Growing trees on farm for fodder, fuel and timber

Fodder trees are a nutritious feed supplement for livestock and farm trees provide fuel wood and timber for home use or sale

Many rural households in developing countries feed their animals on the leaves of trees. In pastoral areas of sub-Saharan Africa, three-quarters of the 10,000 tree and woody species, are used as fodder, supplying up to 50 per cent of livestock feed. This provides a valuable supplement for dairy cows and goats, especially during the dry season. Leaves contain much more protein than the animal’s normal diet of grasses and crop residues. As a result, the livestock produces more milk. Feeding livestock high-yielding tree fodder is also a way for farmers to cope with the pressure of smaller land holdings caused by population growth. It is part of a move towards zero grazing, in which animals are kept in a pen or shed at all times and fodder is brought to them.

Tree fodder for higher milk yields

“Planting fodder trees was one of the best things I’ve ever done,” explained Juma Gichohi, who farms in the hilly country to the south of Mt Kenya. Before he planted the fodder trees his dairy cows yielded 7 to 8 litres of milk a day. Now he gets up to 15 litres from each cow. Gichohi feeds them home-grown protein in the form of leaves harvested from fodder trees, such as Calliandra and Mulberry. He now has more milk to sell and has established a business dealing in fodder tree seeds.

Woodlot fodder reserves

In Tanzania, a century ago, the Shinyanga area was covered with woodlands used by agropastoralists to feed their livestock. By the mid-1980s clearance of the woodlands to control tsetse fly, and increasing population pressure had reduced the woodlands to just 600 hectares. Since then, the woodlands have been restored with soil-improving agroforestry woodlots and fodder banks, which supply feed for animals in the dry season. There are now thought to be 500,000 hectares of these woodlots throughout Shinyanga.
**Agroforestry for firewood and timber**

In developing countries, much of the wood used for timber, cooking and heating is grown on farms. Farmers and smallholders plant trees in homesteads, along boundaries and on communal land. Agroforestry is a way of meeting local needs for fuel and timber. At the same time, it takes pressure off remaining woodlands and forests.

**Firewood from farms**

Half the fuel wood burned in Thailand, more than three-quarters of the firewood in Indonesia, Pakistan, the Philippines, Sri Lanka and Viet Nam, and four-fifths of the fuel wood burned in Kerala, India, is cut from farmland and other non-forest areas. In East African countries, Burundi, Rwanda and Uganda in particular, trees grown in home gardens meet most household needs for firewood.

**Woodlots for firewood**

In Malawi, about 90 per cent of the population depends on wood and charcoal for cooking. In 1975, when the population was 5.3 million, this wasn’t much of a problem. Now, with a population of over 13 million, it is; and Malawi has one of the highest deforestation rates in Africa. Woodlots are helping to provide sustainable fire wood alternatives.

**Cultivating timber on farm**

Many countries in Africa and Asia have low forest cover and face major shortages of wood. To meet the growing need, smallholder farmers are beginning to grow timber on their farms on a large scale. This gives them products for a cash crop, or for use around their farm. It also reduces the need to cut down trees in the forest.

**Farm timber for building and for sale**

In Mapanga, Malawi, new woodlots and trees planted around maize fields provide more than just fuel wood. Levison Khomaza, for example, has built a house with timber from trees he has grown. Esnath Chakalamasa sold timber from her farm, enabling her to pay school fees for three of her seven children.

**Woodlots boosting incomes and saving forests**

In the Tabora region of Tanzania, farmers have traditionally cut the poles they need to make frames for drying tobacco from natural miombo woodlands, seriously depleting them. Now they plant fast-growing acacia in one-hectare plots. For two years they grow maize beneath the young trees then leave the trees for another three years before harvesting the wood. They earn six times as much for the wood-maize combination crop when compared to the maize alone.

For more information visit www.worldagroforestry.org, search keywords ‘Fodder, fuel wood or timber’.