

## **Livelihood profiling and sensitivity of livelihood strategies to land cover dynamics and agricultural variability**

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With population increase and the urbanisation of rural areas, land scarcity is one of the biggest challenges now faced by communities in agrarian societies. At the household level, loss of land can be due to physical processes such as erosion, to social constraints such as inheritance, or to financial constraints such as loan reimbursement or the need of cash. For rural households, whose livelihoods are mainly based on agriculture, a decrease in the area of land cultivated can have significant consequences on their livelihood strategies, thus on their livelihood outcomes. However, it is still unclear how changes in cultivated area and agricultural productivity influence households' livelihood systems, including community capitals and households' livelihood strategies.

This study aims to answer this gap by combining together earth observation from space, national census and participatory qualitative data into a community-wise analysis of the relationships between land cover dynamics, variability in agricultural production and livelihood activities. Its overarching aim is to investigate how land cover dynamics relates to changes in livelihood strategies and livelihood capitals. The study demonstrates that a change in land cover influences livelihood activities differently depending on the community capitals that households have access to.

One significant aspect of integrating land dynamics with livelihood activities is its capacity to provide insights on the relationships between climate, agriculture, livelihood dynamics and rural development. More broadly, it gives policymakers new methods to characterise livelihood dynamics, thus to monitor some of the key Sustainable Development Goals: food security (SDG2), employment dynamics (SDG8), inequalities (SDG10) and sustainability of communities (SDG11).