

theme

Since pre-historic times, water, the world's most important natural resource along with the air we breathe, has been responsible for the birth and death of civilizations. Its strong relationship with culture has manifested itself over millennia in varied forms of all scales and types. In the Indian subcontinent, water acquired a deep spiritual, religious and philosophical meaning across cultures and religions. Rivers and lakes with *ghats*, pools and ponds inside forts and gardens, stepped wells, and tanks in religious precincts are some of the historic manifestations of water which are deeply revered in Indian culture. These examples have also been a great source of visual pleasure and delight, where water has not only enlivened places but infused new life in whole settings.

Water has intrigued designers over the last two centuries or more, inspiring them to come up with new and innovative approaches towards its meaning in landscapes all over the world.

Water has been an integral part of traditional practices of natural resource management across all regions of India, conserving its quantity and maintaining its quality. However, in the last century, rapid population growth and unchecked urbanization, coupled with top-down development and insensitive planning policies and design approaches have caused great stress on our water resources. Today, polluted rivers, encroached-upon ponds, clogged drainage channels, defunct drainage systems, depleted ground water, diminishing natural recharge areas, have all contributed to deteriorating water quality across the country.

The Competition invites students to explore contemporary and aesthetic manifestations of water at different scales in the Indian context, that reflect contemporary attitudes towards design, enjoyment, interpretation, health and well-being, and most of all, conservation keeping in mind its utmost value as a natural resource.

WATER

precious in design

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JURY



Dr Priyaleen Singh
Historic Landscape
Conservation Architect



Nandita Parikh
Landscape Architect



Martand Khosla
Architect

WATER

precious in design

locus

You may think of a generic or specific physical setting which you believe has a potential for an exploring of ideas. Create an idea which relates the setting with the thought of water as a design element. Communicate the unique sense of experience and a sense of place it creates. You may select a site of an ongoing design studio or live project which fulfills the theme criteria. The idea matters and unconventional and radical approaches towards the theme will be encouraged.

submission guidelines

Detailed Submission Format and Registration Form [to be submitted along with the submissions] are available as .pdf file on:
www.landscapefoundation.in

who can participate

If YOU are studying in one of the following courses anywhere in India:

2 Years full time Post-Graduate Courses, Masters in Landscape Architecture, M.Arch. [Landscape] / M.Arch with / without specializations in any discipline

5 years Full time Graduate Courses in Architecture and Planning, B.Arch / D.Arch / B.Planning

4 Years Graduate Diploma in Art / Design with / without specialization in any discipline

2 – 2 1/2 years Full Time Post Graduate Diploma in Design with / without specialization in any discipline

OR

You have recently graduated from any one of the courses noted above, in May–July 2015.

registration [mandatory]

A registration fee of ₹1000 [One Thousand Only] is mandatory for participating in the competition. This fee shall be deposited at the time of the submission of the entry. Please note that registration fee is non-refundable and non-transferable.

Details of mode of payment are available as .pdf file on:
www.landscapefoundation.in

jury

Dr Priyaleen Singh | Historic Landscape Conservation Architect, New Delhi

Nandita Parikh | Landscape Architect, New Delhi

Martand Khosla | Architect, New Delhi

timelines

15 October, 2015

Submission Deadline
Last date for the Registration fee and Entries to reach the Foundation Office in New Delhi

28 October, 2015

Jury Meet | Declaration of Results

29-30 October, 2015

Exhibition at New Committee Room, Planning Block, School of Planning and Architecture, New Delhi

awards

First Prize	₹50,000
Second Prize	₹30,000
Third Prize	₹15,000
Shriya Anand Award	₹21,000

Plus upto FOUR Jury Special Mention Certificates.
The winning entries shall be featured in LA, Journal of Landscape Architecture.

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Restoring Water

Krupa A. Shah & Ipshita M. Karmakar

B. Arch IV Year, Kamla Raheja Vidyaniidhi Institute for Architecture, Mumbai

A site of sewage treatment plant gets remodelled for public use with new innovative ideas and design solutions like solid settlement tanks, anoxic tanks, wetlands, thus keeping its functional component intact but at the same time transforming in a vibrant space which has high educational and environmental value.

