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Farmer’s Perceptions of Land Degradation in South Kivu, Eastern DR Congo

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Abstract

The Kivu dorsal in South Kivu is characterised by variable rainfall conditions, and a diversity of soils and cropping systems. Furthermore, socioeconomic contexts vary widely both in terms of population density and their access to land, agricultural extension services, road infrastructures and markets. These factors are expected to affect the degree of pressure on soil resources. This study aimed at assessing how the diversity in biophysical and socioeconomic contexts affect crops choice, and farming practices in South-Kivu and the resulting status of soil degradation as perceived by farmers. Household and community surveys were carried out in eight watersheds from four territories dominated by smallholder farming systems in South Kivu. Survey data were assessed based on percentage frequency; descriptive statistics; factor analysis and chi-square methods. Result showed that heterogeneity was observed at different scales (territory and watershed) due to biophysical and socioeconomic contexts, and farmer’s perception of the status of degradation was affected by this variability. Based on the farmers’ own criteria (possessed lands, types of cattle, access to markets...), four types of farm were identified and described, and their important characteristics outlined. In most watersheds (more than 74%), erosion was the main cause of degradation. More than 10 crops were grown to satisfy food requirements and agricultural practices were associated depending on each site and their available means. The hierarchical ascending clustering analysis made for these three criteria (crops, practices and degradation status) has shown strong links between the topographical location and the status of degradation, the status of degradation and crops as well as the practices adopted in farmer’s fields. But regarding the farming practices, differences were very small across sites. Similar trends were observed in both watersheds of each territory and were often characterised in the same way, in terms of degradation status or in terms of adopted crops. Overall, analysis of soil degradation processes was better understood after analysing socioeconomic and biophysical contexts of the concerned areas.

Keywords: Agricultural practices, eastern DR Congo, farming system, soil degradation, South-Kivu, watershed