Tropentag, September 16-18, 2026, hybrid conference

"Towards multi-functional agro-ecosystems
promoting climate resilient futures"

Harnessing neglected species for climate-resilient food systems: Domestication potential of *Bosqueia angolensis* in Nigeria

Chinasa Patience Omeje[1], Torkuma Solomon Tsegba[2], Chinazom Eze[1], Jessica Odo[1]

[1] *University of Nigeria, Dept. of Food Science and Technology, Nigeria*
[2] *Benue State University, Dept. of Chemistry, Nigeria*

Abstract

To attain the goals of climate-resilient food systems in West Africa and more specifically in Nigeria, there is a need to shift towards multi-functional agro-ecosystems, which incorporate biodiversity, nutrition, and sustainable livelihoods in addition to grow well in adverse environments. Neglected and underutilised species (NUS) are increasingly recognised as critical yet underexploited components of such systems. We evaluate the domestication status, constraints, and integration potential of *Bosqueia angolensis* (Oze seed), a native forest species known by common names such as urn-fig, false-fig, and sometimes Venda fig. It is a tropical rainforest tree that produces a thick, edible seed (kernel or nut), typically roasted and consumed as a snack in southeastern Nigeria, and is also characterised by high latex content, but has not been widely adopted in commercial agriculture. Using ethnobotanical knowledge and available evidence on the composition, *B. angolensis* is still in a pre-domestication phase, with wild harvesting and minimal use. Its marginalisation represents major obstacles, such as absence of propagation protocols, ecological reliance on forest habitat, ineffective market and policy support of NUS in general. Notably, *B. angolensis* shows high protein value, good essential amino acid composition, and high iron and zinc content. This makes the species a promising locally available solution to counter energy-protein malnutrition, providing a means to address nutrition and hunger needs in Nigeria and other similar environments. This work offers one of the earliest syntheses integrating domestication pathways, nutritional potential, as well as agro-ecosystem integration of *B. angolensis* into a climate-resilient food system context. We suggest that *B. angolensis* has good prospects of becoming a part of multi-purpose agro-ecosystems, especially in smallholder agroforestry systems which are common in southeastern Nigeria. Domestication of this tree in West African agro-ecosystems would potentially increase dietary diversity, enhance rural livelihoods and contribute to biodiversity. Ultimately, the integration of *B. angolensis* serves as a cornerstone for building ecological resilience and self-sustaining food futures in West Africa. The domestication of *B. angolensis* supports WEF Nexus objectives by strengthening food and nutrition security and encouraging sustainable natural resource management. This highlights its potential role in climate-resilient rural development in West Africa.

Keywords: Climate-resilient agriculture, hidden hunger, indigenous tree crops, micronutrient deficiencies, neglected and underutilised species (NUS), Nigeria, sustainable livelihoods, West Africa

Contact Address: Chinasa Patience Omeje, University of Nigeria, Dept. of Food Science and Technology, Nsukka, Nigeria, e-mail: chinasa.omeje@unn.edu.ng