Information for agricultural development in ACP countries

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Website: **spore.cta.int**

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In this issue

Acting and reacting in good time — that is the underlying theme of this issue. Our opening article observes that solutions exist for combating desertification. A number of ACP rural communities are reacting by rolling up their shirtsleeves to drive back the desert. In Viewpoint, *our guest writer urges governments, NGOs and the private sector to work together to create an economic climate that is more favourable to small-scale farmers. He believes that food crop production holds more promise than high-value agriculture for African smallholder producers. But for some other ACP producers, value-added products may offer better opportunities: in the oleaginous sector, where competition is fierce, it is time to take action and to pull out a few winning cards, as the article on pages 3 to 5 shows. In this issue, you will also find a selection of briefs, new publications and addresses to help you take action. And of course, the* Mailbox *is always open, so…..action!*

CTA

Desertification

Reviving lost lands

Desertification is spreading like a disease across many ACP regions, leaving a trail of poverty, hunger and mass migration in its wake. The problem can be fixed, as many enterprising producers are proving.

In Ghana's Upper East region, women in the Yameriga community are all too familiar with the process that environmental experts call desertification. They know it as the sickness of the land, which robs them of their livelihoods and their menfolk. In many parts of this arid region, land degradation is so serious that 70% of households send a father or son to earn money in the south. For a long time, the march of the desert seemed inexorable. But now, determined to act, the women have grouped together to plant nurseries of teak and mango and use the trees as a barrier against soil erosion and as a valuable source of income.

With help from TRAX, a local NGO, other small-scale producers in the region are building on traditional conservation techniques, proving that it is possible to push back the desert and make soil productive once again. Time-honoured technologies are being upgraded and promoted through farmers' groups. Producers are being taught how to make pits for composting crop residues and storing the manure. They also learn how to build bunds — structures built along contours on sloping land — to halt erosion and recharge the soil's water. In the Bongo District, producers who use bunds to grow rice report yields up by 250%.

Desertification is acknowledged as one of the world's most serious environmental problems. Caused by a combination of natural (mainly climate change) and human-induced factors such as over-farming, population pressure, unsustainable water use systems and deforestation, it affects one-third of the earth's surface and causes an annual US$42 billion (€32.5 billion) in lost agricultural production. Economic losses aside, the human cost is incalculable. Worldwide, some 135 million people risk being displaced.

The UN's declaration of 2006 as the International Year of Deserts and Desertification has highlighted the need to protect and restore drylands to provide more

food-producing land for rural communities. But the lack of resources, political will and know-how continues to hamper progress in some parts of the South, and the problem is still not taken seriously enough in the North.

Simple but effective

Desertification is hard to reverse once it has taken hold, but as communities in Ghana and beyond have shown, degraded land can be reclaimed if the problem is caught in time. Many dryland countries have a wealth of traditional knowledge on soil and water conservation and these, combined with newer technologies, are proving effective in a number of ACP regions. Useful methods of water management include cultivation of crops with low demand for water, re-use of waste water, drip irrigation and micro-sprinklers, desalination of brackish water, fog harvesting in coastal deserts and small sediment-holding dams and terraces. Small-scale irrigation systems using shallow tube wells and gasoline pumps have boosted valley-bottom cultivation in northern Nigeria, enabling farmers to grow high-value vegetables such as onions, peppers, garlic and tomatoes.

Some of the most effective solutions to soil degradation are surprisingly simple and inexpensive. In Burkina Faso, farmers dig holes to hold water and manure in the root zone of plants, a system emulated by farmers in Niger who have been on study visits. A growing number of ACP farmers are turning to zero tillage, which improves soil fertility and water retention. In many parts of Africa, the building of half-moon basins allows the land to capture water, improving soil fertility and providing fodder for livestock. Another effective technique is the Caag system which catches water run-off and diverts it to earth bunds, ensuring a supply of water for crops.

In Haiti, which has a massive problem with soil erosion, women are being targeted to receive training in soil conservation and new income-generating activities. Though usually associated with the wider landscapes of the African continent, desertification is a growing threat for many Caribbean island states, where periods of drought punctuated by heavy rainfall have led to serious soil erosion and the creation of gullies, putting more pressure on the already scant farmland. In an effort to tackle the problem, young people from 16 Caribbean countries are being trained in reforestation and sustainable development techniques.