Mysore is a tier-two city situated in the southern part of India. The sewage treatment plant at Vidyaranya in Mysore handles the sewage of one third of the city through the oxidation process with a municipal solid waste plant situated alongside it. The 6.5 million litres of water per day that the plant receives is purified and sent to Dalvooy Lake further south, which is used for plantations around the area.

The idea of the project is to align all the systems on site to create a self-sustaining system that *rethinks* the idea of sewage treatment by the way of organic methods of plantation and phytoremediation. The buildings are aligned with the context by pulling the streets in to create a gridiron method of organisation, with community building activities such as organic agriculture that can be practised on the grids. The sewage treatment plant can be turned into a lake or a water park that will allow people to come in droves to experience

the plant as an educative experience. A recycling plant is introduced to the site instead of the municipal solid waste disposal landfill, which recycles plastic out of them. At the nodes of each of the streets, public programs are created which enable the people of Mysore to interact and visit the plant, thereby changing the perception of garbage and sewage. A live museum is placed underwater, and the path creates wide vistas and horizons signalling a new way of looking at the site.

JURY COMMENTS

The entry is a balanced and effective presentation of a very crucial aspect of waste management in a city. Through an elegant design, the proposal seeks to address the issue in a very unique and holistic manner connecting water, related ecological processes and the community use of a public space. It is a unanimous choice for the first prize.

CASE STUDY
OMEGA RESEARCH INSTITUTE
 52000 GALLONS /DAILY

CAPACITY OF TANKS :

- SOLID SETTLEMENT TANKS : 200 cubic mtr (52000 gallons)
- EQUALIZATION TANKS : 350 cubic mtr (100,000 gallons)
- ANOXIC TANKS : 250 cubic mtr (52000 gallons)
- WETLANDS (4 PARTS) : 1 PART - 440 cubic mtr (gentle slope 1:100 and 3 ft depth) (26000 gallons/part)
- WATER LAGOONS (2 PARTS) : 1200 cubic metre (3 ft depth) (50000 gallons)

The percentage of purification water after each tank process.

- SEPTIC TANK
- PHYTOREMEDIATION
- ANOXIC TANK
- POLISHING TANK

RESTORING WATER
 SEWAGE TREATMENT FOR THE CITY OF MYSORE.

Mysore city is a tier two city that is situated in the southern part of India. The sewage treatment plant at Vidyaranya in Mysore handles the sewage of a third of the city through the oxidation process with a municipal solid waste plant situated alongside it. The 6.5 million litres of water a day that the plant receives is purified and sent to Dalvooy Lake further south, which is used for plantations around the area.

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DIAGRAMMATIC EXPLORATIONS:

SLOPE OF LAND

The Omega Center for Sustainable Living (OCSL) is an environmental education center and natural water Treatment facility built to meet the highest standards currently available in sustainable architecture. It is the first green building in the United States to achieve both LEED Platinum and Living Building Challenge certification.

At the OCSL, you can observe the Eco Machine treating wastewater without chemicals and get a close-up look at the solar and geothermal systems that provide energy, heating, and cooling for the building.

SOLID SETTLEMENTS TANKS :

Solid settlement tanks are the first step in the Waste Water Treatment process at the Omega Center for Sustainable Living. All solids settle out in the tanks as sludge and are injected with microorganisms to accelerate decomposition. The remaining wastewater flows out of the solid settlement tanks to the equalization tanks.

ANOXIC TANKS :

Step 3 is the anoxic tanks. Two tanks are located underground, right next to the constructed wetlands at the site. Here, naturally occurring microbial organisms use the wastewater stream as food. They begin to digest ammonia, phosphorus, nitrogen, potassium, and many other substances in the water. This process happens with very little oxygen (called either anaerobic or anoxic) and produces a modest amount of methane gas, though not enough to harvest and use as an energy source.

