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Local Management Practices for Dealing with Change and Uncertainty: A Cross-scale Comparison of Cases in Sweden and Tanzania

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ABSTRACT

We investigated and compared management practices for dealing with uncertainty in agroecosystem dynamics in two cases of smallholder farming in different parts of the world: northeast Tanzania and east-central Sweden. Qualitative research methods were applied to map farmers' practices related to agroecosystem management. The practices are clustered according to a framework of ecosystem services relevant for agricultural production and discussed using a theoretical model of ecosystem dynamics. Almost half of the identified practices were found to be similar in both cases, with similar approaches for adjusting to and dealing with local variability and disturbance. Practices that embraced the ecological roles of wild as well as domesticated flora and fauna and the use of qualitative biological indicators are identified as tools that built insurance capital for change and enhanced the capacity to respond to changing agroecosystem dynamics. Diversification in time and space, as well as more specific practices for mitigating pest outbreaks and temporary droughts, can limit the effects of disturbance. In both Sweden and Tanzania, we identified social mechanisms for the protection of species that served important functions in the agroecosystem. We also found examples of how old practices served as a source of adaptations for dealing with new conditions and that new knowledge was adjusted to local conditions. The study shows that comparing management practices across scales and in different cultural settings can reveal insights into the capacity of farmers

[\[FIG. 1\]](#) [\[TABLE 1\]](#) [\[TABLE 2\]](#) [\[TABLE 3\]](#) [\[TABLE 4\]](#) [\[TABLE 5\]](#) [\[APPENDIX 1\]](#)