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Community-level Analyses of Food and Non-food Biomass-based Value Chains/webs for Food Security: Using Experiences from Local Actors in Northern Ghana

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Abstract

The biomass-supplying sector is a crucially important sector responsible for the provision of agricultural products to meet the growing global food demand. It is not therefore surprising that enactment of friendly policies on bioeconomy is receiving increased attention to help address food insecurity issues across the globe. Expectedly, there are numerous challenges confronting this sector in the production, processing, storage, trading and transportation of both food and non-food biomass resources especially in the developing economies. This study aims at: (i) documenting varied food and non-food biomass resource types used by local actors, (ii) describing flows of matter, information and money for their utilisation and (iii) assessing value chains/value webs, bottlenecks and proposed solutions for their use. To achieve aforementioned research objectives, we performed 180 individual interviews with smallholder farmers and aggregators in Northern Ghana. The data were subjected to descriptive statistical, cognitive salience and univariate analyses using SPSS and Anthropac softwares. Our study revealed that smallholder farmers and aggregators were dealing in various kinds of food and non-food biomass resources. Also, the flow of matter from cereals, legumes, and tubers were mainly transported from farms to homes after harvest and then to local markets. The flow of matter is aided by use of human strength, bicycles, motorbikes, tricycles and donkeys, constituting about 76.5 % of informants, while 23.5 % of them could afford modern tractors for farming and transporting of farm produce. Additionally, about 52 % of informants obtained farming-related information from fellow farmers, while 29 % and 19 % of them received information from extension officers and media/radio respectively. As low-income earners, local farmers engage in low-tech way of farming, derive their income from sale of some of their harvested crops and use such income to meet their expenditure needs. Moreover, this study identified weak value webs among local use of most culturally important crops. The weak value webs identified is reflection of no value addition and dependence of local farmers on rain-fed agriculture and labor-intensive subsistence farming. This study at the community-level on food and non-food biomass-based value chains/webs is relevant for policymakers and scientists to ensure food security in Ghana and beyond.

Keywords: Biomass resources, bioeconomy, food security, Ghana, local actors, value chain, value web

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