When it's time for the water to move to step 4 of the process, the constructed wetlands, a splitter box evenly divides the water in half and distributes it between the wetlands.

WETLANDS :

The wetlands are three feet deep, lined with rubber, and completely filled with gravel. About two inches beneath the gravel is wastewater, which flows from the anoxic tanks, to the splitter box, to the upper two constructed wetlands. The wetlands use microorganisms and native plants, including cattails and bulrushes, to reduce biochemical oxygen demand, remove odorous gases, continue the denitrification process, and harvest nutrients such as phosphorus. As the wastewater flows through the wetlands, the microorganisms and plants are fed.

Once the wastewater is processed in the upper two constructed wetlands, it flows via gravity to the bottom two constructed wetlands. There is a 75 percent increase in the water's clarity and a 90 percent reduction in the water's odor by the time it is ready to leave the wetlands to move to step 5, the aerated lagoons. However, not all the water that enters the wetlands travels to the aerated lagoons. The plants absorb some of the water during the purification process in the constructed wetlands, and some of the water evaporates.

AERATED LAGOON :

From the constructed wetlands, the water is pumped into two highly oxygenated aerated lagoons. The aerated lagoons are divided into four cells, each 10 feet deep. The plants, fungi, algae, snails, and other microorganisms of the aerated lagoons are busy converting ammonia into nitrates and toxins into harmless base elements.

There is no soil in the aerated lagoons, yet beautiful tropical plants thrive here. The plants live on metal racks and their roots extend up to five feet into the water. The roots of the plants act as a habitat for the organisms in the lagoon, and are sustained by them.

Explorations of tanks to the built environment.

Explorations of roof gardens and wetlands to the public interface.

Explorations of tanks to the public interface (inversion of tank and the built environment).

Exploration of tanks to roof gardens and public interface.

1:80- is the slope required for Wetlands (to allow gentle flow of wastewater)

VIDYA-ARANYAPURAM SEWAGE TREATMENT PLANT
 Quantitative calculations of Sewage Treatment Plant:

Daily flow and treatment of sewage water on existing site - 1.7 million gallons of water (6.5 million litres of water per day)
 i.e a flow of 8.2 million litres of water per hour

The current quantity of sewage requires an area of 4500 cubic metre.

Ideally for wetlands to treat 1000 litres of water we require 13.8 sq.mt.

The new proposed design looks at treating 7.5 million litres of water a day largely with the help of the phytoremediation process that is undertaken at the large four tanks constructed on site.

The area required for treating 7.5 million litres of water is 140000 sq metres.

Ideally constructed wetlands treat 12.4 sq metres.

		Phytosequestration
		Phytohydraulics
		Phytoextraction

1. Polishing pond
2. Existing sewer line
3. Access routes to site.
4. Vidyaraanyapuram Sewage Treatment Plant



Flowing City - Reviving City Drains

Chanakya Rajani & Mohd. Adil Hussain

B. Arch IV Year, Faculty of Architecture & Ekistics, Jamia Millia Islamia, New Delhi

Health and wellbeing of the city is defined not only by the nature of parks and gardens but often unseen and largely neglected elements like city drains which form the core component of its hydrological framework. A sensitive and functional approach, making them living arteries, hence reiterating their crucial role in the urban landscape...

