Spate irrigation

Spate irrigation is a type of water management that is unique to semi-arid environments. Flood water from rivers and from mountain catchments is diverted from ephemeral river beds (wadi's) and spread over large areas— for agriculture, forestry, rangeland, groundwater recharge and drinking water. Spate systems are very risk-prone. The uncertainty comes both from the unpredictable nature of the floods and the frequent changes to the river beds from which the water is diverted. It is often the poorest segment of the rural population whose livelihood and food security depends on the spate flows. Substantial local wisdom has developed in organizing spate systems and managing both the flood water and the heavy sediment loads that accompany it. Spate irrigation occurs in areas as varied as South Asia, the Middle East, West Africa, North Africa, the Horn of Africa, Central Asia and Latin America. For the exact areas where it occurs, see the related reference. The area under spate irrigation changes from year to year depending on the occurrence and patterns of floods, the related production and use of food and water, and other socioeconomic factors. For example, the area under spate irrigation in Ethiopia has more than doubled in the last 15 years alone.

The future of Spate Irrigation

The management of spate irrigation areas is very different from other systems such as rain-fed or perennial irrigation systems. The challenge is to make use of the unpredictable floods, store soil moisture and manage sedimentation processes. This requires local organizations that can cope with unpredictability and overcome the special challenges.

Though spate irrigation is more difficult, there are also large opportunities to improve economic returns and livelihoods—by appropriate diversion and water control structures, better agronomic practices, field water management, improved breeds and seeds, conjunctive use of spate and groundwater, and better flood protection and drinking water ponds.

The Spate Irrigation Network

The Spate Irrigation Network aims to improve the livelihoods of those living in the spate irrigated areas. It exchanges experiences and good practices, initiates and supports new programs and policies, and strengthens education and training. The network consists of professionals, practitioners and farmers— at present more than 400 members. It is being run with a small part time international secretariat (at MetaMeta and UNESCO-IHE)— whereas in four countries national chapters are being set up— in Yemen, Pakistan, Sudan and Ethiopia. Activities are not confined to these countries.

The Spate Irrigation Network is currently supported by IFAD, World Bank/EKN, UNW-DPC, UNESCO-IHE-DUPC and FAO.

Objectives

▪ Familiarize policy makers, implementing agencies (NGOs, government departments, safety net programs), research agencies and funding agencies with development scope, experiences and practical approaches to spate irrigation development;
▪ Document good practices and initiate practical research in spate irrigation;
▪ Disseminate experiences between countries.

Activities

▪ Undertake pilot activities;
▪ Develop programs with implementing organizations;
▪ Preparation and dissemination of guidelines and training materials;
▪ Maintain spate irrigation in higher education;
▪ Documentation and support student research;
▪ Support implementation programs;
▪ Open access information and maintain website.

To join the Spate Irrigation Network, which is free of charge, subscribe at: www.spate-irrigation.org.
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