AGFAX

Interview: Roger Leakey

Head, Tropical Forestry, CEH
Centre of Ecology and Hydrology, Edinburgh
Interviewed on behalf of the
Forestry Research Programme, DFID
(Department for International Development)

Suggested introduction:
Wild fruits are an important part of people's livelihoods, providing both food and a source of income. The Bush Mango of West Africa, for instance, provides both as a sweet tasting fruit and as a thickener for soups and stews, depending on the variety grown. Although some fruits are still collected from the wild, many farmers have begun to domesticate the desirable varieties of fruit trees on-farm and scientists believe that there is potential for further improvement to produce higher yielding varieties or cultivars.

In the past few years, Dr Roger Leakey, from the Centre of Ecology and Hydrology in Edinburgh has been involved with a DFID-funded forestry research project, to help farmers in Cameroon and Nigeria in the improved domestication of wild fruit trees, such as the Bush Mango and African Plum. Indeed Dr Leakey, calls these trees 'Cinderella trees' as he has long believed in the potential of these trees to provide food security but feels that, until recently, they have been overlooked by the scientific community. Susanna Thorp met with Dr Leakey in Edinburgh to ask him why the African Plum and Bush Mango, in particular, were so important to local farmers.

TAPE IN  "A very wide range of species . . . .
TAPE OUT  . . . like tropical deforestation and climate change"
DURATION 4'44"

Closing announcement: Dr Roger Leakey describing a programme to domesticate wild fruit trees in Cameroon and Nigeria.

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M J Pickstock  S B Reynolds
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Transcript

Leakey

A very wide range of species from the forest have been collected of course by people over centuries and as that resource has dwindled so people have become more interested in growing some of those species. Five or six years ago, we did a study to see which species the farmers were most interested in. That priority setting exercise ended up with the farmers identifying two trees as the main priorities. One the Bush Mango, that’s a Irvingia gabonensis and the other the African Plum Dacryodes edulis And those are two species which are starting to be grown on farms by farmers.

Thorp

So are they harvesting just the fruits or are there other products that they are getting from these trees?

Leakey

Both trees are specifically important for their fruits. In one case it’s the actual pulp that is important and eaten. It’s actually a staple food that’s cooked so it becomes a very important part of the diet for three or four months of the year. In the other species it’s actually the nut rather than the flesh which is more important. The flesh is important for children and women in the villages when the fruiting season is there but the nut itself is important throughout the year as a food additive, a thickening agent for soups and stews.

Thorp

So what have you been doing to look at these particular species?

Leakey

The first thing we wanted to know was how much variation there is in these species because as more or less wild trees, we would expect there to be enormous variation, the sort of variation you would find in a human population for example. So we want to know what the base line is in terms of that variation and then to see what combination of traits we could, perhaps, select for in order to create cultivars which could be brought onto the farms as higher quality and better yielding individuals for production.

Thorp

Now you’ve been surveying trees in two different regions?

Leakey

Yes it’s actually in two different countries, it’s in Cameroon and in Nigeria. And all together we did six villages and those villages were chosen to be in different rainfall areas, on different soils, different distances from the markets. So we would expect to capture quite a lot of the sort of variation that you would find across the country.

AGFAX  March 2001
Thorp: And presumably you found differences between the two countries as well with the types of trees?

Leakey: Yes to some extent that is true. I think that raises an interesting point that if we’re going to do this kind of domestication programme, should we do it in one place and get the best from there or should we do it in a whole lot of places? And what I think our results have shown is that the best strategy would be to domesticate at a village level. So each village would produce its own best trees as cultivars and that has a number of advantages. Firstly make sure that we have a broad genetic base to the cultivated population, that’s very important. Secondly it means that villagers are doing this for their own benefit and in terms of the Convention on Biological Diversity that’s very important. It means that the villagers maintain their indigenous knowledge rights for which are the best trees in their villages and it also means that by leaving the work in the village they’re doing the propagation, they’re creating the cultivars for themselves. They then also have the rights on the germplasm which, again, is an important component of the Convention.

Thorp: So how were you growing up these plants in the nurseries then? Is it through seed or is it through some other means?

Leakey: We are basically teaching the farmers to set up their own nurseries, to create cultivars by vegetative propagation. So it’s the same kind of principle as has been done for apples and oranges throughout the world but doing this for a wild species. We have done research over the last twenty-odd years trying to develop very simple techniques for this kind of work and this is already up and running. So all we are doing now is teaching the villagers how to do this for these specific species and giving them the opportunity then, once they know how to do it for one species they basically know how to do it for a whole range of others. It’s a sort of self-help process.

Thorp: And are the farmers doing that? Are they responding positively?

Leakey: Yes the farmers are responding very positively. That side of the work is being done by ICRAF, the International Centre for Research in Agroforestry who are our partners and they are running the more practical scale project from the Headquarters in Cameroon and in Nigeria. And they are approaching farmers, explaining the project, the farmers then get interested and they start a collaborative exercise between them.

Thorp: So where do you see it going from here?

Leakey: The next step, of course, from having got the material is to plant it on the farms and to see how the farmers plant it, where they plant it and what benefits they then get from that. Both of the species are actually exported regionally so there’s potential to expand that regional trade, to expand the local trade and for all of that to provide an incentive for farmers to do more of this planting with indigenous trees which is going to help them to counter things like tropical deforestation and climate change. TAPE ENDS