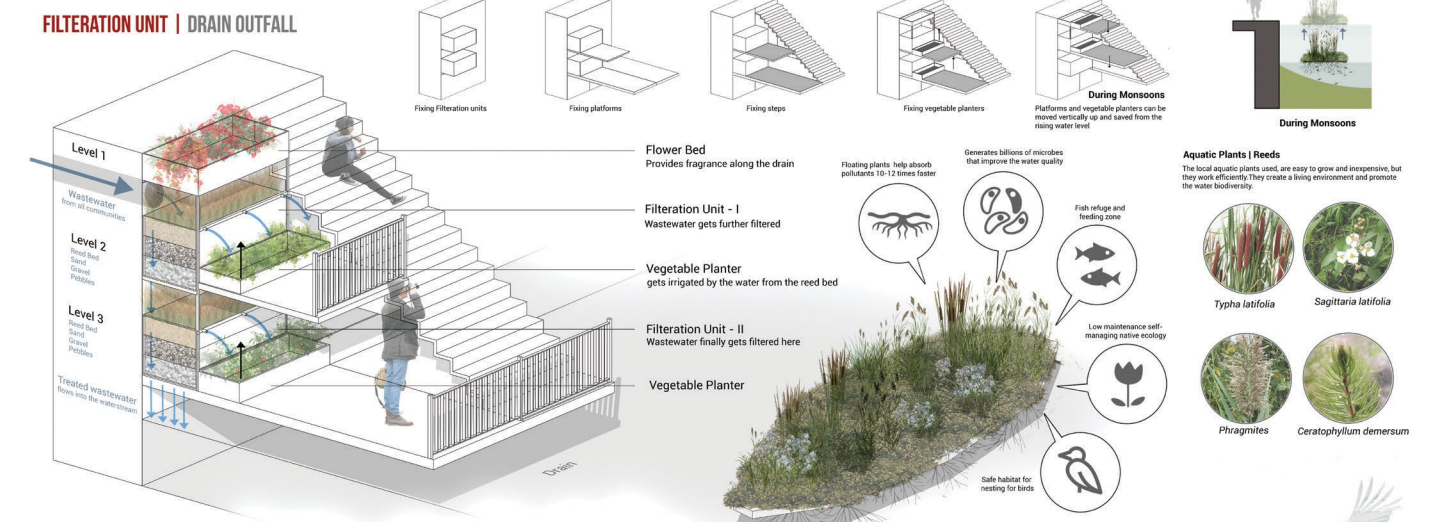
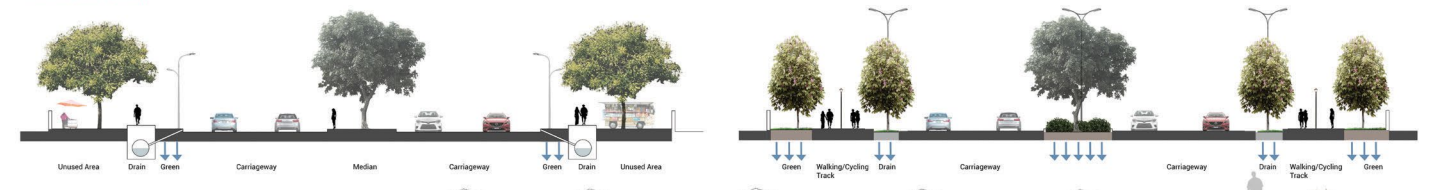
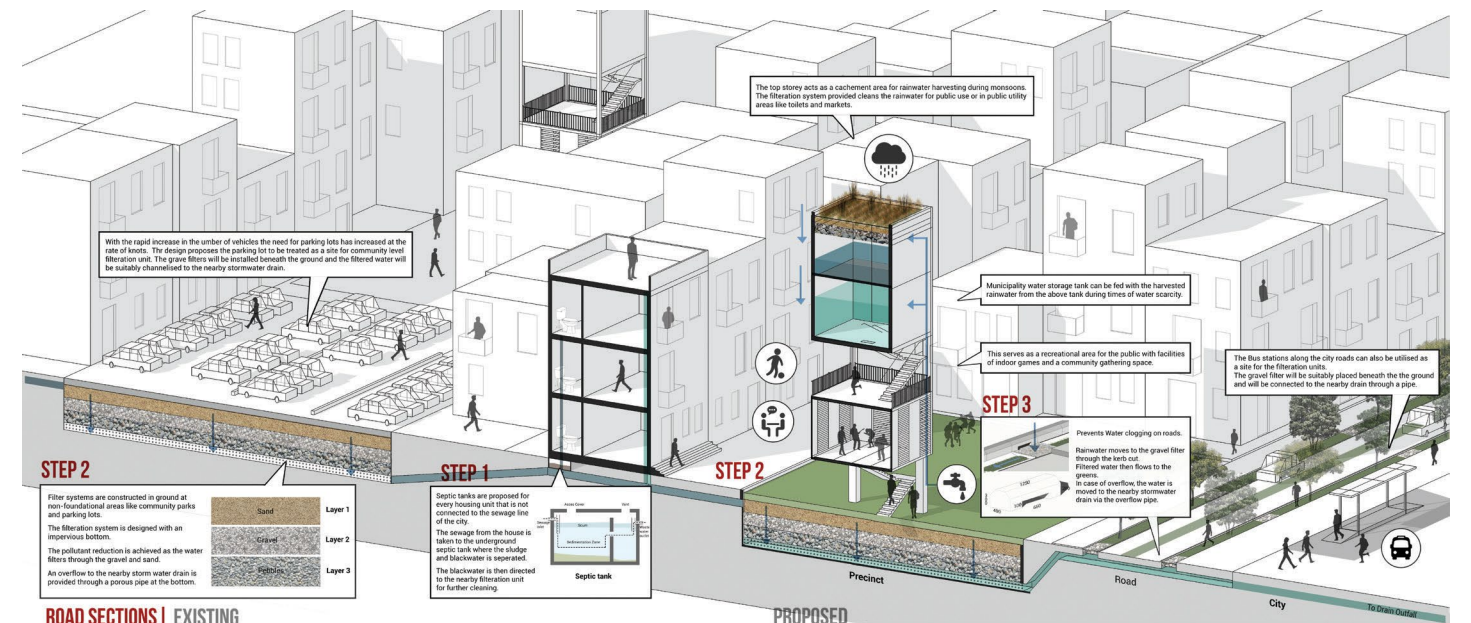
Storm water drainage is one of the most important civic conveniences in a city, but that is unfortunately neglected. The recent floods in the national capital city of Delhi have demonstrated the crucial importance of the drainage system for the city life and the lack of foresight at the level of local urban bodies. A city comes to a standstill every monsoon after continuous showers, thereby halting the city life and causing public inconvenience. The existing storm water drainage system of the city is inadequate to deal with current situation of the state and needs remediation in order to facilitate proper functioning in the future.

