

<b>PROJECT NAME</b>	<b>Conservation of Runoff Water by Constructing Check Dams at Makori and Sarki Pahla villages in Tal Block</b>
<b>LOCATION</b>	Tal Block, Village Makori, District Karak & Village Sarki Pahla District Hangu, Khyber Pakhtunkhwa, Pakistan
<b>DURATION</b>	2015 – ongoing
<b>OUTCOME</b>	Harvesting runoff water in water stressed areas for sustainable use

## Project Description

### ▶ BACKGROUND

*Hydrological Study of Teri Basin* (TAL Block project area lies in the Teri Basin)

A detailed groundwater hydrological study of Teri basin area was carried out by MOL Pakistan in November 2015. The objective was to quantify the water resources, water table, water quality, recharge pattern, consumption and availability of water resources. The project area lies in water stressed zone. The previous studies performed by Hydrogeological Directorate Peshawar has reported that the aquifer in the Teri valley is patchy, poor and a tube well of capacity less than 10m<sup>3</sup>/hour could be installed down to 150 m deep. The surface water resources are non-perennial called Algad (Teri Toi, Shishan Algad and Umar Algad). Two small irrigation dams (Sharki Irrigation dam, Mardan Khel/Chal kala dam) are also present. The groundwater level was reported to be less than 10 m and the water quality saline. Due to limited thickness, the type of alluvial material (aquifer) and hydraulic gradient of 3.56 m/km accelerates the drainage of run-off through the incised streams in Teri basin that intensifies the area groundwater scarcity and hydrogeological conditions. The main source of groundwater recharge and agricultural requirements in area is rainfall.

### ▶ HISTORY

MOL Pakistan decided to sponsor the construction of check dams in collaboration with the District Soil Conservation Departments utilizing some percentage of social welfare and production funds. The initiative was highly requested by the local communities. The aim was to make the area self-sufficient in food grain, minimize water losses through run off and conserve water for agriculture, livestock and fisheries.

#### *Construction of Check dam*

The following two check dams are constructed in District Karak and Hangu of Khyber Pakhtunkhwa province, Pakistan:

- Sarki Pehla Check Dam

The check dam has a pondage capacity of 28 acre feet and catchment area of 1.5 km<sup>2</sup>. The Project area lies in village Sarki Pahla, Tehsil Hangu. The project is near completion.

- Makori Check Dam

The check dam has a pondage capacity of 25 acre feet and catchment area of 0.6 km<sup>2</sup>. The project area lies in Makori Tehsil BD Shah District Karak. The project has been completed with the allocation of PKR 9 billion from MOL Pakistan.

### Project Results

#### ▶ MAIN RESULTS AND OUTCOMES (WHAT CHANGED?)

Check dams will play an important role in sustainability and environmental and social improvement of the community:

- Water Harvesting: Rainwater and runoff water will be stored and utilized for agricultural, domestic, livestock and fisheries.
- Ground water Recharge: As the area lies within water stressed zone, the check dams will recharge the groundwater, reduce the salinity, and stabilize the ground water levels by surface ponding.
- Prevents Floods by providing safe disposal and storage of rain/flood water.
- Combating drought by effective utilization of water resources.
- Improving soil quality as the water infiltrates the soil and provides moisture for crops.
- The dams maintain stream flow through the summer months when streambeds would otherwise be dry. This allows vegetation to grow and provides more habitat for species and plants, particularly for the native fisheries.