Thousands of farmers in Niger now use micro-dosing of fertiliser on degraded soils, using soft drink bottle caps to apply tiny doses to the plant. Yield increases range from 50 to 100%. In parts of southern Africa, herders are being encouraged to turn to 'precision manuring', by rotating the night-time tethering sites of their animals to concentrate manure application on tired soils. In Mali, farmers are being helped to build on a traditional solution to soil loss problems — the planting of *Jatropha* living fences to reduce wind and water erosion. Oil from the plant is used to drive machinery such as grain mills and water pumps, and to make soap as a source of income.

Promising solutions

But more advanced technology also has its place in battling desertification. In southern and eastern Africa, new varieties of drought resistant maize have shown a 30-50% yield increase. Plant breeders at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) have developed early maturing varieties of millet and sorghum. In the Sahel, the World Agroforestry Centre (ICRAF) is working to rejuvenate the parklands — an indigenous agroforestry system — by improving local tree species such as grafted *Ziziphus mauritania,* which mature faster and produce better quality fruit.

Africa is the worst affected region, with 73% of its drylands already degraded. But desertification is by no means exclusive to the South. It affects over two-thirds of the drylands in the USA, as well as countries such as Israel and Spain. Research from these countries is producing some promising solutions (see also *In Brief)*. At the Hebrew University of Jerusalem, researchers are developing new methods for recycling waste water to irrigate crops, involving a technique called electro-flocculation, which uses electrodes to filter out harmful particles. Other Israeli scientists are developing transgenic trees that can grow three times faster than normal ones. They are also working on a system for breeding fish in inland ponds in the desert, using tanks lined with plastic or concrete, in which water is constantly treated and re-circulated.

Some of the technologies being developed are too costly for developing countries. But some applications can be and are being transferred. In Kenya, Mali and Mozambique, agricultural researchers are introducing a high-tech solution known as infra-red spectroscopy to halt land degradation (see *Spore* 123, p.8).

Women's groups are increasingly involved in programmes to combat desertification. In Niger, one project has provided women farmers with seeds of a local palm species that prevents soil erosion and increases soil fertility. The by-products are used for handicrafts production. In post-war Burundi, where land degradation has helped fuel poverty levels to 61%, women are being trained in water and soil conservation techniques.

Deserts can be useful

While most efforts focus on halting the march of the desert, there is another side to the desertification coin — that of exploiting the real economic opportunities that deserts have to offer. For while the common conception of such regions is as barren and hostile, new studies suggest that arid lands can also generate wealth. There is growing interest in deserts as locations for aquaculture and as a source of novel drugs, herbal medicines and industrial products derived from the plants and animals adapted to arid areas. The valuable micro-algae spirulina *(Arthrospira platensis)* is collected and dried in the arid expanses of Chad and other Sahel countries. Water-soluble salts, such as calcium sulphate (gypsum), sodium borate, sodium chloride (table salt), sodium and potassium nitrates have long been produced in deserts. Deserts also have massive solar-power potential. One recent study showed that an area of 800 km^2 in the Sahara could capture enough solar energy to generate the electricity needs of the entire world.

Another reason for looking on the bright side and acknowledging that there is life after desertification.

See *Links*, page 10

Photo: P Cenini © FAO/18482

Saplings in Niger, ready for replanting in arid zones

Whether made on an industrial or a small scale, African palm oil faces stiff competition from oils imported from Asia.

Oleaginous plants

Oiling the markets

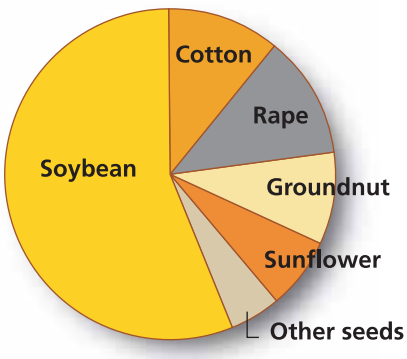
Global production and consumption of products derived from oleaginous plants are on the rise. Can ACP countries hope to share in the benefits of this growing trend, when they are importing more and more palm oil from Asia and soybean oil from America and Europe?