The project aims to revive the natural drainage system of Delhi by identifying the root causes of the failure of the existing drainage system and to give suitable remedial measures for the future. Disposal of wastes into water channels

is the primary cause of failure of the existing system. To change the situation, wastewater treatment strategies have been adopted at three major levels to reduce load on any one mechanism thereby increasing efficiency.

JURY COMMENTS

The entry, through simple and small gestures, rather than grand interventions, seeks to address the larger urban issues of city infrastructure pertaining specifically to water in drains. It translates the otherwise mundane intervention into a more refined design expression. The scheme articulates the core idea through a sophisticated and neat presentation.



3

Of Drains, Plants and Other Things

Lourdu Rajulton A., Abhinaya Gnana & Vinola Hilary J.
B. Arch 2015 & B. Arch IV Year, RV College of Architecture, Bengaluru

The defunct service lanes with non-functional drains of residential areas of the city are enlivened by an integrated scheme of urban farming, bioswales and water harvesting system. Involvement of the neighbourhood residential community in the process creates a sense of belonging and ownership.

The disappearance of lakes and the misuse of storm water channels has become a growing issue in the city of Bengaluru and the country in general. This attempt is a humble beginning to create awareness and to suggest a few possible appropriations in the locality of Fraser Town, East Bengaluru, which might serve as a precedent for other such appropriations around the country. The storm water channel, currently used as a sewer is seen as an opportunity to create connections – once the proposed metro rail station is built at the edge of the town.

To achieve this, one must begin by re-looking the function of the drain.

JURY COMMENTS

The idea of urban farming is linked with the main theme of the competition – water. The entry, in a creative way, looks at the usually neglected back lanes in the city, using them as sites of urban sustenance, engaging the community with the idea of water in a more active manner.

