



Mature dom palm with harvested leaves drying on the ground. Photo: Stephen Connelly

# Trees for semi-nomadic farmers: a key to resilience

Stephen Connelly and Nikky Wilson

Like many peoples of the dry lands of Africa, the farmers of the savannahs in the Western Lowlands of Eritrea have survived the variation and stresses of their hostile environment through developing a flexible farming system involving a mix of crops and animals, production for cash and for subsistence, and widespread dispersion of activities over hundreds of miles. The resourcefulness and resilience of such farmers is well known and well documented. They are traditionally viewed by the outside world as semi-nomadic herders and opportunistic farmers ('agro-pastoralists'). In this article, however, we show that despite such views these farmers in Western Eritrea are also dependent on a third strand of the farming system: the management, collection and processing of forest products, and in particular of the dom palm (*Hyphaene thebaica*). This third strand is always important, but never more so than when disaster strikes – in times of drought and war forests become the key to survival.

## Disasters strike frequently

The Western Lowlands of Eritrea are the easternmost extension of the Sahel, lying between Eritrea's border with the Sudan and the Eritrean/Ethiopian Highlands. Principally covered in semi-desert scrub and savannah woodland their low hills and plains are interrupted by three river valleys clothed in remarkably dense woodland, some of it mixed acacia and dom palm and elsewhere almost pure stands of dom. They are home to several hundred thousand people of six ethnic groups, each of which has developed their own distinctive survival system, involving greater or lesser emphasis on animals, crops, palm fibre and other forest products. All these systems are characterised by flexibility, and all have been repeatedly disrupted by the natural and man-made upheavals of the past forty years.

A series of major droughts has struck the area (early 1970s, 1982-5, 1990-1, late 1990s), causing repeated crop failure and massive livestock losses and – in the early 1980s – a complete collapse of the farming system, many deaths and mass exodus of

the population as refugees. At the same time the area has been ravaged by war: the Lowlands changed hands several times in the thirty years of liberation struggle (1961-91) and villages and crops were repeatedly bombed and destroyed by warfare on the ground. After liberation (1991) and independence (1993) farmers picked up the pieces and started farming again under more settled conditions, though facing new threats from government development policies, and then in 1998-2000 by renewed war that saw the invasion of the Lowlands by Ethiopian armies.

## Dependence on dom palm

At all times, forest products play a crucial role in people's livelihoods. The traditional farming system involves growing sorghum for food, and keeping camels, cattle, goats and sheep for food and occasional sale. Amongst all the tribes a vast range of subsistence needs (e.g. housing, tools, and some food) come from the forest, and for the majority of the Lowland population (belonging to the Tigre, the Beni Amer and the Hidareb tribes) the principal source of cash income is dom palm fibre. Palm leaves are cut on a massive scale from the riverine forests, and either sold in their unprocessed form or woven into mats, rope and other household utensils for sale in the markets of Eritrea and Sudan.

Under 'normal' circumstances - i.e. in peacetime and when rainfall is sufficient to allow at least some cropping and herding – dependence on the forest is greatest for the poorer members of the community. Those with few or no animals, or who cannot farm land – such as the many war widows – rely on cutting, weaving and selling palm for their survival on a permanent basis, while even for most richer farmers the dom is a vital source of income, particularly during the lean months of the year. The population clearly values the forests highly. This has been a factor in its preservation: farmers that we interviewed described harvesting patterns governed by informal regulations and an understanding of the nature of dom palm regeneration and growth. These systems prevent over-cutting through restricting access and over-frequent cutting, and their overall impact appears to be a sustainable management system.

## Key element of resilience

In years of bad rainfall dependence on the palm forest increases as crop and animal production falls. In serious drought years cutting and selling palm leaves becomes the main source of income for most of the population – men travel miles from villages far from the rivers in order to cut palm leaves to buy food. At the same time food collection from the forest increases: dom palm nuts are a food of last resort for the poor in the hungry season before harvests, and in drought years they become a staple food for many.

