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Adaptation From Maladaptation: A Case study of Community-Based Initiatives of the Saddang Watershed

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Abstract

Over the last few decades, numerous countries have invested vast sums of money and resources in addressing the effects of climate change through adaptation and mitigation measures. Part of these actions, however, resulted in maladaptation. This research investigates the adaptation response to climate change that (potentially) becomes maladaptation for both upstream and downstream watershed communities. This research uses a watershed approach located in the Saddang watershed, one of Indonesia's priority watersheds. The primary data were obtained from observation and in-depth interviews with villagers directly affected by extreme weather (droughts and floods) occurred between 2009 and 2020. The examination of satellite imagery yielded secondary data that revealed changes in land cover, sedimentation, and river flow. This study reveals that by applying a watershed approach, forms of maladaptation are found in the upstream area and have detrimental effects not only on the area itself, but also to the downstream. The upstream deforestation occurring in the period was closely related to the adaptation responses (maladaptation) to the effects of a long drought, which is likely to form a vicious circle between adaptation and exacerbating the impacts of climate change in the coming years. In addition, upstream maladaptations make downstream areas more vulnerable: they divert and create new hazards, and therefore vulnerability of other groups, although some positive examples of adaptation are also found downstream. Programs labeled "climate resilience" with increased food security are applied in both upstream and downstream regions, triggering maladaptation that has a wider impact and illustrating the non-consolidation of adaptation actions that take into account a watershed as a distinct landscape.