Success Story: Sindh Resilience Project funded by the World Bank

A farmer shared that after seeing a successful wheat crop using The Sindh Irrigation Department and Sindh Disaster Management Authority with the technical and financial support of the World Bank is currently implementing a USD 200 million Sindh Resilience Project to mitigate flood and drought risks in selected areas and strengthen Sindh's capacity to manage natural disasters and public health emergencies. As part of the drought subcomponent 72 small rainwater-fed recharge dams were constructed, less than 10 meters in height, in the Kohistan and Nangarparkar regions (Tharparkar district) to contribute significantly to the provision of water to communities during dry periods, recharging of underground aquifers in adjacent drought prone areas, and protection of communities against seasonal hill torrents and flash floods originating in the Kirthar Range (Dadu, Jamshoro and Malir districts).

The project is expected to add 26,163-acre feet into fresh groundwater aquifers, thereby raising the water table from the current depth of around 200 feet up to 25-50 feet. In addition to recharging of fresh groundwater aquifers, these investments will provide safe drinking water to local communities and livestock as well as irrigate more than 7,000 hectares of arable lands. Further benefits include protection of around 11,000 households having a population of more than 65,000 persons from hill torrents and flash flooding. Around 48% of the beneficiaries were women. A field visit to a groundwater recharge dam in Village Bandha Khan, Tehsil Sehwan, District Jamshoro, highlighted the project's early-stage impacts.

Scaling Potential

Communities dependent on hill torrents are highly vulnerable to climate change. These regions need policy support to regulate torrential flows for beneficial use, leveraging local wisdom for sustainable development. The natural irrigation system in Kachho and the small rainwater-fed recharge dams is a scalable model for management of other hill torrent regions in Sindh and beyond.

Recommendation

Hill torrent management requires government intervention to develop distribution systems that dissipate torrent velocity. A well-distributed system can harness the potential of hill torrents, while narrowing tracks can cause disasters. Provincial governments should facilitate inter-region farmer coordination to share best practices. Additionally, adding escape channels beside spillways of small dams would help manage silt and extend dam life.

Figure: Groundwater recharge dam, Sindh Resilience Project

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