



Topic 2

Conjunctive use of ground and surface water: can conjunctive use be a solution to overcome overexploitation?

In many regions of the world, irrigated schemes were established in alluvial plains characterized by the availability of groundwater which is mainly recharged by losses from irrigation water. Therefore groundwater resources play an important role in many surface irrigation schemes because of their availability and the regularity of the supply compared to surface water. Several drivers explain the increased use of groundwater for irrigation in large-scale irrigation schemes: the scarcity of surface water due to reduced rainfall, coordination problems in delivering water to thousands of farmers, increasing water demand due to population growth and to the intensification and diversification of farming systems, readily available groundwater resources close to the surface... Furthermore, groundwater use favours agricultural dynamics as farmers are able to intensify and diversify their cropping systems due to the flexible use of groundwater. As a consequence, wells and boreholes have proliferated in irrigated areas that were initially intended for surface water irrigation.

However, when no functional rules exist to manage the groundwater resources, the increased use leads to overexploitation and drop in water levels, water and soil quality degradation, and new inequities between farmers.

This topic of the Conference is dedicated to integrated approaches dealing with conjunctive management of groundwater and surface water as well as: equitable access to groundwater through collective tube wells, artificial groundwater recharge, reallocation of surface water to have regard for inequities in groundwater access, irrigation water quality strategies to deal with environmental issues...