH**



Upto Year 1983 -Underground Water (Tube wells)

After 1983 to Underground Water (200 Tube wells) 20MGD.

2. Canal Water 67MGD.

Bhakhra From Main Canal Flowing at a distance of 27.4 Km from Chandigarh.

## **PATNA**

The Ganga flows by Patna. The city is embanked on all sides by a four-feet high wall (with gaps in between to act as passageways) to prevent it from being inundated by floods in the river. Even with such a generous source of surface water, the PWB does not rely on the Ganga for supplying water to the city.

This can be attributed to the fact that Patna is located in a highyielding groundwater zone, which has remained the primary source of water supply here.

According to the State Ground Water Board of Bihar, the area has quaternary alluvium soil, which is highly favourable for the development of water-rich aquifers. The average depth of the groundwater table in this region is 5.58 m in the pre-monsoon season and 3.12 m post-monsoon.

# Pradesh Saran district SAIDPUR KARMALICHAK STP

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## **Bachelors of Architecture**

**Student(s):** Gresha Shah, Sanjoli Kumawat, Neha Agarwal, Kaustub Varsat

Dr Swati Kothary Faculty:

**Introduction to Infrastructure Planning (New Course) URGENT Cross-Cutting Theme:** 

**Credits:** 

Water Works

Integrative Smart Green & Blue Urban Planning, including science, policy and management for adaptation, mitigation and urban NBS

3 ECTs Type of Course: Elective VIII Sem Year: 2018 Semester:



## P12 Knowledge Dissemination Series Prepared By Utsavi Shah









curricula, capacity, ICT and stakeholder collaboration to support green & blue infrastructure and nature-based solutions



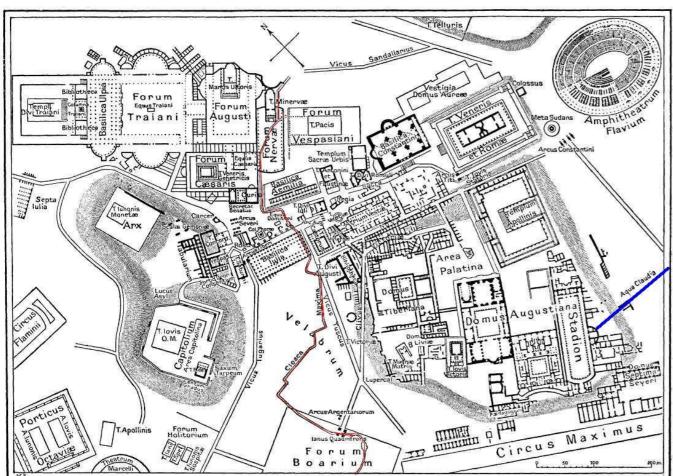




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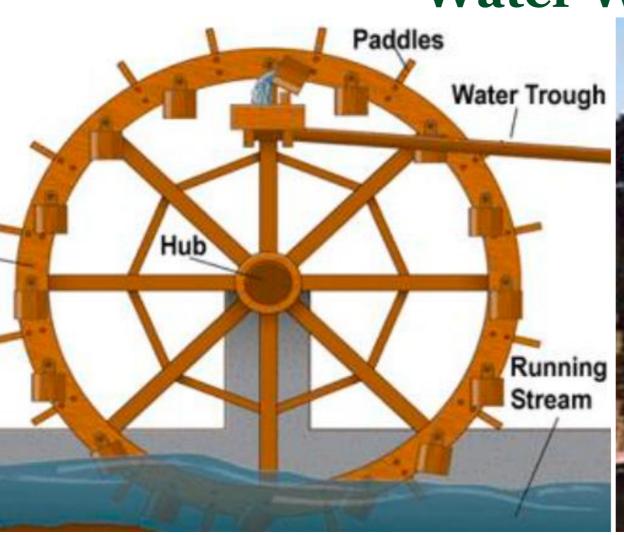
## Cloaca Maxima- Rome





At the beginning of the sewer's life it consisted of open-air channels lined up with bricks centered around a main pipe. At this stage it might have had no roof. However, wooden holes spread throughout the sewer indicate that wooden bridges may have been built over it, which possibly functioned as a roof.

