

**Fluctuation of bee products production and its implication to community
livelihood: a case study of Mlele District**
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Beekeeping plays a major role in socio-economic development, in terms of improving biodiversity, environmental conservation and increasing crop production through pollination. Despite its importance, bee products production has been fluctuating, thus limiting the benefits accrued. This study assessed the fluctuation of bee products production and its implication to livelihood of Mlele District. Literature review, satellite image interpretation, household questionnaire study, field observations, key informant interview and Focus Group Discussion methods were used to complement each other in data collection. The findings show that, bee products production in the study area are fluctuating with a declining trend consistently with positive correlation ($R^2 = 0.51$ for honey and $R^2 = 0.79$ for beeswax respectively) with time. The reasons for the decline are linked with climate variability, pest and predators, involvement of beekeepers in tobacco cultivation and transitional period from the use of bark to log or box hive among the others. The study reveals also that the fluctuation of bee products production affects community livelihood with respect to reduction of family income, resort to high interest loans, and engagement in tobacco cultivation, poaching and honey hunting incidents. The residents also fail to pay school fees, family projects become stagnant among the others. Given this situation, household have adopted different coping and adaptation strategies such as cultivation of groundnuts and tobacco cultivation among the others which consequently contributed to substantial changes in land use/cover. Equally important is the need to identify alternative means of livelihood so as to reduce community dependence on tobacco production as it degrades bee resources as well as leading to the decline of bee products production.