

News

Jatropha biofuels: the true cost to Tanzania

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Billed as wonder crop, the establishment of jatropha plantations on the ground in Tanzania has been far from successful, or, in some cases, ethical. Biofuel investment and production in Tanzania is a highly contentious issue.

Biofuel investors have been doing business in Tanzania since 2000, but business stepped up a gear after 2006. To date there are 17 investor companies here, from UK, Germany, Sweden, the Netherlands and America - a small number compared to those in Brazil and Indonesia, but a number with clear motives.

With over four million hectares requested by investors for biofuels (but only 650,000 hectares currently allocated), this is a sizeable potential earner for Tanzania.

Or is it? Much of the hype and excitement surrounding biofuels - and surrounding the oil seed crop jatropha in particular - seems to be coming from international consultants and investors. Ministers, farmers, politicians and NGOs who are based here are unanimous in one thing: scepticism. Dr Felician Kilahama, head of Tanzanian Beekeeping and Forestry, and part of the task force overseeing jatropha cultivation in Tanzania puts it succinctly: 'How will jatropha benefit Tanzania? Well exactly. We have no answers. We want food first, not jatropha'.

Jo Anderson, a Tanzanian environmental consultant, feels similarly:

'There's a lot of theory about jatropha. Despite acres of scientific research, there's no evidence of it working on a large scale at all. It's driven by the industrialised countries and donors' need to find potential fuel to mitigate against environmental problems: it's sold as a plant that grows anywhere: on degraded land, as a hedgerow... Any poor farmer can just put it in, and get rich. But jatropha doesn't grow on the commercial industrial scale needed to run biodiesel plants: the transaction costs of large scale don't add up. On a small scale, say 500 villages, you could produce the oil for this village to cook on, but not enough to run it at the size the investors need.'

A crop of questions

The arguments around jatropha fall into several distinct categories. First the land-use debate: can it actually be grown on marginal land? Should valuable land be used for food, or fuel? And how should land be partitioned, both nationally and at village level? What about the water and forests on that land: how does one calculate their actual economic, social, cultural, ecological and projected value, and to whom? Locals or investors?

And then come questions of benefit: will Tanzania actually profit from biofuels - can we use

biofuels here rather than simply export to Europe and the US?

The UN Food and Agriculture Organisation (FAO) claims that over 70 per cent of Tanzania is potentially available for agriculture, yet for this to be true valuable indigenous forest must be cut down. Dr Felician Kilahuma, Head of The Beekeeping and Forestry Ministry is worried: 'Thus far villagers who are desperately poor have sold off land at way below its market value to biofuel investors without fully understanding or thinking it through - they are selling off valuable investments. Plus of course, in Rufigi [an area in Southern Tanzania], one of the 25 allocated global hotspots - an area of 'outstanding natural biodiversity' - 81,000 hectares were given over to [bioenergy company] SEKAB for biofuels. This is valuable forest, where the rare hardwoods African blackwood, and mpingo are grown.'

SEKAB was in the process of closing down its operations in Tanzania as this article was written and refused to comment: so far the future of this plantation is unclear.

Land clearances

The story is not an isolated case. A report published by WWF Tanzania in March 2009, 'Biofuel Industry Study: An Assessment of the Current Situation', includes a very long list of endemic animals and plants (including rare orchids and the rarest bush baby in the world - Galago rondoensis) on the the redlist living in areas where Dutch firm BioShape has plantations.

Land has been cleared there, admits BioShape, but not by burning, and the company says it has paid compensation. Opponents say the land was not gained legally, and that it makes no sense to counter climate change through deforestation. The Makonde carvers flourish in this area, and the hardwoods are used to make woodwind instruments. And, as Fred Nelson, of the NGO Tanzania Natural Resources Forum points out, 'The World Bank says managed forests can potentially earn \$25-\$50 a month for villagers, from medicinal products, food, charcoal... we don't know what jatropa can earn for people yet'.

Mark Baker, of EI consultants based in Tanzania, is less equivocal:

'Recently, in Kilwa, the Dutch firm BioShape rejected land that is labelled barren, or idle, in favour of fertile forest, the Namatimbile, the largest coastal forest in East Africa. Why did they do that if jatropa can grow on weak land? And anyway, what exactly is 'barren' land if it is being used extensively by pastoralists?'

Like SEKAB, BioShape said that it has now completely ceased operations in Tanzania, for reasons that are unclear. No-one from the company was prepared to comment on its activities.

Not indigenous

SEKAB and Bioshape are not alone: of the nine other major jatropa investors in Tanzania, 90 per cent are using at least some land that is not considered 'marginal', according to WWF.

