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Farmers’ Use and Preferences of Trees in Bauchi State, Nigeria

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Abstract

Trees play an important role to people of Bauchi State in many ways such as providing organic supplement to crop fields and most of the trees have multiple uses in form of productions such as medicine and fruits or services such as windbreaks and shades. Local farmers plant trees for the myriad of these uses which include: providing fuel wood, animal feeds, timber and stakes among other uses. The study aimed to identify the most important use of tree species by the farmers in Bauchi State, Nigeria. We also aimed to identify their preferences of tree species, to assess their abundance, identify agroforestry design and spatial distribution on farms. The fieldwork was conducted from June to September 2018 in both lowland and highland of Bauchi State. In total, 83 farmers were interviewed by semi-structured questionnaires while 52 tree species and their uses were identified in both agroecological zones. The results showed that farmers rely mostly on fruit and medicinal tree species such as *Mangifera indica*, *Citrus spp.*, *Anacardium occidentale*, *Psidium guajava*, *Azadirachta indica*, *Jatropha curcas*, *Moringa oleifera* and *Adansonia digitata*. Besides fruit and medicinal trees, service functions of trees such as fencing, shading, wind breaks play a crucial role. However, using trees for soil improvement was reported only in lowlands. Regarding the species preferences, *Adansonia digitata* has the highest priority among the farmers in the lowland, while *Parkia biglobosa* is the most preferred in the highland. *Moringa oleifera* was the most abundant species in both agroecological zones. In agroforestry systems, scattered trees were the most preferred in both lowland and highland while bush field was the most preferred location of farms in lowland and village field, the most preferred location in highland. To conclude, as no use of timber tree species was cited in both agroecological zones, we suggest farmers should incorporate timber species on their farms, especially *Pterocarpus erinaceous*, an indigenous tree that is known to grow fast and serve both as timber and medicinal species. Policy makers should introduce improved varieties of most preferred species. In the future, more studies have to be conducted on medicinal used trees in the study area as it was the second most mentioned use.

Keywords: Agroforestry, lowlands vs. highlands, multipurpose tree species, savannah, Sudan-Sahel zones