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Indigenous tree species reforestation: An adaption measure to climate change in central Uganda

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Abstract

Human-induced causes of climate change in Uganda have made the country vulnerable to climate change since the dawn of the 21st century (Mafuta, et al. 2010). Among these, is deforestation which has seen three-quarters of the forest cover in Uganda exploited for agriculture and industrial development (Magala, 2015). It's these forests that assist in rainfall formation and thus better seasonal crop growing and yields among the rural farming communities. Besides, seasonal crops are the determinant of the survival of rural community farmers who are engaged in mixed farming both crops and livestock production. For that reason, the effects of climate change like long dry spells, and changing rainfall patterns, have greatly impacted the farmers in rural areas of Uganda. Being seasonal crop farmers implies that farming is entirely dependent on rainfall which is received annually between 1500–2000mm per annum in the central region of Uganda. This challenge prompted action research, which was carried out in the aforementioned area, whose intervention was indigenous tree reforestation and fruit tree growing for food security as an adaptation measure to climate change. The response from the community of interest was tremendous and thus, a gradual change of mindset toward environmental protection.

The methodology employed was participatory action research, which took four years 2018–2021. This research used the cyclical methods of action research, which involved 20 households as the community of interest. The purpose of fruit growing was meant to boost food security and nutritional diet for the households. Besides, it was a strategy to enable farmers to plant and care for the indigenous tree species. Within three years the farmers were able to harvest, Papaya, guavas jackfruit, and mangoes. By the time we concluded the four cycles, we had planted more than 5,000 trees on fragmented pieces of land (each farmer's piece of land) and a community forest with indigenous tree species on one acre of land. The action research enabled farmers not only to develop adaptation measures to climate change but also to protect the environment and its biodiversity, and thus promote co-existence in the ecosystem.

Keywords: Indigenous tree species, climate change, reforestation

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