



Floodwater drowning the fields

After the floods...

Spate irrigation relies mostly on indigenous knowledge and requires relatively little investment for its practice and maintenance. It needs to be promoted at both national and regional levels as crops grown in spate irrigation systems are usually organic, have a higher nutritional value and are less susceptible to disease.

By Rina Saeed Khan and Frank Van Steenburgen

There is an old Chinese saying that in every catastrophe there is an opportunity. The recent floods that hit Balochistan and Sindh may have wreaked havoc and devastated the lives of the local people, but there could be a positive side to this disaster as well. After many years of drought in the region, the floods have brought the much needed moisture to millions of hectares of land.

If the authorities move fast, this land can be cultivated once the water recedes and crops like sorghum and pulses can be planted in the month of August. People living in these remote areas are experts at an ancient form of irrigation called spate irrigation that depends on seasonal floods.

Photographs by Rina Saeed Khan

People living in the hamlets and small villages of Balochistan and interior Sindh have long been dependent on the rains that come twice a year to this parched land, transforming it overnight. The rains in the vast catchment

areas that spread into Afghanistan create rushing hill torrents. The water from these hill torrents cascades through the mountains, gathering speed and comes down flooding through the arid plains, bringing life to the land.

In good years, when the people's prayers are answered, the rains are plentiful and there is enough water to irrigate the fields and grow subsistence crops. For without rainwater, this ancient form of irrigation would not exist. Spate irrigation is not unique to Pakistan, and in this country it is one of the largest systems in the world.

The spate irrigation complex in Pakistan is the second largest system after the Indus Basin irrigated agricultural system. It dates back to the Mehrgarh civilisation, which archaeologists say could be as old as 9,000 years, and whose ruins have been found in mounds located in Balochistan.

Long before the Pharaohs or the

Mesopotamians, the early settlers of Mehrgarh were domesticating animals for farming and growing crops by using floodwater. Remnants of large *bunds* (earthen dams) up to 5,000 years old have been found in the Khuzdar district in Balochistan, suggesting that a complex organisation existed at that time to maintain these earthen structures. In North-West Frontier Province and Punjab, the first spate irrigation systems were developed in 330BC.

Spate irrigation is today practiced in all the four provinces of Pakistan and is called *nai* in Sindh, *sailaba* in Balochistan and *rod kohi* in NWFP and Punjab, with *rod* meaning torrent bed and *koh* meaning mountain. In this system, water from sporadic flash floods is diverted to irrigate land and fill drinking water ponds. These flash floods have been occurring naturally for centuries, and it is said that most of Alexander the Great's retreating army was destroyed by flash floods in