



### Topic 3

#### Collective action and multi-actors processes: pathways to sustainability?

Groundwater is not visible, making it difficult for actors to measure the consequences of the degradation of the groundwater resource. Users and in particular agricultural users do not necessarily relate their individual use to water-table drawdown. Government institutions do not always react soon enough to regulate the exploitation of this resource. Even for researchers and modellers, groundwater remains a difficult research object despite advances in research.

Individual and diffuse access to groundwater makes it virtually impossible to control its exploitation through regulatory instruments only. In other words, a solid legal framework regarding groundwater is necessary, but often not sufficient, to “tame the anarchy”. The difficulty in applying the official regulations is due to i) the very rapid development of mostly “illicit” tube wells, making it difficult for agencies to even stay informed about groundwater access, let alone control it, ii) the diffuse access through individual tube wells, and the high transaction costs of monitoring and controlling use, iii) the importance of groundwater for farmers’ livelihoods, which makes it politically difficult for policy makers to stop “illicit” groundwater use, iv) limited scientific information about aquifer dynamics and groundwater use.

However it is often in a situation of water stress or in the case of other complicating factors (land tenure, credit...) that local stakeholders put in place collective action, and try to find adapted solutions in order to gain access to groundwater or even address over-exploitation through community management and “groundwater dialogue” between actors. Such collective action is often informal, and evolving rapidly, depending on the dynamics related to agriculture and water.

The issue of this session is to discuss in which conditions collective action has been put in place in different situations and how the groundwater dialogue between institutions and actors allows progress in groundwater regulation.