A key question is whether jatropa really is as hardy and durable as its supporters claim. Geoffrey Howard, of the International Union of Conservation of Nature in Kenya says: 'Because jatropa is used locally on graves by East Africans we assume it's indigenous. It's not. Jatropa is essentially an invasive species. It is thirsty, needs irrigation and in no studies

has it met the expectations of projected yields, either in terms of fruit, or oil produced.'

Jam tomorrow

Perhaps the least investigated side of the jatropha debate is the social and economic implications. It is hard for most people in the industrialised world to imagine the level of desperation that many Tanzanians experience. In the Rufigi Delta, where Swedish firm SEKAB has recently halted its work with jatropha, locals look set to be bitterly disappointed.

Mohamed Osman Makau, a resident of Nyamage village in Rufigi, who was unaware the project had completely stopped, told me: 'Overall my expectations for the future of the village are good and I am hopeful about the presence of the [biofuel] company here. If the company sticks to what they have agreed in their discussions with us, the income of our village will grow and everyone will benefit from their presence.'

According to WWF's report, no compensation had been paid for land at the time of publication in March 2009, and no jobs created. The campaign group also alleged that glaring holes exist where labour relations, child labour and health and safety considerations should be; though Tanzanian law states these are necessary preconditions for investors, in practice they can't enforce these practices. At the time, SEKAB told WWF that it was still waiting for the land deeds, and that compensation will be paid when these are received. Now that the company has ceased operations in Tanzania, the likelihood of compensation being paid is unknown.

In a damning Oxfam report, 'Another Inconvenient Truth', a subsidiary of British firm Sun Biofuels plc was criticised for telling the press it was awarding compensation of over \$600,000 to villagers who allowed jatropha to be planted on their land, a figure that was later revealed to be twice the offered amount, and many times what actually seems to have been taken up by villagers who were uncertain on what to do with their claim forms.

In fact, WWF's research suggests that even where land was purchased, over half the biofuel investors did not carry out Environmental Impact Assessments, and none consulted villagers or informed them of what they were doing, or offered villagers opportunities in farming management.

A way forward?

There is clearly a big need for thorough and comprehensive minimum standards for jatropha investors, both before they arrive in Tanzania, and once they are here.

Says Professor Pius Yanda at the Institute for Research on Environment at the University of Dar Es Salaam: 'At the moment there is a complete freeze on jatropha investors, as we assess what our options are for jatropha. Minimum guidelines need to include clear definitions of no-go areas for investors, and a policy for jatropha use here in Tanzania, so we run our own cars, buses and factories on jatropha. At present Fairtrade International is researching jatropha as a fair trade product, we shall see.'

But jatropha could yet be produced in an equitable and sustainable way. On the ground in Tanzania, firms were distinctly cagey about agreeing to let the Ecologist look at their projects, but one notable exception was Diligent Energy Systems. After two years, this small Dutch

company has signed up 5000 farmers to grow jatropha.

What makes Diligent so interesting is that it owns no land. Effectively it 'outsources' the growing: villagers get the economic benefits of money for seeds and cultivation. Secondary benefits include oil for cooking stoves, lamps, oilseed cake (which Diligent is encouraging villagers to put into anaerobic digesters, producing biogas with which to cook), soap, and fertiliser for use on other crops.

There's no perceptible negative impact, though as Hayo De Feijter, general manager of Diligent, admits: 'It's not terribly profitable for farmers yet - 5kg of jatropha yields about 1 litre of oil, but potentially it's only positive. We aim to make money for local farmers, and for the company, and we avoid all the environmental problems or compensation issues: we pay there and then. If this model could be developed - outgrowing schemes - it's very hopeful.'

The farmers seem to agree with him. Mzee El Rahema, based in Makoja, in West Kilimanjaro says: 'I get 180 shillings per kilo (18 pence) of jatropha; I do farming as well, but the extra income means the kids get food, schooling, clothes. It absolutely, definitely does help me and our community, and I am delighted.'

* Thembi Mutch is a freelance journalist based in Tanzania

References

'Biofuel Industry Study: An Assessment of the Current Situation', March 2009, WWF TANZANIA PROGRAMME OFFICE (WWF-TPO) WITH SUPPORT FROM WWF SWEDEN. Produced on behalf of WWF Tanzania Programme Office, P. O. Box 63117, Dar es Salaam, Tanzania. Financed by WWF Sweden. Contact Person: Peter Sumbi, WWF Tanzania Programme Office p.simbi@wwfntz.org Report Copyright: © World Wide Fund for Nature (WWF) 2009. Report compiled by Andrew Gordon-Maclean, James Laizer, Paul Harrison & Riziki Shemdoe.