Vegetable fats and oils are flourishing. Global production of oleaginous plants has been rising steadily for the past century, at an annual rate of around 3%. And this trend looks set to continue, fuelled even further by rising demand for oleaginous plants as a source of biofuels (see *Spore* 123). It is still too early to assess the long-term impact on production and trade levels of the growing practice of using vegetable oils as a fuel source. But traditional uses also play an important role in markets. Put simply, the fruits or seeds of these plants, which are rich in lipids and may or may not be perennials, produce an oil. Its main use is as a foodstuff for humans, but there are also a number of industrial applications. After the seeds have been pressed, the oil cake residue, which is rich in protein, is used for animal feed.

The global harvest of oleaginous plants for 2004-2005 is estimated at 381 million tonnes (Mt). Soya accounts for the lion's share with 56% of the total, followed some way behind by cotton, rape and sunflower seeds, groundnuts, oil palm and copra, derived from coconut. In the same period, these plants rendered a combined figure of 142 Mt of vegetable oils and 99 Mt of oil cake and animal feed. With its high output of soya, the USA leads the field, and, together with Argentina, Brazil, China and India, accounts for three-quarters of global production.

When it comes to trade, it is important to distinguish between the markets for seeds, oils and oil cake. A recent article on oleaginous plants published on *Agritrade*, the CTA web portal on ACP agricultural trade issues, observes that the market for seeds and oil cake is dominated by soya, as is production, while palm oil accounts for the biggest share of international trade, due to the massive output from Asia.

Oilseed production in 2005



Adapted from FAO

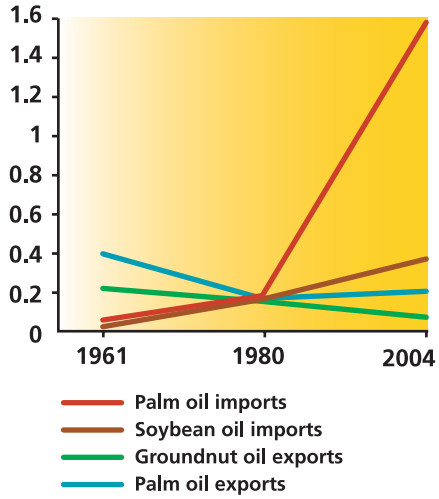
China, the EU, India and the USA are among the leading consumers of vegetable fats and oils, but only the first three have to resort to imports in order to satisfy domestic demand, buying mainly tropical oleaginous products: oil palm, groundnut and copra, to name the main source of vegetable oils, and cotton for oil cake.

Fierce competition

At the time of independence, Africa inherited an oilseed sector that was based mainly on the requirements of European countries. This was true of groundnut production in Senegal and palm oil production in Côte d'Ivoire and Nigeria. Africa, and especially West Africa, accounted for virtually all exports of oleaginous products worldwide. Since then, the continent's market share has fallen steadily, mainly due to competition from Asia and the advent of intensive oil palm cultivation in Indonesia and Malaysia.

The arrival of Asian palm oil on the world market in the 1990s had a devastating effect on Africa's oleaginous sector. The continent, which was still exporting oil 30 years ago, now imports huge quantities to satisfy rising demand, the result of its growing population, especially in the towns. African imports of vegetable oil almost doubled between 1993 and 2003: from 2.8 Mt to 4.5 Mt, while its exports remain at around 600,000 t. The loss of earnings and the import bill are

Developments in trade of vegetable oils in Sub-Saharan Africa (Mt)



Adapted from FAO

serious problems for ACP countries, which have seen imports of Asian oil soar, even though it is of inferior quality. Africa has also had to withstand competition from North America and Europe, where the oilseed sector is subsidised. Europe imports soya from North America to make oil cake for its livestock and re-exports the oil to Africa, to the detriment of local producers. In 2004, ACP countries imported close to 100,000 t of soybean oil from the EU. The *Agritrade* article suggests that, for ACP countries, vegetable oils should be classed as sensitive products, warranting protection. As far as African exports are concerned, oleaginous products which enter the European market duty free do not benefit from any preferential tariff compared with other developing countries.

