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"Global food security and food safety:
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On the Contribution of Planting and Use of Underutilised Local Food Tree Resources for Food Security and Biodiversity Conservation in Uganda

Bendicto Kabiito[1,2], Jens Gebauer[2], Rolf Becker[3], Dietrich Darr[2]

[1] *Uganda Martyrs University, School of Arts and Social Sciences, Uganda*
[2] *Rhine-Waal University of Applied Sciences, Fac. of Life Sciences, Germany*
[3] *Rhine-Waal University of Applied Sciences, Fac. of Communication and Environment, Germany*

Abstract

Trees and forests are fundamentally important for the survival and wellbeing of humans and other ecological communities. They provide regulating, provisioning, cultural, aesthetic and supporting services; from air purification, climate regulation, carbon sinking, and water cycling, to fuel, timber, medicines, fodder, construction and fencing material. They facilitate soil formation, prevent its erosion, and provide habitat for and protection of biodiversity. Food-bearing trees play an even higher role; in addition to the values above, they provide food and for nutritional needs of humans, livestock and wildlife. Food-bearing trees are rich sources of vitamins, minerals, proteins, fats and other nutrients, thus capable of increasing food security and reduce malnutrition among beneficiary communities. A number of these (wild) food trees are underutilised; they only have local importance, lack markets, are hardly researched, and there are negligible efforts towards their protection, conservation or domestication.

While loss of tree resources is linked to increasing malnutrition, food insecurity, biodiversity loss and vulnerability of rural communities to climate change impacts, deforestation and monocultures continue to threaten habitats and natural recruitment capacities of these food trees. For instance, Uganda's natural forest cover has reduced from 12.1 million hectares in 1890 to 2.9 million hectare in 2012, with a significant effect on indigenous flora,being exacerbated by the emerging monocultures of eucalyptus, pine, and oil palm trees.

Upon this backdrop,this study seeks to evaluate and comparatively assess the social, cultural, ecological, and economic services/benefits of four food tree species: *Canarium schweinfurthii; Vangueria acituloba; Pseudospondias microcarpa* (indigenous), and *Syzygium cumini* (naturalized) with the aim to promote their use in reforestation, afforestation and agroforestry systems of Uganda. This study is being undertaken in Lake Victoria crescent agro-ecological zone, involving a survey of 400 households and 40 in-depth interviews with farming households, foresters, forest experts and investors and local government leaders.

Results will establish the importance and multiple benefits of the investigated tree species for local livelihoods, human and animal nutrition, environmental conservation and climate protection. Conclusions drawn will refer to the possible conservation, domestication, and utilisation of these tree species in central rural Uganda.

Keywords: Agro-forestry, climate protection, deforestation, environmental conservation, livelihoods

Contact Address: Bendicto Kabiito, Uganda Martyrs University, School of Arts and Social Sciences, Kampala, Uganda, e-mail: bkabiito@umu.ac.ug