

## Establishing a Local Water-Sharing Mechanism in Vietnam

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The agriculture sector in Vietnam faces shortage of water resources. This water shortage is expected to be more pronounced under the influence of climate change and the accompanying drought episodes. Sustainable solutions such as the equitable distribution of resources for both ecology and human needs, and their livelihoods now and in the future, are thus required. In the Dai Loc district of Quang Nam province, farmers are experiencing water shortage in the cultivation of paddy during the summer-autumn season. Because of this, some farmers have turned to other crops, while others have encountered conflicts regarding the sharing of water among various users. Although there is an existing water resource management policy, this was not fully implemented. But after an inventory of the problem, farmers ranked an equitable water-sharing mechanism as the most feasible solution. The question then was whether a local mechanism could be developed for farmers and other stakeholders to be able to equitably share water among themselves.

Thus, the participatory action research approach (Whyte, 1991) and the co-management approach developed by Ostrom (1990; 2009), and Schlager and Ostrom (1992), were employed. Under the participatory action research approach, stakeholders were identified and a co-management model of water resources was established for equitable and sustainable water sharing among various water users.

The participatory GIS was used to locally map and visualise water resources, irrigation system, and drought issues and make these clear at commune level. In this process, local knowledge, maps showing streams, lakes, rivers, and drought-prone rice production areas were used as inputs to make the GIS map. A series of meetings was organized to discuss the situation, identify and prioritize solutions; this then resulted in the implementation of a water-sharing mechanism as the selected equitable solution for all stakeholders.

The water-sharing mechanism became operational during the summer/autumn rice season of 2015 at the commune level in Tho stream and at the district level in Mo stream. Within a short time, stakeholders reached consensus in using the mechanism; they achieved good results during the implementation. Although the stakeholders still experienced water shortage, its severity was reduced because of the water-sharing scheme. Generally, they felt a more positive attitude towards sharing water among themselves. At the end of the season, a participatory monitoring and evaluation meeting was held where stakeholders decided to continue the mechanism and identify financial resources to sustain future implementation when more droughts are expected both due to water shortage and climate change. A study to understand further the magnitude of the drought and the impacts of climate change on water shortage is thus recommended.

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