REVIVING PAALS FOR BETTER AGRICULTURAL PRODUCTIVITY AND FARMER LIVELIHOODS

This assessment was initiated by the International Water Management Institute (IWMI) and was implemented by PRADAN in Beda ka Bas, Kanu ka Naka, Rustam ka Bas and Badi Paal subwatersheds within the Khanpur Mewan watershed in Alwar district, Rajasthan.

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Paals are water retaining structures constructed across seasonal watercourses (*nalas*) in areas where average annual rainfall is 400-600 mm. The water is collected over an area of 4-5 hectares in these structures for 2- 3 months. During this time it saturates the upper soil layers and seeps down to recharge groundwater. Fine sediments carried by runoff get deposited in the submerged area adding a rich layer of silt and clay. After water infiltrates completely from the submerged area, farmers can take up crops during post-monsoon (Rabi) season using the residual soil moisture stored in the field. Recharged groundwater is utilized to irrigate low water consuming crops during dry seasons. Farmers are able to pump more water at reduced pumping costs due to raised water tables. Professional Assistance for Development Action (PRADAN) promotes this traditional technology in the Alwar District, Rajasthan and Mewat Sahyog Sanstha - Khanpur Mewan (MSS), a farmers' society manages the system.

Impacts for farmers

- *Paals* increase field soil moisture, reduce erosion, improve land productivity and augment groundwater recharge. Water is assured in wells beyond the monsoon for 2-3 years.
- Farmers can take up crops such as onion, millet, mustard and wheat during monsoon and winter, and also obtain high yield. Summer crops such as vegetables and onion seeds can be grown as well. Even growing short duration paddy is possible to wet seasons.
- Farmers who construct field bunds in the area between *paals* find that this practice helps to make the overall system more effective and also increases its lifetime by detaining sediment.

Community impacts

- With the restoration of *paals*, women are more involved in watershed management and womens' groups are also leasing out treated lands to farmers to generate income for savings and family welfare. The *Paal* revival has made land more productive, and improved the income and livelihoods of farmers.

Regions that can b enefit from this technology

- Areas with soils that can percolate well and store water below ground for later use.
- Locations where constructing a dam or building a surface reservoir is not possible or is too expensive.
- Areas not subject to salinity, excessive flooding or waterlogging.
- Command areas of canal irrigation systems utilized for monsoon irrigation.