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## Perception and Management of Water Resources in a Changing Tropical Rainforest Margin of Central Sulawesi, Indonesia

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### Abstract

Water as an essential common pool resource is more and more focused in different disciplines around the world. As a part of the ecosystem and a resource for human nutrition water plays a major role in societies' organisation and land use strategies, even in humid tropical zones. Therefore further knowledge about utilisation, perception and management of water is indispensable to a broader understanding of the cultural and natural landscape as a complex system.

Quantitative and qualitative interviews were conducted in selected households of two sample villages. The main focus of the household interviews was on the perception, use and management of water. The expert interviews had a focus on an external view of intervening parties. This combination allows for a reliable interpretation of the data.

Perception: It is important to note that deforestation and land use are seen by the respondents as a main reason of changes in water quantity and quality. Deforestation is perceived as a direct cause of decreasing availability of water. This perception of the local people differs from results of natural sciences because the precipitation and runoff water measurements do not show the same correlation to deforestation processes as percept in the region. Anyhow, deforestation is, in general, increasing the runoff. Other perceptions conform to natural sciences' outcomes, for example increasing dirt in the water due to erosion in consequence of higher precipitation.

Management: Furthermore the findings show revealing differences between the two villages in water management structures. The main reasons for these differences can be put down to the factors migration and population growth as well as to external intervention (e.g. community development programme of CARE). In addition, differing spatial structures of water supply can be found within both villages, showing clear differences due to the households' location. There are for example great differences in the households' applied technologies (e.g. in the pipe material), though the same sources are used. The explanation for these differences originates in the individual households' socio-economic status.

**Keywords:** Common pool resources, Indonesia, perception, tropical rainforest, water management