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The role of ancestral groundwater techniques as nature based solutions for managing water

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To achieve water sustainability and a more efficient use of water we should base on the ancestral water and territory management knowledge and grained in the culture of the people, This article is inspired in Nature Based Solutions (NBS) for managing water availability, particularly groundwater and aquifer-related NBS that hold major un-realized potential for alleviating adverse impacts of progressive climate change, namely to increase water security/drought resilience. In some cases, more ecosystem-friendly forms of water storage, such as natural wetlands, improvements in soil moisture and more efficient recharge of groundwater, could be more sustainable and cost-effective than traditional grey infrastructure such as dams

The core of this article is centered in the pre-Inca and Inca civilizations and how these communities have developed ingenious NBS solutions to adapt to extreme climate scenarios such as prolonged droughts, managing water resources in a holistic way and how they understand clearly the global water cycle in all the components specially groundwater.

The article is divided in three interlinked parts: 1) to sow water, by implementing ancestral aquifer recharge solutions, 2) to retain water by improve hydraulic efficiency in terms of infiltration and drainage and 3) to collect water by improve the performance of extraction in the subterranean aqueducts in arid regions.