



Contribution of local knowledge to understand socio-hydrological dynamics. Examples from a study in Senegal river valley

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In developing countries many watersheds are low monitored. However, rivers and its floodplains provides ecosystem services to societies, especially for agriculture, grazing and fishing. This uses of rivers and floodplains offer to communities an important local knowledge about hydrological dynamics. This knowledge can be useful to researchers studying ecological or hydrological processes.

This presentation aims to discuss and present the interest of using qualitative data from surveys and interviews to understand relations between society and hydrology in floodplain from developing countries, but also to understand changes in hydrological dynamics. This communication is based on a PhD thesis held on from 2012 and 2016, that analyzes socio-ecological changes in the floodplain of the Senegal river floodplain following thirty years of transboundary water management.

The results of this work along Senegal river valley suggest that the use of social data and qualitative study are beneficial in understanding the hydrological dynamics in two dimensions. First, it established the importance of perception of hydrological dynamics, particularly floods, on local water management and socio-agricultural trajectories. This perception of people is strictly derived from ecosystems services provided by river and its floodplain. Second, surveys have enlightened new questions concerning the hydrology of the river that are often cited by people, like a decrease of flood water fertility.

This type of socio-hydrological study, combining hydrological and qualitative data, has great potential for guiding water management policies. Using local knowledge in their analyzes, researchers also legitimize river users, who are for the most part forgotten by water policies.