

HRE032-P03

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## Forest Resource Use and Livelihood Strategies of Smallholders in Central Kenya

Tadayoshi Tada<sup>1\*</sup>, KAUTI, Matheaus Kioko<sup>2</sup>

<sup>1</sup>Tohoku University, <sup>2</sup>South East University College

African countries, which have been forced to introduce neo-liberal structural adjustment with a view to solving the economic crisis, have been concerned about livelihood strategies adopted by smallholders, especially the state of livelihood diversification, in order to investigate and alleviate the poverty problem. Each household is trying to realize their livelihood security, not by specializing in a single activity, but combining multiple activities. However, the existing researches tend to underestimate the economic value of forest resources. It is therefore hard to say that livelihood status and/or livelihood strategies are properly understood. To capture livelihood strategies with properly estimating forest resource use by smallholders is essential in African countries that are seeking to implement community-based forest management (CBFM) to avoid depletion of forest resources.

Therefore, this study discusses the role of forest resource use in the livelihood strategy of smallholders, quantitatively measuring the dependency of their livelihood on forest resources in Central Kenya. In addition, this study clarifies where and how much smallholders extract forest resources, and the extent to which the forest resource use contributes to earn cash income that exceeds the level of subsistence. Forest resource use and livelihood strategies adopted by the households reflect their geographical conditions and socio-economic stratification. Thus, this study employs a comparative research method in two settlements adjacent to two Forest Reserves which are accordingly different in terms of resource management and geographical conditions. Smallholders' dependence on forest resources is estimated by the calculation of annual production flow of various activities, and compared and discussed by following three points: 1) The proportion of forest resources to the total annual production (forest resources dependency rate); 2) Own consumption/commercialization rate of forest resources; 3) The relative importance attached to different sources of forest resources (forest reserve own land ratio). After that, it discusses; 4) The factors with which this study differentiate a variety of forest resource use by classification of net income components. As for source of forest resources, this study pays attention to; 5) Management of Forest Reserve; 6) Farm forestry management by smallholders.

As a result, I obtained the following results: 1) Production overall percentage of forest resources is on average 20 percent each strata, but the absolute quantity is a big difference; 2) Own consumption rate of all strata about forest resources exceeds 90 percent, which indicates forest resources contribute to sustaining their livelihood; 3) The character of settlements, geographical conditions and household stratification correspond to the relative importance attached to different sources of forest resources; 4) The data show a high correlation between on-farm activities and firewood obtaining activities of sample households, which indicates that the nature of on-farm activities is the main factor controlling forest resource use; 5) The relative importance attached to different sources of forest resources changes according to the management of Forest Reserve, which shows the importance of considering not only geographical and socio-economic conditions of smallholders but also the existence of their self-help groups; 6) In the drought-prone settlement, smallholders plant more trees. Regardless of their socio-economic stratum, the households plant more trees in their own land, stocking up more firewood obtainable from pruning. The findings of this study indicates that the prevailing underestimation of forest resource contribution to rural livelihood is untenable, and that with focusing on the relative importance attached to different sources of forest resources, livelihood strategies and the role of forest resource use can be evaluated by quantitative data.

Keywords: Forest resources, Livelihood strategies, Farm forestry, Forest reserve, Republic of Kenya