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## Validity vs. Feasibility? - Monitoring Ecological Effects of the Extraction of Non-timber Forest Products in Developing Countries

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### Abstract

Small-scale commercialisation of non-timber forest products (NTFPs) has been widely advocated as an option for income generation in rural woodland areas of developing countries. It was claimed to often be environmentally sustainable even without regulation, therefore posing an attractive alternative solution to destructive logging and land conversion activities. However, scientific research and practical experiences have given evidence that each commercial extraction a non-timber forest resource entails measurable ecological effects. These vary in detail with the amounts and plant parts harvested, the techniques used and the management procedures in place. Against the background of these risks and the complexity of woodland dynamics, ecological monitoring, i. e. the repetitive observation of biotic and abiotic parameters in the concerned areas, is of a crucial importance. The paper summarises an analysis of framework conditions und practical requirements for an expedient system of ecological monitoring for NTFP-related projects at the example of SAFIRE (Southern Alliance for Indigenous Resources), a Zimbabwe-based regional non-governmental organisation that facilitates extraction of various types of NTFPs by rural communities. It describes the process of developing an appropriate set of methods and presents the final ecological monitoring system as well as first experiences in its implementation. The methodology that was developed was meant to be adapted to the needs of the organisation, integrated into its procedures, applicable to varied NTFP commercialisation projects and compliant with various framework requirements. The process and the product are indicative of dealing with the challenges faced by ecological monitoring in NTFP-related initiatives in developing countries: the lack of reliable baseline data, the need to define and use highly aggregated core indicators, limited financial, technical and human resources and difficulties in deducting evidence for long-term trends from locally and temporally limited natural phenomena. Inter alia, the outputs emphasise how scientific rigour and the necessity for reliability and accuracy have to be carefully weighted against motivation, skills and restrictions of different stakeholders and available resources.

**Keywords:** Ecological monitoring, forestry, non-timber forest products, rural development, sustainable land-use, Zimbabwe

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