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Horticultural Crops Diversity and Cropping in the Smallholders Home Gardens in the Transitional Area of Yayu Coffee Forest Biosphere Reserve, Ethiopia

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Abstract

Yayu Biosphere Reserve (YBR) is part of the Eastern Afromontane Biodiversity hot/-spot located in Illu-Adbabor, Ethiopia. This reserve is a centre of coffee genetic resources and the origin of many other indigenous horticultural crops. The YBR has three parts with the central Core, followed by Buffer and the external Transitional area. The Transitional area covering 70.5 % of the YBR is dominated by smallholders with different land-use systems. This smallholders grow coffee, horticultural crops and other crops together. Our survey was conducted in home gardens to identify diversity and crop combinations of horticultural crops cultivation and utilisation. Multistage sampling was used, first selection of two districts- Yayu and Hurumu, followed by selection of two villages in each district to arrive at a total of 40 sample gardens bordering the YBR. A detailed data on the crops diversity, combinations, utilisation and cropping systems were collected. The survey results also showed that many horticultural crops grow in all home gardens and a total of economically 25 fruit, 20 vegetable, 15 root and tuber crops, nearly 25 spices, herbs and oil bearing plants, 3 stimulants and many hundreds of African indigenous fruits, vegetables, root and tuber, spices and herbs were recorded in the sample home gardens. This clearly showed that food source diversification and smallholder income generation are an untapped potential that could substantially contribute to nutrition security including low livelihood status of almost all smallholders in the area. Diversity of cropping systems such as double cropping, inter cropping, multistory cropping and others were observed in most gardens. However, all farmers replied that there are no improved technologies for horticultural crop production. Almost all farmers use local varieties with unimproved management practices obtaining very low yields and quality. Thus research should give attention on adding value to potential crops and the home garden cropping system in the area should also be further investigated with the identification of smallholder development interventions so that social development in parallel with resource conservation can be achieved.

Keywords: Biosphere, crop diversity, home gardens, smallholder farmers

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