



Sowing the fertile land after the floods

ments deposited from previous irrigations. Spate systems 'grow' their own soils, and rely on nutrients transported with sediments from upstream catchments to maintain fertility.

The soil is thick and when dry, it cracks into clay block forms — just underneath lies moist, fertile earth which is ploughed and then seeded with various crops.

Crops grown in spate irrigation systems are usually organic, and don't require inputs like fertilisers and pesticides. They are of a higher nutritional value and are less susceptible to disease. Since the flooded fields are free of pesticides and other chemicals, they become natural wetlands which attract migratory birds from as far as Siberia.

Every year, the flooded fields come alive with the sound of ducks and other waterfowl as they rest and feed in the winter months, on their way south. They return again in spring, on their way back to Siberia and colder climes — the Indus flyway is an international-

ly recognised migratory route for birds.

This type of agriculture requires high levels of co-operation between farmers to divert and manage the distribution of flood flows. The uncertainty stems from the unpredictable numbers, timing and volumes of floods, the occasional very large floods that wash out diversion structures, and the frequent changes to the *rod* channels from which the water is diverted.

Substantial local wisdom has developed in the location and construction of diversions and in organising water distribution and managing flood waters. In D.I. Khan, large irrigation systems have developed over centuries and there is a fair measure of equity between upstream and downstream water users.

The spate farming system in Pakistan is very important since it grows crops used in animal feed for livestock all over the country. Spate areas have also developed special local breeds of cattle and goats. They

are also culturally rich areas with unique folklore relating to spate systems.

The spate irrigation system in Pakistan has enormous potential. According to conservative estimates, a significant amount (more than 50 per cent) of flood water is allowed to escape and flow into the Indus River each year. This flood water often brings fish from the other rivers and streams into the Indus as well which is healthy for its ecology. Of the remaining flood water, however, more than two third is wasted and not properly used for irrigation. A lot can be done to improve the livelihoods of the poverty-stricken communities living in spate areas.

At the policy level, spate irrigation should be encouraged since it is low cost, environmentally sustainable and people friendly. It gives sustenance to the poorest of the poor and allows free grazing for livestock. Many kinds of medicinal plants, wild vegetables and mushrooms, like the expensive truffles used to flavour European foods, are found in spate areas. Spate areas are also environmentally friendly and sustain various kinds of endangered wildlife. These include cranes, flamingos, houbara bustards and the Suleiman wolf.

Spate irrigation relies mostly on indigenous knowledge and requires relatively little investment for its practice and maintenance. The most important aspect is that the people manage it themselves. Although it is practiced in all the four provinces of Pakistan, little about it is known in the country and it needs to be promoted at both a national and regional level. ■

tating phenomenon. To an extent it may be true but still there are positive aspects which need to be catered to with the help of the local population. In many parts of Balochistan, flood water leaves high content of moisture in the soil and local farmers know how to capture and utilise this opportunity.

They cultivate crops that are suitable to the environment, ecology, and socially acceptable and economically viable in such situation. The outsiders and even the government officials are not fully aware of such positive aspects of flood. July and August are the most suitable season to cultivate sorghum in hot areas of Balochistan (like Kachi, Jhalmagsi, Sibi and many other regions too) in the soil where moisture is left by flood. Still there is one month left and it is an opportunity that needs to be grasped by national and international NGOs, UN agencies and government to provide the seed of sorghum in spate irrigated areas of country affected by the recent flood.

Equally important is the seed of pulses suitable to this type of agriculture as mix farming is favoured by these farmers. The next two months, i.e. September and October are peak season for sowing oil seeds in flood affected areas. On the other hand, areas like Chaghi,

Dalbandin, Washuk, Lasbela and Kharan are most suitable to cultivate *guar* beans and melons in July and August. There is a great need to address this opportunity on priority basis as spate agriculture is time bound and not much can be done once moisture disappears in this dry climate. In some areas sesame oil crop is an excellent option and other areas offer the cultivation of castor oil seed. Some farmers may need millet seeds and others may prefer wheat and barley crops.

Once the political will is there then several other suitable options can be implemented to utilise flood moisture. The recent flood water has spread to more than two million acres of land alone in Balochistan. The farmers there are waiting for someone to help them obtain seeds and other inputs before it is too late.

Conventionally many aid agencies spent time in planning and in this case not enough time is left as procurement of inputs and its logistics involve additional time. There is also the danger that we may lose this opportunity and in such a case it will be a national loss worth billions of rupees. Its counter effects may contribute further poverty and vulnerability among the already poor population in the province. ■ — *Karim Nawaz*