

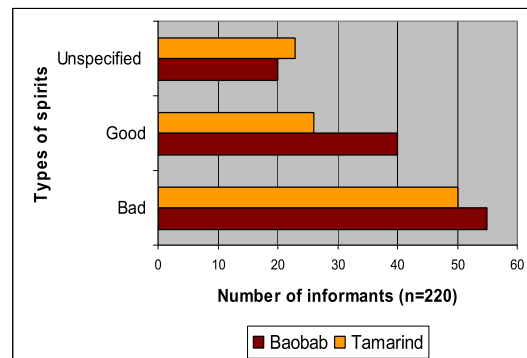


Fig 1. *Tamarindus indica* L.



Introduction

Climate change, deforestation, population growth, monocultures and overharvesting threaten local ecosystems in West Africa. The availability of wild plants that have traditionally been collected from these ecosystems is decreasing. Local farmers need to decide which wild plant species they may want to start cultivating in their fields and agroforestry systems. Two indigenous trees, baobab (*Adansonia digitata* L.) and tamarind (*Tamarindus indica* L.) (fig 1+2), that are consumed and traded throughout the region, seem to be the ideal choice for transplantation.



Graph: Kinds of spirits in baobab and tamarind



Fig 2. *Adansonia digitata* L.



Results

Baobab and tamarind plant parts are used daily in the subsistence of rural West Africans. We recorded 300 different uses (consumption, medicine, ethnoveterinary, construction, spiritual and other uses) for the baobab and 250 different uses for the tamarind. However, only 16% of informants (n=220) sow baobab seeds and only 10% of informants transplant wild tree seedlings into or near their fields. Similar low numbers are found in the literature: Out of 507 articles on the general ethnobotany of baobab and tamarind only 6 articles report traditional propagation of baobab and 4 of tamarind.

Local cultural belief systems are key elements in the farmers' decision-making processes that lead to or prevent the transplantation of trees. Good and bad spirits are associated with both baobab and tamarind (graph). The presence of bad spirits, usually discovered by elderly people or healers, often results in harvest restrictions of certain plant parts, at a certain time, and/or by a defined group of people. The presence of bad spirits may limit general access to the tree, e.g. it is suggested not to rest under the tamarind tree around noon, since the heat of the day forces the spirits to leave the tree to cool down and they could harass the shade-searching person. The fear of having to live next to bad spirits may also prevent people from planting baobab and tamarind close to their house.

Considering this, from the local point of view, it would be a waste of time, effort and valuable planting space, when the planted trees may not be used due to the occupation of a spirit. These emic and traditional perspectives mostly concern indigenous trees and only partly relate to non-indigenous trees. Signs in the trees, such as goat horns (fig 3), piles of fruits, stones (fig 4) and burnt sticks are used to guide people's behaviour.

Methods

220 individual interviews were conducted with 11 ethnic groups in Benin (Idatcha, Dendi, Gourmantché, Nagot, Fulani), Mali (Dogon, Sénoufo, Fulani) and Senegal (Serer, Wolof, Fulani) covering 4 agroecological zones (Soudano-Guinean, Soudanean, Soudano-Sahelian, Sahelian). Participatory mappings and participant observation, as well as group discussions yielded data for triangulation.

An intensive literature review was undertaken comprising 285 articles on the ethnobotany of baobab and tamarind accessed through online catalogues of relevant institutions and via e-journal consortia.



Fig 3. Goat horn in tamarind crown



Fig 4. Piles of fruits and stones at base of baobab

Conclusion

Despite their importance in subsistence and widespread knowledge on their many uses, baobab and tamarind are rarely planted. It is not a lack of knowledge on planting techniques, but underlying cultural reasons that prevent the farmers from planting indigenous fruit trees. Local belief systems need to be considered by development agencies and forestry institutions intending to establish sustainable reforestation and in-situ conservation programs. Innovative concepts need to be elaborated together with the local population. Conservation strategies need to work with or even 'work around' local belief systems that are hindering the domestication of unsustainably used wild trees.