

# Living in a watershed: the role of traditional and local practices

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## **(a) Purpose of study or research hypothesis**

This study seeks to understand the traditional or local practices that are beneficial for watershed management, and identify how they can be best preserved, in montane mainland Southeast Asia. The study sites are two villages in the watershed area of the Kuang Si Waterfall in Luangprabang province, Lao PDR.

## **(b) Key issue(s) or problem(s) addressed**

When managing the watershed area of a water body, the concept of ‘integrated watershed management’ (IWM) emphasises giving due consideration to the livelihoods of the people living in the watershed area. To do so, it is important to recognise and work with the traditional or local knowledge and practices of the watershed residents.

## **(c) Methodology or approach used**

Using a participatory action research (PAR) approach, participatory co-research was conducted at Thapene village and Nong Khuay village from mid-2019 to early-2020. With the villagers, we first identified traditional/local practices that were plausibly beneficial for watershed health. For those traditional/local practices whose benefits were debatable or contestable, we developed hypotheses and tested them through field experiments. The results were then shared with the villagers. In Thapene village, the co-research topic was about waste management. The traditional way of life has been transformed in the past generation, after Kuang Si Waterfall was designated as a tourist attraction and villagers transitioned from shifting cultivation towards supporting the tourism-related services. We compared the amount and composition of waste produced by the zone with tourism activities and by the residential zone. In Nong Khuay village, the topic of the co-research was about soil management. Traditionally, upland swidden rice cultivation is characterised by no-till and having ground cover. We examined soil moisture, soil texture, soil infiltration rates and soil nitrates at four sites with different soil management practices – a vegetable garden, a bush fallow, a swidden rice field, a dry paddy rice field and a forest – to understand how soil quality, and consequently health, could be affected.

## **(d) Results or conclusions derived from the project**

At Thapene village, the waste produced by the zone with tourism activities comprised more single-use plastics than the residential zone. Although villagers know about traditional alternative to plastics, e.g. bamboo cups, banana leaves, external support is needed to reinvigorate them so that they are more prevalently practised. At Nong Khuay village, it was concluded that ‘tilling versus no-till’ and ‘having ground cover versus no ground cover’ are false dichotomies: it is equally important to note how the tilling was done or what kind of ground cover was applied. Villagers need to be engaged in a discussion about the importance of taking care of the soil, and this can be facilitated during agricultural extension activities by the government or community development organisations.

## **(e) Implications of the project relevant to congress themes**

By introducing PAR as a methodology for integrating traditional/local knowledge with science, and by

identifying levers for the continuity of traditional/local practices, this study contributes to understanding how watershed health can be protected in collaboration with its residents.

**Keywords :** traditional/local practices  
participatory co-research  
watershed health  
waste management  
soil management