

# Threats to on-farm conservation of *Vitellaria paradoxa* (Shea butter) Tree in Nakasongola district, Central Uganda



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**Introduction:** The shea butter tree (Fig. 1) is an indigenous woody plant of savannah parklands and plays an important role in augmenting house hold incomes for rural people (Okullo *et al.*, 2004). It is a very important species for local communities who rely on it for fruits (Fig.2), nuts, medicine (Fig. 3) and oil for both domestic consumption and cash sales. Since uncontrolled exploitation of shea parklands has affected natural regeneration of the tree (Obua, 2002), the shea multipurpose nature can be enhanced by promoting on-farm conservation in the shea parklands. Due to the high costs of planting trees, increased interest should be shifted to protection and stimulation of natural tree regeneration especially where mother trees are available (Boffa, 1999). Moreover, an assessment of threats to on-farm conservation of valuable indigenous trees such as the shea butter would facilitate designation of proper regeneration programmes for enhancing their domestication. This would also lead to improvement in rural food production and diversification of rural livelihoods as well as boosting national economies. In this study we examined the major threats to on-farm conservation of *V. paradoxa* in Nakasongola district, central Uganda.

**Materials and Methods:** The study was carried out in Nakasongola district between the months of August 2007 and March 2008. Data were collected through household, focus group and key informant interviews. Structured questionnaires were administered to 60 willing respondents in the area. Questionnaires data were coded, entered in SPSS computer program and analyzed for ethno-uses, threats/challenges to conservation of and local conservation strategies for the shea and other indigenous trees in the area. Logistic regression analysis was used to indicate how socio- demographic characteristics influenced local people's willingness to protect shea on their farms.



Fig 1: Mature Shea tree



Fig 2 : Shea fruits



Fig 3: Debarked Shea tree (bark highly valued for medicine)

**Results:** The major threats to local conservation of shea trees in Nakasongola were charcoal burning (Fig. 4), termite attack on seedlings (Fig.6), overgrazing by cattle and the present land tenure system reported by 81.7%, 85.0%, 76.7 % and 68.3% of the respondents respectively (Table 1). The existing local conservation strategies included weeding, surrounding the seedling with thorny branches and regular inspection to protect seedlings against fire and browsers (Table 2). The willingness of the respondents to plant shea trees was influenced significantly ( $P < 0.05$ ) by the marital status of the respondents and land ownership (Table 3).

Table 1: Threats to local conservation of mature shea trees and seedlings

Threats to mature trees	%
Charcoal burning	81.7
Land/tree tenure	76.7
Overstocking	68.3
Bush fires	66.7
Rapid population growth	56.7
<b>Threats to shea seedlings</b>	
Termites	85.0
Trampling by cattle	68.3
Prolonged droughts	63.3

Table 2: Local shea management practices

Management of shea seedlings	%
Slashing/weeding	88.3
Fencing using thorny branches	83.3
Sparing seedlings while digging	75.0
Regular inspection	51.7
<b>Management of shea stands</b>	
Slashing	66.6
Selective harvesting	56.7
Fencing	33.3
Sensitization	26.7
Fighting bush fires	08.3

Table 3: Logistic regression of socio economic characteristics influencing willingness to plant shea

Variable	Odds ratio	Probability level	Sig.
Age	0.919	0.878	ns
Sex	0.891	0.079	ns
Period of stay	1.106	0.877	ns
Household size	0.595	0.338	ns
Marital status	0.217	0.010	**
Education level	0.671	0.352	ns
Land ownership	0.214	0.050	*
Occupation	0.828	0.314	ns

ns= not significant \*\* significant at  $P \leq 0.01$

Fig 4: Sacks of charcoal ready for transportation from Nakasongola

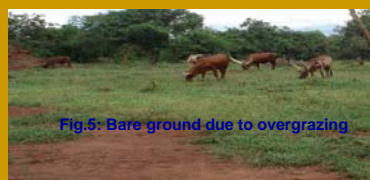


Fig.5: Bare ground due to overgrazing



Fig.6: A re-sprouting Shea stump attacked by termites

**Discussion:** Majority of the local communities in Nakasongola mainly use shea trees for charcoal production (Figure 4). This is a big hindrance to the conservation of the species as extensive degradation of parklands occurs in areas where charcoal burning is mainly practiced (NEMA, 2002). The combination of increased human population growth, traditional nomadic sentiments of overstocking livestock (Fig. 5) and bush fires has resulted into over utilisation of the shea parklands resources in Nakasongola. The district faces persistent problems of absentee landlords and most agricultural production is on land that is informally or illegally accessed leaving cultivators and tree planters with limited security of tree tenure and land ownership. Although most of the shea stumps can re-sprout, they are prone to termite attack, bush fires, prolonged dry spells and trampling by cattle. All these limit shea regeneration and makes on-farm conservation of shea tree in Nakasongola parklands to still remain at stake. Most of the local communities do not also carryout any effective management strategies.

**Conclusion:** Tree planting can only occur through local participation, where the need is locally perceived and not imposed. Although local communities are generally aware of the importance of managing shea parklands jointly to provide common needs, there is need to address some of the controversial issues such as uncontrolled charcoal burning, absentee landlords and the persistent land conflicts in the area.

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