

WASH Governance Opportunity for Inspiring Innovation and a Circular Economy in Karnali Province of Nepal

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Abstract : Karnali is one of the most vulnerable provinces in Nepal, facing challenges from climate change, poverty, and natural calamities across different regions. In recent years, the province has been severely impacted by climate change stress such as temperature rises in glacier lake of mountainous region and spring source water shortages, particularly in hilly areas where settlements are located, and water sources have depleted from their original ground levels. As a result, Karnali could face a future without enough water for all. Deep causes of sustainable safe water supply have always been neglected in rural areas of Nepal, and communities are unfairly burdened with a challenge of keeping water facilities functioning in areas affected by frequent natural disasters where there is a substantial, well-documented funding gap between the revenues from user payments and the full cost of sustained services. The key importance of a permanent system to support communities in service delivery has been always underrated so far. The complexity of water service sustainability as a topic should be simplified to one clear indicator: the functionality rate, which can be expressed as uptime or the percentage of time that the service is delivered over the total time. For example, a functionality rate of 80% means that the water service is operational 80% of the time, while 20% of the time the system is not functioning. This represents 0.2 multiplied by 365, which equals 73 days every year, or roughly two and a half months without water. This percentage should be widely understood and used in Karnali. All local governments should report their targets and performance in improving it, and there should be a broader discussion about what target is acceptable and what can be realistically achieved. In response to these challenges, the Sustainable WASH for All (SUSWA) project has introduced innovative models and policy formulation strategies in various working local government. SUSWA's approach, which delegates rural water supply and sanitation responsibilities to local governments, has been instrumental in addressing these issues. To keep pace with the growing demand, the province has adopted a service support center model, linking local governments with federal authorities to ensure effective service delivery to the communities. By enhancing WASH governance through local governments engagement, capacity building and inclusive WASH policy frameworks, there is potential to address WASH gaps while fostering a circular economy. This strategy emphasizes resource recovery, waste minimization and the creation of local employment generation opportunities. The research highlights key governance mechanisms, innovative practices and policy interventions that can be scaled up across other regions. It also provides recommendations on how to leverage Karnali's unique socio-economic and environmental context nature-based solutions to inspire innovation and drive sustainable WASH solutions. Key findings suggest that with strong ownership and leadership of local governments, community engagement and appropriate technology, Karnali Province can become a model for integrating WASH governance with circular economy concept, providing broader lessons for other regions in Nepal.

Keywords : vulnerable provinces, natural calamities, climate change stress, spring source depletion, resources recovery, governance mechanisms, appropriate technology, community engagement, innovation

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