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Identifying Value Webs of Biomass-based Resources for Household Food Security: the Case of Local Actors in Ghana

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Abstract

The biomass sector is particularly important for supplying essential food and non-food biomass-based resources to many people and countries for a wide range of uses. Yet there is limited deliberation on these important biomass-based resources in Ghana to ensure improved rural household food security. This study was specifically carried out in the Northern and Upper East regions of Ghana to document various kinds of biomass-based resources and their cultural importance to local actors, examine socio-demographic factors influencing local actors' knowledge base on biomass-based resources and identify value webs, challenges, and future actions for sustainable use of biomass-based resources. Individual interviews (using structured questionnaires) were performed to cover 180 local actors in six rural communities. Given the findings of this study, cereals, e.g., maize (*Zea mays*), Guinea corn (*Sorghum bicolor*), rice (*Oryza sativa*), millet (*Pennisetum glaucum*), and legumes, e.g., groundnuts (*Arachis hypogaea*) are cultivated as major crops in the study areas and also considered by local actors as the most culturally important food crop species, while tubers and vegetables are considered minor crops and less culturally important. Ethnicity and residential status of local actors significantly influence local knowledge base on biomass-based resources. Also, the value webs of selected food crop species and their residues are not elaborately developed by local actors and still remained simple and traditional in nature, since no cascading uses of biomass by-products were identified. The local actors mentioned a plethora of challenges, which are largely in the nature of inadequate economic, social, logistics, marketing, soil health and climate-related issues as they negatively affect various stages of their biomass-based production, processing, storage, transportation and trading at the community level. Future actions were thus proffered by local actors, including central government financial support, agriculture-related education, good road networks, ready markets and reduced cost of farm labour. The sustainable utilisation and management of these biomass-based resources and more local value addition are required to help improve local actors' livelihoods, increase family incomes and enhance household food security in poor and vulnerable rural communities.

Keywords: Biomass-based resources, food security, local actors, smallholder farmers, value webs

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