Conservancy lanes

Conservancy lanes are spaces between rows of houses, where manual scavengers used to clean up wastes. While the practice has become obsolete now, what remains in its place is a dumping ground of garbage that has been completely ignored by the BBMP authorities. Residents now complain about the stench from these lanes as well low or no lighting which is also increasing crime in the area.



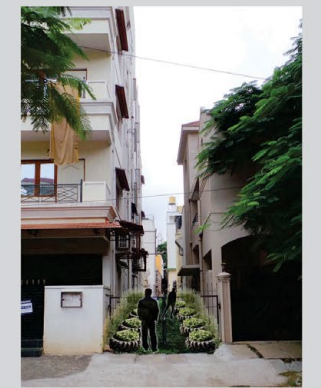
Dirty Nala - main channel



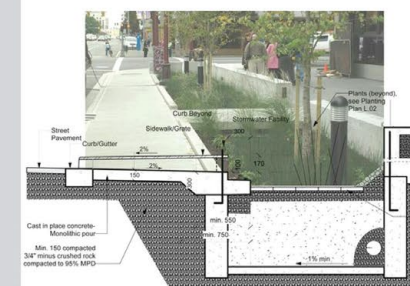
Unused / misused conservancy lanes

The proposition is that these conservancy lanes may be used as kitchen gardens by the communities and maintained by them.

Community gardens though semi private, may be watered by rainwater harvested by homes and by the water in stormwater drains. Water cleaned by bioswales may also be used for these.

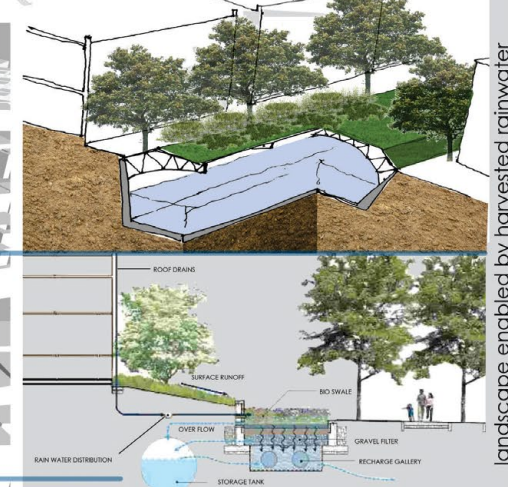
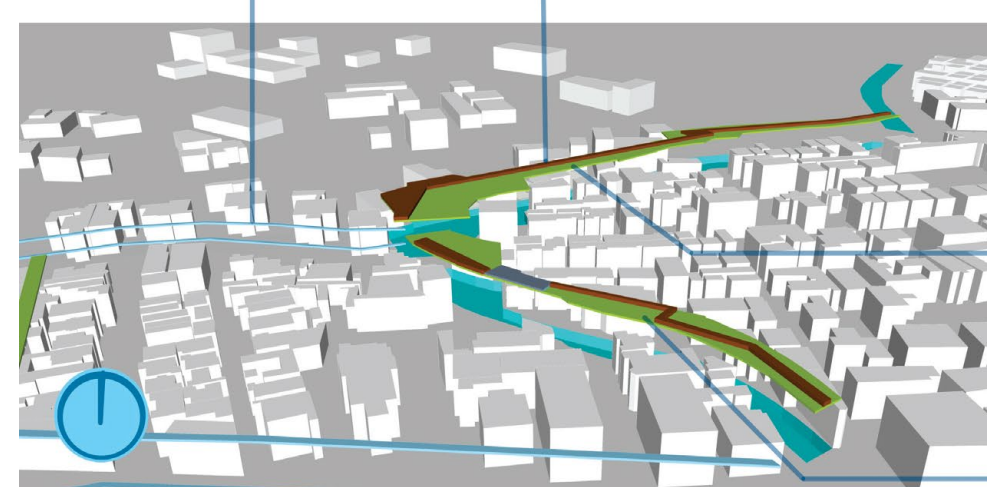


Proposed use of recycled tyres for kitchen gardens in the conservancy lanes



Bioswales are planned on the roads perpendicular to the conservancy lanes - the roads connecting within the locality, which also act as the tributaries to the NALA - which is projected to be the main source of water for the landscape planned all around the town. native fragrant plants are used in the bioswales . they also serve as aesthetic elements on the street along with low rise built seats.