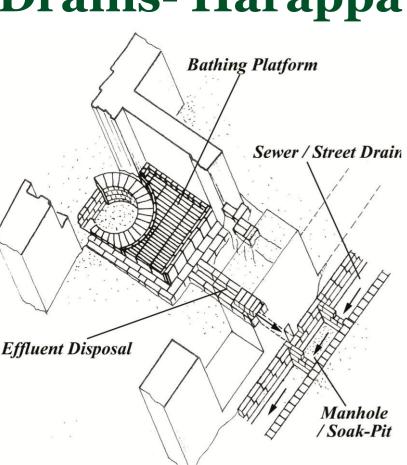
**Water Wheels- Ancient Egypt** 





The water wheels worked the shadoofs. A shadoof was simply a counterweight system, a long pole with a bucket on one end and a weight on the other. Buckets were dropped into the Nile, filled with water, and raised with water wheels.

## **Drains- Harappa**



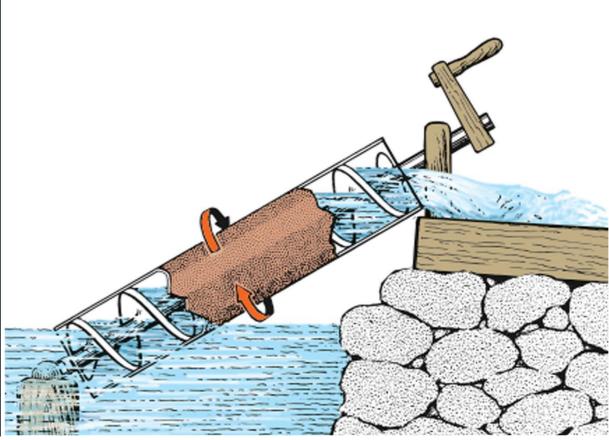
The brickwork prevented the dirty water from leaking. Wooden screens stopped the solid wastes from being washed away with the water.

## Khadin/ Dhora



An ingenious construction designed to harvest surface runoff water for agriculture. Its main feature is a very long (100-300 m) earthen embankment built across the lower hill slopes lying below gravelly uplands.

## **Archimedes Screw**



The Archimedes screw is one of the earliest machines. A positive-displacement hydraulic pump traps fluid from a source and then forces the fluid to move to a discharge location.

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**Student(s):** Jaini Parikh, Mausam Patel, Namita Bhargava, Anushka Shah, Nakshi Patel, Aatman Modi

Faculty: Dr Swati Kothary

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adaptation, mitigation and urban NBS **Credits:** 3 ECTs Type of Course: Elective IX Sem 2017 Semester: Year:

**Introduction to Infrastructure Planning (New Course)** 

**INSTITUTE OF ARCHITECTURE & PLANNING** NAAC ACCREDITED 'A+' GRADE

P12\_Knowledge Dissemination Series Prepared By Utsavi Shah















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# Departments for Urban Development



Ministry of Housing and Urban Affairs Ministry of Urban Development **Government of India** 



Government of India



**GOVERNMENT OF INDIA** MINISTRY OF POWER

**Ministry of Housing and Urban Affairs Ministry of Human Resource Development Government of India** 









**Urban Development Authorities** 

Infrastructure is a major sector that propels overall development of the Indian economy. The Secretariat for Infrastructure in the Planning Commission is involved in initiating policies that would ensure time-bound creation of world class infrastructure in the country. This section focuses on power, bridges, dams, roads and urban infrastructure development. Details of the projects, organizations, policies, timelines, schemes, spending on infrastructure are provided for the users.







National Institute of Urban Affairs

pppinindia.gov.in Public Private Partnerships In India



# Departments for **Transportation**



**GOVERNMENT OF ASSAM TRANSPORT** 

ASSAM STATE TRANSPORT CORPORATION



**GOVERNMENT OF ASSAM TRANSPORT** 

COMMISSIONERATE OF TRANSPORT



GOVERNMENT OF ASSAM **TRANSPORT** INLAND WATER TRANSPORT







## **National Schemes**









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Elective

2018

Semester:

VIII Sem

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Year:

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