

2.4 Forestry

Savannah vegetation in the peri-urban areas of Tamale, Ghana.

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Traditionally, planting of trees has been integral and important part of human settlements in West Africa.^{2,12} Trees were planted around houses, providing fruits, nuts, seeds, leaves, fuelwood, fodder and raw materials and served for shade and windbreaks. In West African cities, trees are also part of the urban green spaces, including street trees, public parks, green space in residential and industrial areas, plantations, green belts, etc.

Urban forestry is considered a vital element in the urban green landscape, providing wood for construction and non-timber forest products such as fruits and medicine. The environmental services provided by urban forests and trees can also address problems associated with urbanization such as by reducing air pollution and creating microclimates.^{2,12}

Despite the multiple functions of urban trees and forests,

sustainable management is constrained by urban population growth and a related increasing demand for land and fuelwood.

In Tamale, trees and woodland significantly contribute to the urban green spaces, notably the two major forest reserves in the city center (Nyohini and Agric Forest Reserves; Figure 2.18).

Besides, trees are also found across the urban space along

streets, in house yards, grouped on vacant plots, and as single trees.

A land use classification based on

Urban trees provide an often overlooked contribution to food security and air quality.

SPOT satellite images at 1.5 m resolution (Figure 2.18) revealed that within the urban boundary of Tamale, trees and woodlands cover 855 ha, that is 9.4% of the entire area. To assess the importance of urban fruit trees for food supply in Tamale, the number of fruit trees in the city was estimated based on an *in situ* survey and the land use classification.

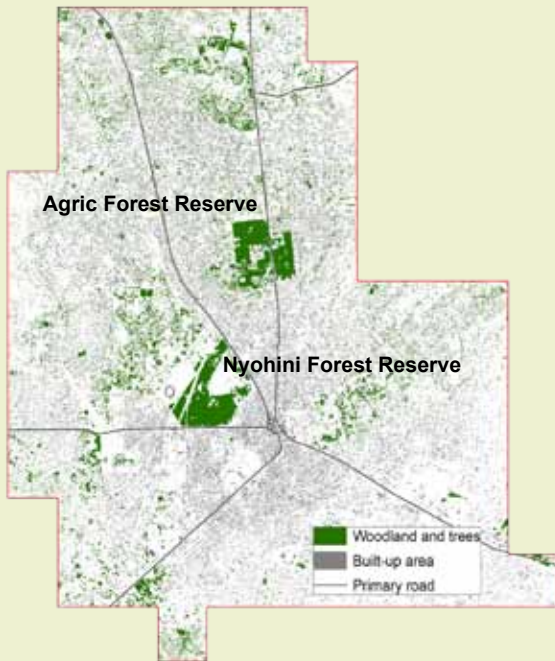


Figure 2.18. Woodland and trees within the urban boundary of Tamale, Ghana.

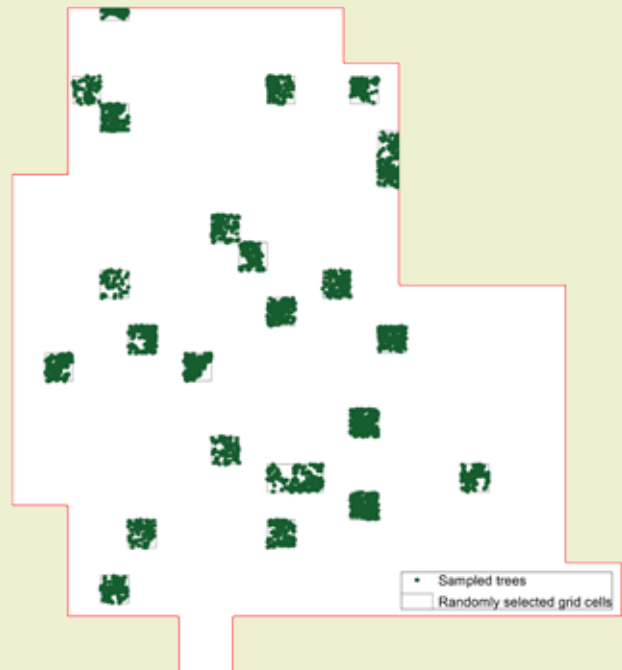


Figure 2.19. Trees sampled within 25 randomly selected grid cells in Tamale, Ghana.

