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## **1 - AFRICA: Food to eat or to run your car ?**

JOHANNESBURG, 23 October (IRIN) - As oil prices soar and biofuel production becomes more attractive, especially to poor countries, a debate is raging over its possible impact on food security.

Biofuel production to earn revenue should go "hand-in-hand" with efforts to make countries food secure said Andre Croppenstedt, an economist with the Agricultural Development Economics Division of the UN Food and Agriculture Organisation (FAO).

He is involved in a three-year US\$3.7 million project recently launched by the FAO to help policy-makers assess the potential effects of bioenergy production on food security in developing countries.

"Biofuel production need not compete with food production if biofuel demand generates increased incomes for farm households, and this in turn is invested in raising productivity of all farm activities, including food production," said Croppenstedt.

"Assuming that households typically do not only grow one or the other, then biofuels could provide a stimulus to agricultural productivity, perhaps similar to the experience of cotton farmers in some Sahelian countries."

Recent oil price increases have had devastating effects on many of the world's poor countries: of the 50 poorest, 38 are net importers of petroleum and 25 import all their petroleum requirements; some now spend up to six times as much on fuel as they do on health, while others spend double the amount allocated to poverty reduction on fuels, according to Sustainable Bioenergy: A Framework for Decision Makers, released by the UN.

"Many of these poor countries lie in tropical zones where relatively low-cost biofuel crops, such as sugar cane and oil palm, already grow," said the UN framework. Last year 13 African countries formed the Pan-African Non-Petroleum Producers Association, aimed in part at developing a biofuels industry in the continent.

"The gradual move from oil has begun," said Alexander Müller, Assistant Director-General of Sustainable Development at the FAO. "Over the next 15 to 20 years we may see biofuels providing a full 25 percent of the world's energy needs." While the move is good for reducing greenhouse emissions, soaring oil prices have encouraged most countries to "go green" by switching to greater use of biofuels.

Global production of biofuels has doubled in the last five years and will likely double again in the next four, according to the UN framework. Among the countries that have enacted new pro-biofuel policies in recent years are Argentina, Australia, Canada, China, Colombia, Ecuador, India, Indonesia, Malawi, Malaysia, Mexico, Mozambique, the Philippines, Senegal, South Africa, Thailand and Zambia.

On the other hand, the demand for biofuels is already having an impact on the prices of the world's two leading agricultural biofuel feedstocks: maize and sugar.

### **Competing for land**

Another major concern is a growing competition for land use. "In the absence of comprehensive analyses and policies, commercial production of biofuels may target high-quality lands - due to better profit margins and high soil requirements of first-generation crops - such that biofuels, as the 'next big cash crop', will be grown on the best lands, leaving cereals and subsistence crops to the low-quality lands," the UN framework noted.

This is one aspect the FAO project intends to monitor while it tries to mainstream food-security concerns as countries develop bioenergy policies. The Bioenergy and Food Security project has begun assessments in three countries: Tanzania in Africa, Peru in South America and Thailand in Southeast Asia.

Croppenstedt, who was involved in the assessment in Tanzania, said the priority at the moment was to ensure that any rural land acquired for biofuel production had not previously been used for growing food crops. "Obviously, it is key to get it right at this stage, i.e. to make sure farmers are not left landless."

The Tanzanian government was concerned that sugar plantations should not displace or make subsistence farmers landless, and farmers who aimed to supply a biofuel feedstock should not monocrop, Croppenstedt said. "From what we have heard it would seem that some plantations use unused land, or rather, previous plantation land that has since been abandoned."

At this stage all the investors the FAO had spoken to in Tanzania were keen not to compromise food security, and wanted to "promote intercropping or to advise setting aside only part of the land for biofuel feedstock production. Investors stressed that sustainability would imply easier access to land and finance in the future, implying that they had an incentive to get it right."

### **Oil money not yet**

Land acquisition is a complicated process in Tanzania and could delay biofuel production. "Most land in Tanzania is either owned by the villages or is designated as national land; land designated as national land is more easily leased," said Croppenstedt.

"As I understand, the palm oil plantation would take 10 to 15 years before it is fully operational; the jatropha plantation is going to be planted in stages, and only if yields are high enough will they go ahead, and this should take 5 to 10 years before becoming fully operational; the sugar cane plantation we learned about plans to be fully operational by 2010," he said.

Jatropha is a fast-growing perennial that can be planted in poor soil and extremely arid conditions without any need for irrigation and begins producing high yields of oil that can be used for biofuels in its second year of growth.

One of the investors planned to outsource biofuel crop production. "This type of approach will create jobs and allow smallholders to join the biofuel market," Croppenstedt said.

### **Developmental aspect**

Many African leaders have been inspired by the success of another developing country, Brazil, which started making biofuel 30 years ago and is now the world's largest producer of bioethanol: about 1.5 million Brazilian farmers are involved in growing sugar cane for fuel.

A barrel of bioethanol is currently half the price of a barrel of oil, according to the FAO, and a million Brazilian cars run on fuel made from sugar cane. This is a cost saving that many countries - developing and developed - would like to emulate.

"As in Brazil, African countries should also develop a domestic market for biodiesel," said Croppenstedt. Biofuel could also be used for small-scale rural electrification. "In Tanzania there are efforts being made to introduce generators that use SVO [straight vegetable oil] in rural areas. The feedstock is jatropha."

The generators, promoted by TaTEDO, a non-governmental development organisation, can provide power for machinery, recharge batteries and bring electricity to village shops, and to households for some hours at night. "The communities have passed by-laws to guarantee the supply of jatropha seed for the generators [run by a selected/trusted 'entrepreneur' and supervised by a community 'bioenergy' council]," said Croppenstedt.

"Although we do not know enough about jatropha, some of the agronomists we talked to say it does well being intercropped with beans," he added. "At the moment farmers seem to grow the plant in hedges."

### **Competing with the west**

Not all African countries have the capacity to develop biofuel production. "There is much slack in terms of productivity in African agriculture - little irrigation, very limited use of fertiliser - and hence there must be much scope for improvements in productivity," Croppenstedt commented.

But the stumbling block is infrastructure development. "Transaction costs are typically very high in African countries, and this is a hurdle for both biofuel development and stimulating food production," he added. "How will they compete with biofuel prices elsewhere in the world?"

The US and Europe are already offering subsidies to benefit domestic farmers producing biofuel crops and have also imposed import tariffs to protect them. "This has led to the strange irony of virtually unimpeded trade in oil, while trade in biofuels is greatly restricted," the UN framework document pointed out.

Most agricultural experts agree that opening international markets to biofuel would accelerate investment and ensure that production occurred in locations where costs were lower, such as poor countries in Central America and sub-Saharan Africa.