

Discover News-sheet for colleagues in Africa

May 2017



Coping with drought 1. Plant trees

Dear Friends

East Africa has suffered terrible drought this year, and many people have suffered. In this and my next newsletter I will share some ideas to help you to survive drought conditions better in the future.

1. Plant trees to conserve moisture in the soil: Any tree will create a cooler environment. A cooler environment means that there is less loss of moisture through evaporation. Further, because the soil is protected from the hot sun, it does not lose fertility. And the environment is more pleasant for living and working.

For example, avocado pear (*Persea americana*) can grow in many soils and in hot and dry conditions. It is evergreen and gives a lot of shade. The fruits are very nutritious, it can provide timber and bees like its flowers.

2. Plant trees for timber. Grevillea and Melia (*Melia azedarach*) are useful timber trees which, when properly managed, do not interfere with crops. We cannot say strongly enough, if you want to conserve ground water, do not plant any species of eucalyptus, as these trees dry the soil out and make it infertile.
3. Plant trees for fruit: Mango (*Mangifera indica*) and java plum (*Syzygium cumini*) also provide shade. Pawpaw (*Carica papaya*) is also extremely nutritious. Guava (*Psidium guajava*), mulberry (*Morus nigra*) and passion fruit (*Passiflora indica*) are also delicious and nutritious.

Cashew (*Anacardium occidentale*) grows well in dry areas. The fruit (apple) can be eaten fresh or made into jam, and the high protein nut can be extracted from the toxic shell, lightly roasted, and eaten.

4. Plant trees for medicine: *Moringa oleifera* or *Moringa stenopetala*, neem (*Azadirachta indica*), *Prunus africana* and *Warburgia ugandensis* may all be planted in suitable places. In the northern areas of West and East Africa the shea butter tree, *Vitellaria paradoxa*, and tamarind, *Tamarindus indica*, are both indigenous and very useful.



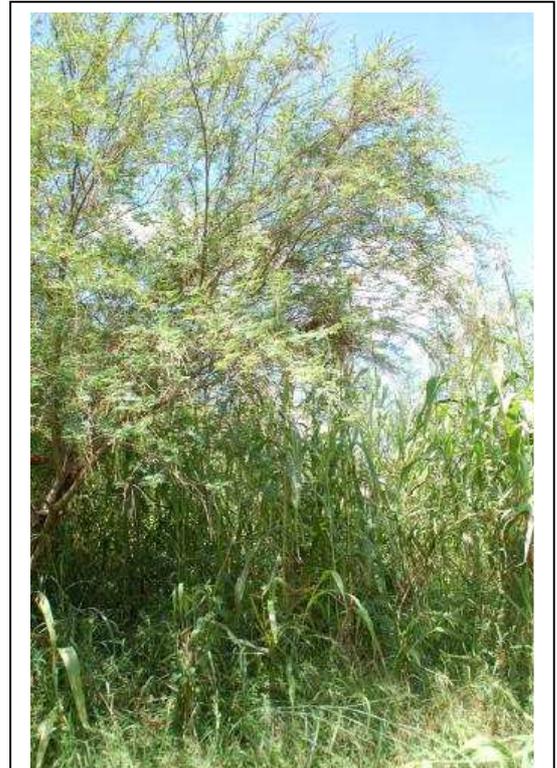
A thriving vegetable garden in western Uganda belonging to a member of Vumbura Maliba (Discover Maliba in the local language) – in the shade of many trees!

5. Plant trees for soil fertility: *Sesbania sesban*, *Leucaena glauca* and *Calliandra calothyrsus* are all leguminous. They fix nitrogen and improve the soil – crops growing under these trees can be observed to thrive. Plant around the farm. They disperse their own seeds which germinate as wildlings; let them grow until they become a nuisance and then cut them out and use the wood or sell it as firewood or for poles.

Faidherbia albida is also an excellent soil improver, but in the first years it grows rather slowly. After 5 to 6 years it will be 4 to 6 metres high, and when mature 15 metres with a very wide canopy. The pods make good animal feed.

6. Plant trees for fodder: The leaves and small branches of *Sesbania sesban*, *Leucaena glauca* and *Calliandra calothyrsus* can all be used as fodder, but never as more than 20% of the total feed. Young leucaena leaves may also be used to feed fish.
7. Plant trees for beauty: For example, the flame tree (*Delonix regia*), Bougainvillea and frangipani (*Plumeria regia* – which is also medicinal).
8. Plant hedges: The REAP project in Kenya recommend planting hedges with a variety of trees and shrubs with a variety of uses. They call it the “six ‘F’ hedge” which serves six purposes: Fence, Fuel, Fertility, Fodder, Food and Fibre – and in fact the seventh is Farmacy! For more information, see the REAP teaching leaflet: <https://goo.gl/p1WGgk>

Roger Sharland writes, “At Kajulu we have planted kei apple (*Dovyalis caffra*) as a thorn hedge round the edge, with the intention that it will take over from the barbed wire, especially at the top. We have also planted leucaena in the barbed wire fence with the intention that, when the wooden fence posts get eaten by termites, the trees can be used for attaching the barbed wire in those places that we do not have kei apple.



This soil was infertile, but after *Sesbania sesban* was planted, everything underneath thrived.

In my next newsletter we will describe drought resistant vegetables, give tips about maintaining soil fertility and tips about how to conserve moisture in the soil. Many thanks to Roger Sharland of REAP in Kenya and Bob Mann in the UK, who are both experienced agriculturalists, for their help in writing this newsletter.

With my best wishes, and hoping that these suggestions help you to cope better with drought in the future. Any further suggestions would be very welcome!

Keith