
Agricultural Development and the role of legumes in Kenya

David W. Odee^{1,2}, Emmanuel T. Makatiani¹, and John O. Otieno¹

¹Kenya Forestry Research Institute, PO Box 20412-00200, Nairobi. ²E-mail: dwodee@gmail.com

Agriculture sector is the mainstay of Kenya's economy. It contributes ~30% to the Gross Domestic Product (GDP) of Kenya (*cf.* services and industry, ~50 and 20%, respectively), and is pivotal in enhancing food security and reduction of poverty hence achievement of the Sustainable Development Goals (SDGs), specifically #1 [No Poverty] and #2 [Zero Hunger]. Since independence, Kenya has developed several policy documents and regulatory frameworks in order to improve the agricultural sector. The far-reaching Kenya's Vision 2030 (2008-2030) is aimed at transforming the country to a newly industrializing middle-income country by the year 2030. Food security is at the top of priority list of the current administration's development agenda. However, agricultural sector continue to face challenges of land productivity, land use, and supply chains and value addition of agricultural products. Central to agricultural productivity is poor soil fertility and low inputs; for example, average fertilizer use averages 20-32 kg ha⁻¹. These challenges are most prevalent in the smallholder farming systems (averaging 0.2 – 3 ha in size), which account for 75 % of the total agricultural output and 70 % of the marketed agricultural produce in the country. Legumes such as the pulses (common bean, cowpea and pigeon pea) and the N₂-fixing trees and shrubs (NFTs, *Crotalaria* spp., *Tephrosia* spp., *Sesbania* spp., *Calliandra* spp. and *Acacia* spp.) are integral to the smallholder (and silvo-pastoral) systems, providing nutrition to the humans and livestock, and are also an important source of organic inputs for improving crop yields. Maize-bean intercrop is the most common legume-based cropping system, accounting 31% of total caloric intake, while NFTs may fix up to 300 kg N ha⁻¹ yr⁻¹ depending on species and soil fertility status. We highlight the importance of these legumes in Kenya, and opportunities for improvement in the framework of TRUE project.



Acacia senegal, the gum arabic tree, a vital NFT for people and economy in the drylands of Africa.