

Water Collective

Multifunctional public space, Thecho, Nepal



Main authors

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Project data

Project group: Architecture, building and civil engineering
 Client: Thecho Mahila Jagaran Women's Saving & Credit Co-operative
 Project background: Research project
 Planned start: February 2017

Summary and appraisal of the project by the jury

This project replaces an existing dilapidated guest-house with a new multifunctional building. The new structure restores and enhances a historic Paati – a type of covered public space – that was damaged in the 2015 earthquake. Wrapped around the Paati with its carefully restored 100-year old carved wooden columns and insets is a plinth design with a water tank at the center. The tank is used to collect and store water to enhance disaster preparedness. Above the tank is an open room for community use. When needed, the seismically-sound structure can also be used as emergency shelter. The roof collects rainwater, which is distributed to exterior taps for washing and laundry. For drinking water, a bio-sand filtration system inside the complex purifies water for a second set of taps. Through this system, the building provides safe water to the community – something the municipal system lacks.

The jury considered the design to be highly commendable in providing a space equally suitable for everyday life and times of crisis. Out of the need to provide basic infrastructure, it produces social space, drawing on the traditional role of water collection as a social activity. Its social sustainability is further strengthened by its operators: a local women's cooperative, whose control over the water will have an empowering effect. In a region struggling to provide access to clean water, the social and infrastructural solution is also highly transferable.

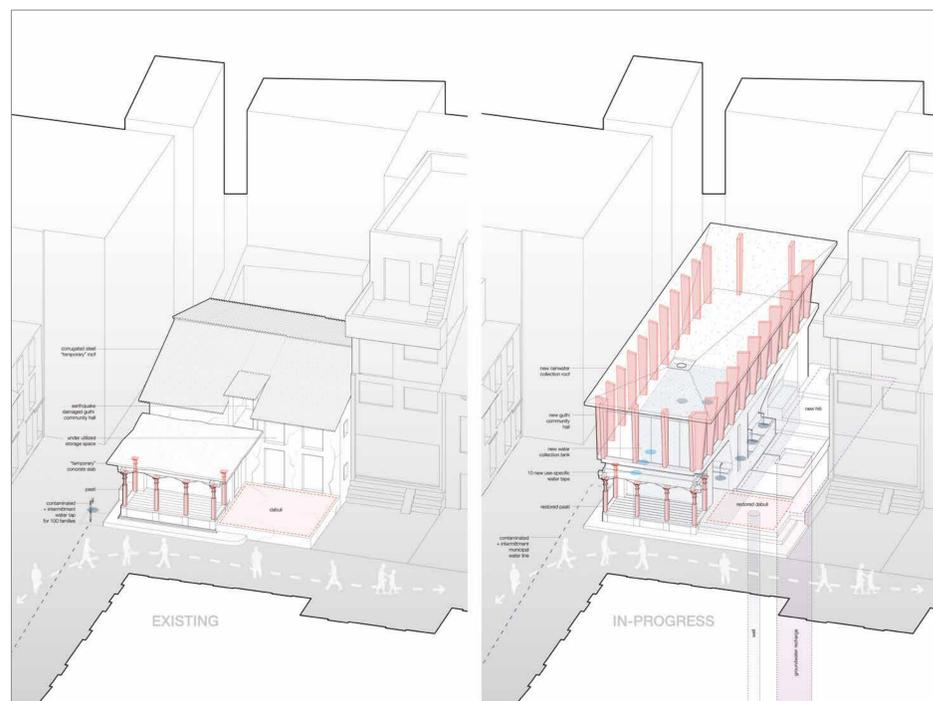


Image 1: Existing conditions diagram shows the state of disrepair of the current Paati and neighboring building (which is used for some storage and occasional cooking). This project diagram explains the new water collection system and activated areas of the project.

Statements on the sustainability of the project by the author

Historic preservation

(Place – contextual and aesthetic impact)

Paatis are reminders of a benevolent society who built these small rest houses across the Kathmandu Valley for weary travelers. Today, these urban architectural archetypes remain an essential focal point for their communities, in use as resting, public meeting, and religious celebration spaces. Since the earthquake in 2015, many are in desperate need of repair and revitalization. This project carefully restores the 100-year-old carved wooden columns and religious insets of the central Paati in Thecho, while enveloping it in a new life. The new building pays tribute to traditional Newari architecture through its angles and rhythms of the structure and wood detailing, while treating the concrete water infrastructure as a modern sculpture carved and molded for different uses.