One ethnic group – the Kunama – has a distinctly different approach to the forest. They cut very little palm for income, but collect food from twenty or more tree species. These include the dom palm and others that they value as food reserves for drought years when their crops fail: for them the riverine forests are their insurance, rather than a regular income source.

Thus harvesting from the forests provides a key element of the resilience of the farming system, enabling poor farmers to survive from year to year and entire communities to weather the bad years, even to survive for a time when war makes farming impossible. Only in major droughts does the system finally collapse and people become refugees.

In the period of peace from 1991-98 the palm forests were crucial in re-establishing a normal social and economic system in the Lowlands, both for those who had remained and for those who were returning from refugee camps. Livestock numbers were low and many female headed households (war widows) and physically disabled people in the villages had limited ability to farm. Harvesting and export of palm leaves has consequently been a major source of support for the Lowland population.

## Forest or irrigation?

However, this revival of the traditional system has not been actively supported by the government's agricultural extension services. This appears to be partly because they recognise neither the importance of the forest to the farming system nor its sustainable nature. The Lowland farmers are seen as 'agro-pastoralists' for whom trees are a minor aspect of the farming system, and there is a widespread – though unfounded – belief amongst officials that cutting is carried out in ways that damage the trees.



The other major factor is that the government has other priorities: the forests occupy fertile land with high water tables, which is ideal for irrigated agriculture of cash crops such as onions and bananas. Increasing production of these is a high priority, in order to feed urban populations, raise hard currency through exports, and to attract investment from wealthy (often formerly expatriate) Eritreans. Thus the traditional system and the government's preferred land use are in direct competition, and the appropriation and clearance of forest land has caused serious tensions in the Lowlands between local people and the government. Exacerbated by current and historical ethnic and religious factors, this conflict over a resource fundamental to local livelihoods contributed to unrest and the recurrence of violence in the Lowlands during the 1990s. Ironically, the recent (1998/2000) war between Eritrea and Ethiopia may have stopped the clearance of forests for commercial farming, though once again presumably forcing local people to rely on the forest as farming becomes impossible.

## Sustainable forest management

With the recent peace accord the question arises again of how local communities, government and – perhaps – outside researchers and agencies can work together. Although the deeper animosities are undoubtedly still present and intractable, the more immediate resource management issues should not be impossible to solve. This would require, however, that the government recognises both the importance of the forest to the local livelihood system, and the right of local people to have continued use of and control over the forest. It would thus have to forego – or at least restrict – the issuing of licenses for agricultural production in forestland. More positively, government and local people could work together on improving sustainable management – particularly where large numbers of former refugees are being settled – and on the provision of raw material for the industrial use of palm fibre.

**In conclusion**, we can say that for many farmers in the Western Lowlands of Eritrea, the riverine forests, and in particular the dom palm, are an essential resource for their survival. They show great flexibility in switching emphasis between the components of their farming system (crops, livestock and forest) to meet changing conditions, but their ability to cope with the uncertainty of marginal farming and the stresses of war and drought is ultimately underpinned by their reliance on the forest for income and food. This dependency is even greater for poor people, and especially for those who are prevented from farming by physical disability or by social custom, as is the case with female heads of households. This dependency has been strangely neglected by both officialdom and outside agencies and researchers. We believe, however, that the sustainable exploitation of the forest under local management systems has huge potential to ensure that farmers' coping mechanisms are both preserved and enhanced.

Stephen Connelly & Nikky Wilson, 31 Storrs Hall Road Sheffield S6 5AW UK.

The authors carried out social and silvicultural research on the riverine forests and farming systems of the Western Lowlands of Eritrea in 1995/6, and returned in the summer of 1997. The views expressed in this article are those of the authors. A full report is available as **Report on a preliminary study of the riverine forest resources of the South West Lowland Zone, Eritrea** from SOS Sahel International UK, 1 Tolpiddle Street, London N1 0XT, England (sossaheluk@gn.apc.org) or from the authors at nikkywiz@yahoo.co.uk.

**The dom palm products market, Keren.**  
Photo: Stephen Connelly