

# Rejuvenation of Traditional Stone Spouts ('Hitis') for Climate-Resilient Urban Water Management

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## Introduction

In the Kathmandu Valley, 'Hitis'—ancient Stone Spouts—stand as a testament to historical governance practices in sustainable water management where traditional systems existing side by side with modern infrastructure. 'Hiti Pranali' is a decentralized yet integrated water management system, unique to Kathmandu Valley rooted to the Lichhavi era (approximately 1700 years ago). These stone spouts extract water from underground aquifers through an intake system called 'Navimandal'. It is a manifestation of climate-resilient and inclusive urban water governance.

Despite the convenience provided by the pipeline, locals still prefer to drink from these spouts, as they are concerned to the quality and reliability of tap water. However, urbanization, encroachment and water scarcity have threatened these historic structures, risking their disappearance. A determined movement to revive traditional water management practices highlights governance that fosters climate resilience water management practices.

In response to this pressing need Integrated Urban Water Management (IUWM) Project, spearheaded by ENPHO with support from BORDA South Asia and in collaboration with Godawari Municipality, embarked on a journey to restore 'Simako Dhara', a stone spout located in Patalechhap, Bishankhunarayan. This stone spout, serving over 250 households, underwent a significant transformation in 2021.

The restoration project tackled water scarcity while preserving cultural heritage, promoting sustainability, and empowering communities. By enhancing safety, convenience, and aesthetics, it not only improved the water-fetching process but also served as a community-driven governance model for reviving these structures, thereby enhancing resilience to climate change.

This project not only addressed immediate water management needs but also established a foundation for scaling similar initiatives across the region.

## Objective

The project aimed to preserve the traditional significance of stone spouts while fostering communities to take charge of water management and governance, ensuring a sustainable and climate-resilient supply of safe, clean water for everyone.

6  
Hitis Rejuvenated



Beneficiaries  
11650

## Methodology

The restoration process, guided by collaborative governance, involved municipalities, local ward, Water User Committee (WUC), and ENPHO working together to rehabilitate traditional stone spouts. Site visits and stakeholder consultations identified Simako Dhara and 13 other spouts for renovation under the IUWM project. ENPHO provided technical assistance through Detailed Project Reports (DPRs), which served as blueprints for sustainable and inclusive restoration adapting to climate challenges.

Infrastructure enhancements, paired with active community involvement, played pivotal roles in the transformation of the stone spouts into thriving community assets. Enhancements like garden area, seating arrangements, elevated platforms, and upgraded pathways were added to boost functionality and enhance the aesthetic charm of the stone spout site.

Upon completion, the renovated stone spouts were handed over to the respective municipality and the community for operation and maintenance (O&M).

The roles of Water User Committees (WUCs) were instrumental in overseeing the restoration process, ensuring sustainability, and facilitating ongoing maintenance efforts. Community-led enhancements and transformations such as captivating lighting for night views added to the spouts' visual and functional appeal.

Basic parameters of water quality were rigorously tested to ensure the safety of the water, addressing a critical community concern.

By empowering communities and incorporating technical expertise, the project not only preserved cultural heritage but also demonstrated a scalable model of climate resilient urban water management practices.

## Impact

The project successfully upheld the cultural heritage embodied in the stone spout while simultaneously guaranteeing access to clean and safe water for the local community. The renovation efforts have benefitted 11,650 individuals across these stone spouts. Beyond enhancing safety and convenience, the restoration offered esthetic enhancements to the water fetching process.

Accessibility improvements catered to all age groups, and the addition of nearby parks created serene spaces for relaxation.

Community involvement was a key driver of success, with local residents actively participating in the restoration process and contributing to the project's long-term sustainability. This project not only restored indigenous water systems but also sought to set a model for the revival of these climate resilient water management system in the region.

The success of Simako Dhara's restoration showcased the effectiveness of community-driven governance and resonated a wave of requests for similar renovations leading to the rejuvenation of additional stone spouts in Godawari and Kirtipur.

In 2022 and 2023, the proactive response from municipalities, coupled with technical support from ENPHO, demonstrated strong governance by spearheading restoration of Majha ko Dhara, Bhujure ko Dhara, and Bishankhu Narayan. Similarly, Kirtipur Municipality undertook the renovation of Nakhi Gaa Hiti and Chi Gaa Hiti. These efforts underscored the replicability and scalability of the project, creating a ripple effect of community-led conservation initiatives.



## Conclusion

The restoration of traditional stone spouts exemplifies the transformative role of governance, community collaboration, and innovation in addressing urban water management challenges. By revitalizing indigenous water systems and improving water access in urban areas, this project directly addresses the challenges outlined in both SDG 6 which aims to ensure access to clean water and sanitation for all.

The initiative supports SDG 11 by preserving stone spouts as cultural landmarks and transforming them into inclusive community spaces, fostering sustainable urban development. Its alignment with SDG 13 highlights the role of traditional water systems in combating climate change, showcasing how ancient practices address modern environmental challenges.

Additionally, the restoration of stone spouts aligns with the objectives of SDG 13, which focuses on taking urgent action to combat climate change and its impacts. By promoting the use of traditional water systems and reducing reliance on energy-intensive infrastructure, this project supports climate resilience and mitigation efforts, contributing to the overall sustainability agenda.

Beginning with the successful rejuvenation of Simako Dhara, this project sparked a ripple effect, inspiring neighboring communities to replicate the initiative. The restoration of traditional stone spouts embodies a holistic approach to water management, blending climate-resilience, heritage conservation, community empowerment, and technological innovation.

This project serves as a compelling example of how governance, community leadership, and innovation can converge to address water scarcity, promote sustainable development, and build climate resilience, offering a replicable model for urban WASH solutions.