

Research Application Summary

**Stakeholders' views and perceptions on emerging conflicts with respect to apiculture in the western Usambara mountains, Tanzania**

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**Abstract**

The study identified key stakeholders and their interests and analyzed socio-economic factors influencing the perceptions and resource use conflicts of apiculture as an intervention towards improved natural resource management (NRM) by local communities in Lushoto district in Tanzania. Opinions from 98 respondents selected through a purposive, stratified simple random sampling were analysed using descriptive and inferential statistics. Results showed that the majority of the farming community (61.4%) perceived apiculture as a reliable source of income and would adopt it as a complementary activity. There was a significant relationship between occurrence of resource use conflicts and age ( $P = 0.044$ ); nature of conflict ( $P = 0.006$ ); level of interest ( $P = 0.038$ ) and duration of residence in the area (0.091). Farmers in the area had favourable perception towards apiculture. Measures should therefore be taken to sustain the favourable attitude of farmers towards apiculture to enhance NRM. In order to promote apiculture industry in Lushoto district, the study recommends a stepped up and focussed approach for mobilisation of beekeepers, capacity building and establishment of coordinated marketing system.

Key words: Beekeepers, deforestation, environmental management, farmer attitude, natural resource management

**Résumé**

L'étude a identifié les principaux intervenants et leurs intérêts et ont analysé les facteurs socio-économiques qui influencent les perceptions et les conflits dans l'utilisation des ressources de l'apiculture comme une intervention en matière de gestion améliorée des ressources naturelles (GRN) par les communautés locales dans le district de Lushoto en en Tanzanie. Les opinions de 98 répondants sélectionnés à travers un objet, l'échantillonnage stratifié aléatoire simple ont été analysées à l'aide de statistiques descriptives et différentielles. Les résultats ont montré que la majorité de la communauté agricole (61,4%) utilise l'apiculture comme une source fiable de revenus et l'adoptera comme une activité complémentaire. Il y avait une

relation significative entre la présence de conflits d'utilisation des ressources et l'âge ( $P = 0,044$ ), la nature du conflit ( $P = 0,006$ ), le niveau d'intérêt ( $P = 0,038$ ) et la durée de résidence dans la zone (0,091). Les agriculteurs de la région avaient la perception favorable à l'apiculture. Des mesures devraient donc être prises pour maintenir l'attitude favorable des agriculteurs vers l'apiculture afin d'améliorer la GRN. Afin de promouvoir l'industrie apicole dans le district de Lushoto, l'étude recommande une approche renforcée et ciblée pour la mobilisation des apiculteurs, le renforcement des capacités et l'établissement du système de coordonnées de commercialisation.

Mots clés: Apiculteurs, la déforestation, gestion de l'environnement, l'attitude des agriculteurs, la gestion des ressources naturelles

## Background

Unabated natural resource degradation continues to threaten food and income security as well as the general livelihood of the majority population and environmental integrity in SSA region (Chamshama and Nduwayezu, 2002). Pressure and competition on natural resources due to increasing population (Halperin and Shear, 2005; resource degradation and commercialization is intensifying on both governments and communities. Extensive deforestation and encroachment on marginal lands has led to reduction in land cover (FBD, 2005) widespread runoff and erosion siltation and pollution of water bodies. Research and development in SSA have developed many technologies to mitigate production constraints and improve natural resource productivity. However, uptake of results has been limited especially among the poor and vulnerable groups (Lalika *et al.*, 2005). Frequently cited reasons include inability of small scale producers to invest in natural resource management (NRM) (Berkes *et al.*, 1998), inadequate information flow and diverging community needs and interests (Sanginga *et al.*, 2007). Thus new approaches to NRM need to be participatory, locally based and sensitive to people's problems, priorities, interests and perceptions (Sanginga, *et al.*, 2007) and combining resource conservation and livelihood improvement. However, NRM is principally a function of environmental governance, which is largely determined by the institutions that control what happens to a given resource through the allocation and enforcement of rights of use, access, tenure and transfer (Zahabu *et al.*, 2009). According to Tanzania Natural Resource forum (TNRF) (TNRF, 2009), the quality and equity of governance fundamentally

determines how natural resources are managed, support livelihoods of communities and economic development of the country. Efforts to improve NRM should therefore address fundamental issues including accountability, transparency (Méthot *et al.*, 2006) and well managed ecosystems that generate sustainable services and values needed by a diverse range of people and interests (Halperin and Shear, 2005). This study was conducted to assess diverging stakeholders' interests, perceptions and emerging conflicts in resource access and use with respect to apiculture in the West Usambara Mountains (WUMs), Tanzania.

### Literature Summary

In Tanzania, land degradation is rampant particularly forest clearing, degradation of water sources and river banks. Over 75% of the Tanzania's population resides in rural areas where people rely upon agriculture and other natural resource uses (Zahabu *et al.*, 2009). Consequently, the link between rural livelihoods and natural resource management is of fundamental importance to national prospects for economic growth and poverty reduction. Natural resource management, in turn, is principally a function of environmental governance. However, stakeholders diverging interests, perceptions and the emerging conflicts are key challenges that need to be addressed if the situation of land degradation is to be reversed. A reversal of environmental degradation requires livelihood options that change people's incentives, in particular the benefits and costs of resource use. In Tanzania, apiculture is one such land use that has potential for conservation of natural resources while at the same time provides sustainable livelihoods to the communities. The study examined stakeholder views on apiculture farming in Usambara mountain area in Tanzania.

### Study Description

Information was collected from a total sample size of 98 respondents comprising 65 males and 33 females. The respondents were drawn from three zones namely, cold humid (Lushoto Boma/Migambo, n=36); cold dry (Lukozi/ Malindi, n=32) and dry warm (Mwangoi, n=30). Purposive, stratified and random sampling techniques were used in selecting study units. Participatory rural appraisal, focus group discussions, key informants survey, participant's observation and Questionnaire methods were employed in data collection. Both descriptive and inferential statistical analyses were carried out using SPSS version 16). Binary logistic regression model was used for data analysis.

## Findings

The results of regression analysis indicated positive relationships between level of perception and age ( $b = 0.232$ ); access to information ( $b = 2.753$ ) and awareness of the role of beekeeping in NRM. This implied that the higher the age, the access to information and the higher the awareness of the role of beekeeping in NRM of the respondents the more favourable their attitude towards NRM. However, these results were not significant at 0.10 significant levels.

A significant but negative relationship existed between occurrences of resource use conflicts and age ( $P = -0.044$ ) and nature of conflict ( $P = -0.006$ ). While there existed a significant and positive relationship between occurrences of resource use conflicts and level of interest ( $P = 0.038$ ) and duration of stay in the area ( $P = 0.091$ ) there was no significant relationship between household size, level of education, market availability, land owned and social position.

## Research Application

The community perceive apiculture as a farming system that could be adopted as a subsidiary economic activity rather than major economic activity. Conflicts flourish in an environment involving shared natural resources where there are resources for which decisions have to be made regarding access, utilization, rights and benefits that have to be assigned. Insecurity of tenure promotes open access to natural resources. The nature of natural resource use conflicts vary among various stakeholders depending upon their interest, motivations, knowledge and resources (competing demands and attaching different values).

There is thus need to recognize social heterogeneity of communities and diverse user groups, examine the incentive structure in NRM, improve understanding of stakeholders likely to get involved in managing natural resources, and examine how the objectives of different stakeholders may change from time to time before an area is given protection status. Land tenure issues have to be spelt out clearly.

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