Case study — Phad Irrigation

Traditional water-harvesting systems have existed in India since time immemorial, successfully satisfying the needs of civilisations in their quest for the 'elixir of life'. Maharashtra has a unique traditional water-harvesting technique, known as the '**Phad**' system, whose roots can be traced back over 300 years.

This system, which consists of a check dam built across a river from which **canals** spread out into the fields, was widely prevalent in the north western and Vidharbha regions of Maharashtra till almost 20 years ago. The advent of modern irrigation systems may have spelt the death knell for many of these traditional water-harvesting systems; however, there are still a few examples of successful operation of the **Phad** system in the state.

Driving past Mendhla village, a dusty spot on the map, situated within Yavatmal district of Maharashtra, one encounters a few 'Dhangars' – members of a nomadic tribe, whose occupations include managing livestock, besides wandering the countryside in search of fodder and of course, water. Dhangars settled in Mendhla village around 30 years ago, and their hamlet within the village is aptly christened **Dhangarwadi**, where they practice animal husbandry as a profession. The Dhangars have been successful in reviving the **Phad** system through ingenious means.

Earlier, lack of irrigation was a major issue of concern for the Dhangars, threatening cultivation of fodder and other agricultural crops during the Rabi season. Dhangarwadi has a minor irrigation structure, constructed by the government, where a fair amount of water seeped continuously through the main body.

One of the more enterprising Dhangars saw an opportunity in this and tapped the seepage from the irrigation structure gainfully, by constructing an earthen embankment to store water and laying down Phad channels to divert water to his field. This helped him irrigate about nine acres of land through out the year.

Dilasa Sansthan, a non-profit organisation working in the region, came to know about the **Phad** irrigation system followed by Dhangars and approached the **CInI Cell,** the nodal agency for **Central India Initiative (CInI),** to help replicate the success of the Phad system in other areas.

Identifying innovative ideas and piloting them for systematic replication is the raison d'être of the **CInI Cell**. Along with **Dilasa, CInI Cell** initiated the process of the revival of the **Phad** system, with the aim of developing a strong replicable model for wider acceptance.

Subsequently, two low-cost masonry structures were constructed to store water for irrigation. Dhangars were involved in modifying the design of the Phad channels along the contours. Along with the physical interventions, inputs towards water and crop management, especially the cotton crop, were also provided to the farmers.

The **CInI Cell** meticulously documented the process followed jointly by the Dhangars and **Dilasa**, besides its own inputs, to revive the **Phad** system and turn it into a viable irrigation system. The initial results were encouraging. The irrigated area has increased from 9 acres to 72 acres, thereby improving the yield of crops. Irrigation is now assured for both Rabi and Kharif seasons.

Encouraged by this successful intervention, **Dilasa** is planning to review **Phad** systems in two new villages in Yavatmal district. The district administration has now shown interest, and has called for feasibility reports for potential sites for implementing the **Phad** system in Yavatmal.

In light of the positive experience, the **CInI Cell** proposes to collaborate with **Dilasa** over the coming year, with the aim of studying and exploring further opportunities for upscaling of similar initiatives, whilst concurrently locating and supporting meaningful livelihood programmes within the central India region.