Urban trees in Tamale

For the *in situ* study, 3,457 trees were sampled in 25 randomly selected grid cells of 25 ha each (Figure 2.19).^{iv} Relating the number of trees to the area covered by trees and woodland, we estimated the total number of trees within the urban area, excluding the two forest reserves, to be about 16,250. Out of the total 16,250 trees, 35%, or 5,690, are fruit trees, of which mango trees (*Mangifera indica* L.) represent the majority (77%), followed by Dawadawa (African Locust Beans, *Parkia biglobosa*) (13%) and Jackal berry (*Diospyros mespiliformis*) (7%) (Figure 2.20). Assuming a conservative number of 100 mangos per tree of 0.5 kg each,^{2,13} there is a yearly mango harvest of 220 tonnes, amounting to one fifth of the yearly incoming mango flows (see Chapter 3). Among the non-food trees, the neem tree (*Azadirachta indica*), known for its medicinal properties, is the most common (78%).

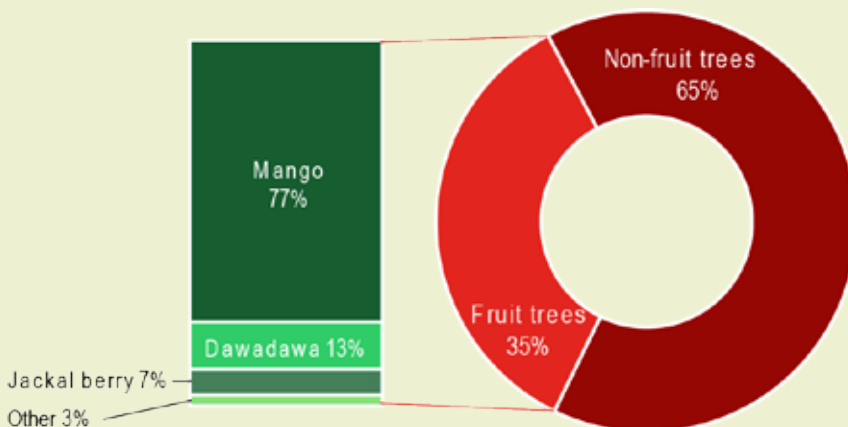
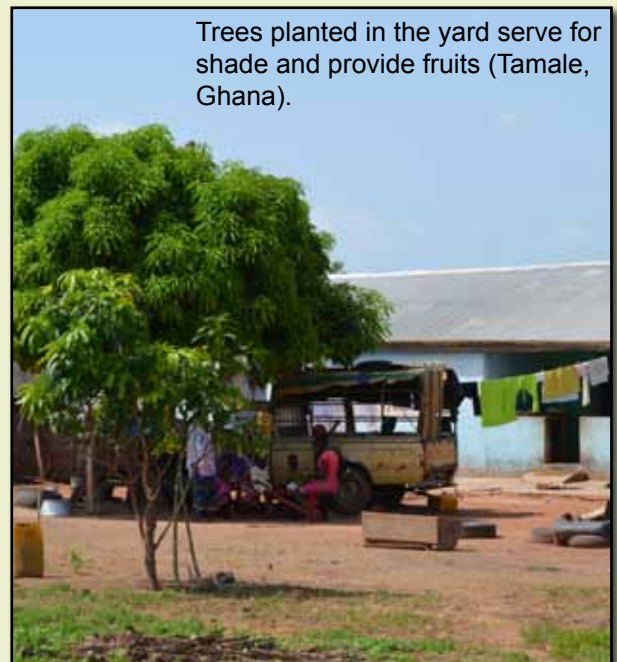


Figure 2.20. Proportion and type of fruit trees within the urban boundary of Tamale, Ghana.