The pathway over the nala - supplied with harvested rainwater, becomes the primary pedestrian connect, with vegetable plants, maintained by the communities on both sides



landscape enabled by harvested rainwater



Purnuddhar: An Exemplary Settlement for Water and Hand Block Printing Craft

Balotra, Barmer

Nayruti S. Mistry

B. Arch 2015, The Maharaja Sayajirao University MSU, Vadodara

A proposed settlement, sited in the arid region of the country, on a riverside is involved in the highly water-intensive craft of block printing. Proposed design approach integrates the idea of conservation of natural resources, mainly water, use of sustainable building materials and traditional construction techniques and hence, a definite approach towards reviving and promoting the craft.

This exemplary settlement is an attempt to revive the hand block printing craft by relocating the Chippa community from Balotra to Mewanagar in Rajasthan by providing them with their 'magical sweet water' through surface watershed and catchments areas surrounding the site.

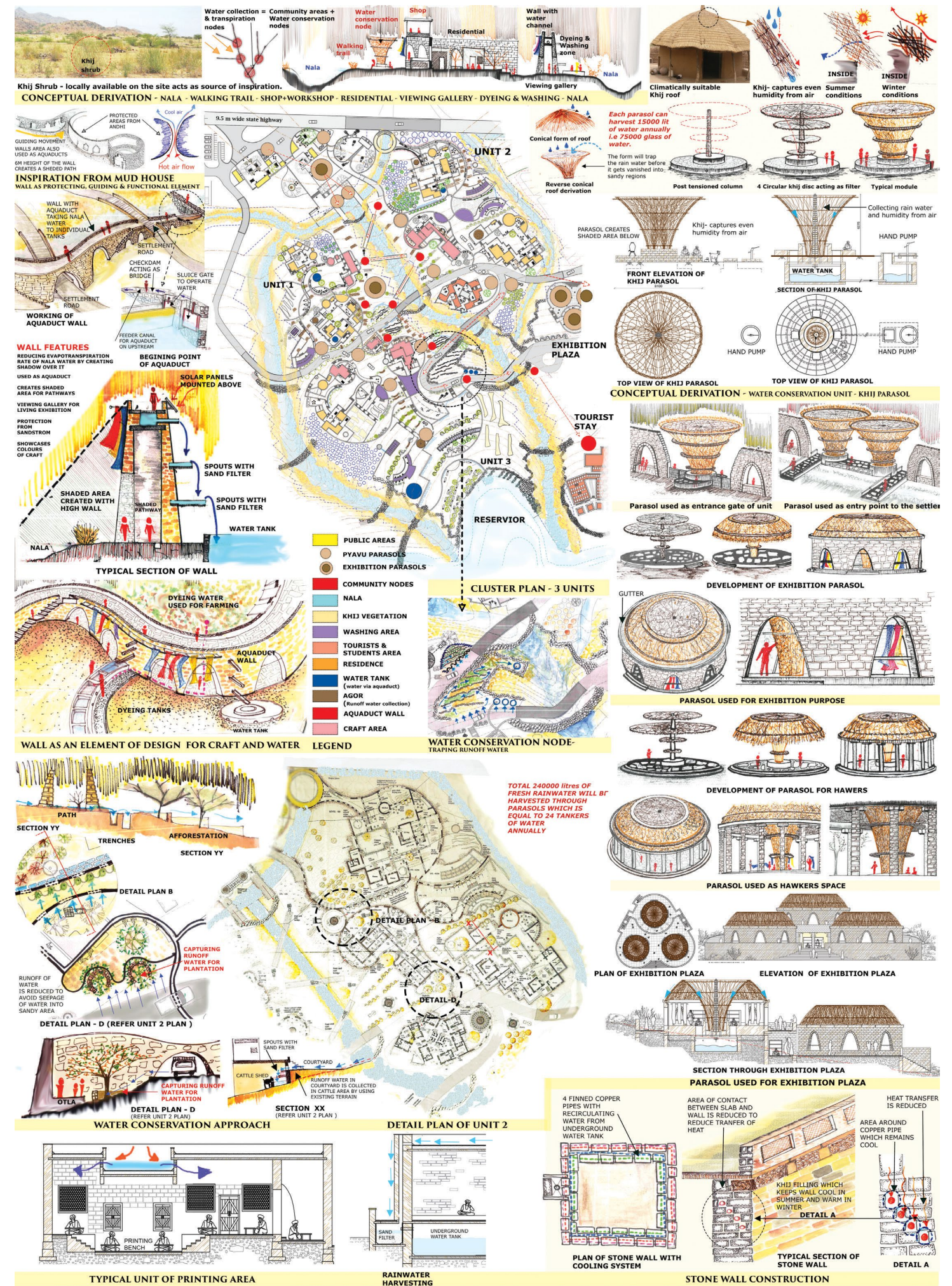
This is achieved by creating stepped check dams and site planning is derived from flora and fauna on site. Existing *nallahs* are used as design elements and road length is optimized for conservation of *khij* vegetation. Closed aqueducts on the multi-purpose stonewall carry water from the *nallahs* to workshops and residences; the rippling sound from the aqueduct forms an interesting design element and sensory experience. Taking inspiration from conical roof of vernacular architecture, water conservation units made of *khij* are derived which acts as public spaces.