Women's empowerment

(People – ethical standards and social inclusion)

Women in Thecho often spend more than 4 hours a day looking for clean drinking water. The municipal system only runs 20 mins in the morning and 30 mins in the evening, and never at a scheduled time. We conducted surveys of all 100 families relying on this intermittent and contaminated water supply to understand their needs and aspirations. By working directly with

the Thecho Mahila Jagaran Women's Saving & Credit Co-operative and the Lumanti Support Group for Shelter (a women led organization), this project strengthens the entrepreneurship opportunities for the women in the village. The Thecho Women's Co-operative has already created a construction team within the village, a water management cooperative and started conversations about a bottled water based small business enterprise.

Sustainable Water Use and Disaster Preparedness

(Planet – resource and environmental performance)

Through the architecture of the new building, this project is able to collect rainwater, well water, and contaminated municipal water and filter it through a customized bio-sand filtration system. The water-system is the literal foundation of the new structure, while different water uses pull from different heights, pushing and carving the walls of the main tank. The tank is sculpted so that if there is an earthquake, the drinking water is prioritized through the height of the water level. The plinth ensures that wastewater is recharged back into the ground. By integrating multiple sources of water, and by especially focusing on rainwater harvesting through the shape of the roof, this project becomes a scalable pilot for a region that is struggling for access to clean water every day.



Image 2: The new building embraces the historic Paati and brings a new typology of resilience through an integrated water and preparedness system. The public open space is continued through the village, while creating new water access points for washing, showering, drinking and cleaning.

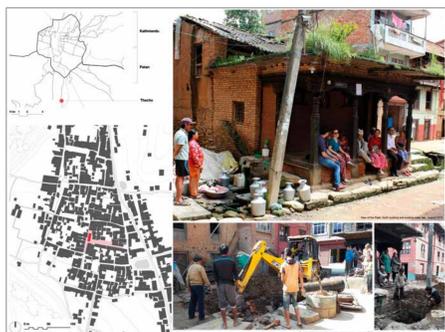


Image 3: The Paati in Kujho Tole, Thecho: Current site conditions and site construction starting February 2017.

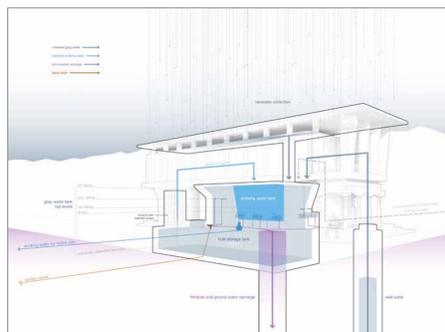


Image 4: Water diagram: Rain, well, and municipal water collection. Filtering, dispensing and recharging.



Image 5: Water system: Designed and calibrated for everyday use and post-earthquake use.



Image 6: Outdoor public washing and gathering space, inspired by the forms of a traditional hiti.



Image 7: Everyday use of the diverse spaces in the project, ground floor and first floor.

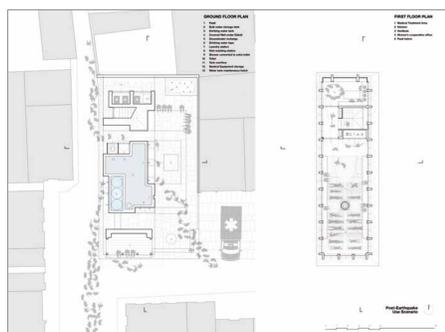


Image 8: Post-disaster use of the diverse spaces in the project, ground floor and first floor.

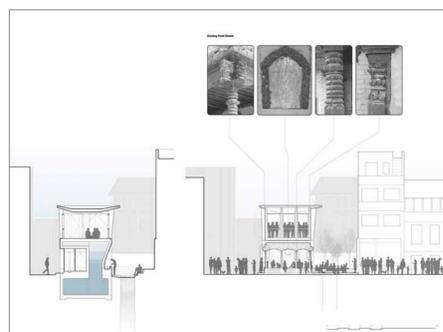


Image 9: Section of the water system. Elevation showing details of the Paati connecting to public space.



Image 10: Workshop and community hall for entrepreneurship activities of Women's Co-operative and Guthi.