The *khij* branches collect rainwater, which can be directly used for drinking purpose. The overall built environment is designed including proposal of six units, each comprising of work-place, shop and two residences.

The water system of craft and living areas are designed for zero discharge of water and the by-product craft water is reused for plantation acting as manure. The vastness and stillness of the desert settlement opens our minds towards the communal settlement, which is self-sustaining with zero energy discharge and no consumption from state grid by generating solar energy, fuel through biogas, and by providing local construction materials.

JURY COMMENTS

The entry is multifaceted, addressing the issues of water-dependent craft traditions, its cultural role in shaping community spaces, ecological concerns and most importantly the question of livelihoods and water conservation. It explores the theme of water in a rural setting, emphasizing that water concerns transgress both rural and urban settings.





Urban Bishti

V.M. Juneza Niyazi

B. Arch 5th Year, RV College of Architecture, Bengaluru

The precinct of an old pump house is remodelled as a public space with the objectives of creating awareness about the natural resource, its relationship with architecture, dealing with water as a strong visual design element and ultimately changing the perception of general public towards treated grey water which forms the main living spine of the proposal.

Bengaluru, known as the land of thousand lakes, has lost its rich water heritage to the selfish acts of man. But this is not the story of only Bengaluru but the world.

The issue dealt in the proposal focuses on the current urban scenario of water and its changed association with people as a mere commodity. *Urban Bishti* is the coming together of the old and the new systems, juxtaposing the design intent that rethinks the relationship between architecture, water and man in a contemporary context by weaving memories of the water systems used in the past. Technological advancement has led to the ease of availability of water and man overpowering the resource which has led to the change in attitude of man.

In the current water systems, technology presides over architecture, indicat-

ed by the concrete structures like the overhead tanks, sump tanks etc. which reflects the drift between water, architecture and people.

In contrast, indigenous water harvesting models are *architecturally* structured. *Urban Bishti* proposes to juxtapose *architectural place making* with the current water technology to enhance the involvement of public with the practices of conservation and management of our depleting resource. It also aims at redefining the importance of recycled water by weaving *grey water bishti* as a design entity in the public realm, targeting the stigma associated with grey water in the society. This proposal is a water-sensitive recreation hub plugged at a forgotten water heritage site of Bengaluru.

JURY COMMENTS

Bringing back the memories of the waterman, "bishti" takes a contemporary view on the idea of treating water from an abandoned pump station and infusing a new life in it through a clear design intent of place making. A more clear and focused presentation, especially in the design stage would have further improved the entry.