Good prospects for coconuts

Even if production (close to 5 Mt) and trade levels remain well behind those of the frontrunners in the oilseed sector, copra is of crucial importance to a number of ACP countries and their inhabitants, especially in the Caribbean and Pacific regions. The coconut is indeed both a food and an industrial crop. Indonesia and the Philippines are the world's largest producers and exporters of copra. Some ACP countries have managed to carve a place among the global leaders. Among them is Papua New Guinea, which in 2004 exported 19,200 t of copra and 45,100 t of coconut oil. The Solomon Islands and Vanuatu also have vigorous copra industries. In Africa, the coconut grows in a number of coastal countries, but only Côte d'Ivoire and Mozambique export significant quantities of copra.

Copra, which contains 62% oil, is obtained by drying the coconut. It is highly prized for the manufacture of soaps and cosmetics. The protein content of the oil cake is too low to warrant much in the way of trade. Half the global output of coconut is processed into copra, mainly by small-scale planters.

In the Caribbean and Pacific islands, the coconut is first and foremost used for human consumption and features in many traditional dishes. A measure of its importance is the fact that it appears on the national flags of the Dominican Republic and Haiti. The fresh fruit can be processed into milk or cream and also made into an alcoholic drink. But the coconut tree is also a source of many other treasures. Its fibre, known as coir, is used for making ropes and carpets. The coconut shell is an excellent fuel and can also be used to make jewellery. The trunk of the tree is used for building houses, while the palms are useful for making fencing and matting etc. And some Pacific islands are conducting trials to convert coconut oil into a biofuel for vehicles, or to produce electricity.

Most of the programmes aimed at boosting profits from this tree are directed at improving output by planting higher-yielding hybrid trees and combating disease (such as the deadly yellow virus). But a number also seek to encourage the development of higher-value products than copra, for which demand is limited and whose market price is low. Added value products include grated coconut, coconut oil, milk and fibres.

Photo: © Syfia International

Extracted from the fresh fruit, coconut oil, widely used in the preparation of cosmetics, is a promising value-added product, especially for the organic and fair trade markets. The Fiji islands are developing this sector in the hope of giving fresh impetus to local producers. In Samoa, simple technology has enabled women's cooperatives to produce virgin coconut oil and export it to Australia and New Zealand. In Africa, Ghana and Mozambique have embarked on similar diversification strategies, which, say experts, should act as a boost to small-scale processing.

Cotton: oil as well as fibres

Photo: © Syfia International

Mainly cultivated for its fibres, cotton is also a valuable oil-producing plant: 100 kg of cotton produces 40 kg of fibres and 60 kg of seeds which render 12 l of oil and 30 kg of oil cake. The rest are husks which are used locally to feed livestock.

According to figures from the United Nations Conference on Trade and Development (UNCTAD), two-thirds of the cotton seed produced worldwide are pressed to make oil. Highly prized for its flavour and dietetic properties, cottonseed oil now ranks fifth amongst oils used for human consumption and is on a par with groundnut oil. It is widely consumed in the main producer countries of China, India, the USA and Uzbekistan. In Burkina Faso, Chad, Mali and Togo, it is the main vegetable oil. It can also be used for soap-making and to lubricate certain engines.

Cotton seeds produce an oil cake that is extremely rich in protein for feeding livestock. Mainly sold for export, the cotton seeds rank in second place on the international market, after soya seeds.

In Africa, by-products from cotton account for 20% of the selling price of the fibre, provided they are processed locally.

The palm oil paradox

During the 1960s, Africa exported 367,000 t of palm oil, most of it to European soap manufacturers. Today, it imports an annual 2.5 Mt from Asia for domestic use, since it is less expensive. Yet the oil palm is well adapted to the tropical climate, and of all the oleaginous plants, it has the highest yield per hectare: at least eight times greater than that of soya. Nigeria easily leads the field of African producers, followed by, in that order, Côte d'Ivoire, Cameroon, the Democratic Republic of the Congo (DRC) and Ghana.

Palm oil is almost exclusively consumed in the South, and particularly in West Africa, where it is part of the daily diet. Due to its high potential yield, experts are counting on this oil, rather than that made from cotton or groundnut, to supply future requirements. This, however, depends to some extent on vigorous replanting programmes being set in place and on cost prices being competitive with Asian oil. In Côte d'Ivoire, 60 to 65% of oil palms cultivated at the beginning of this century will have to be replaced before 2020.

The battle to boost the African oleaginous plant sector needs to be conducted in both the large commercial plantations and the smaller-scale ones. But it also needs to be

waged through a revolution in processing. The use of semi-mechanised techniques, which produce higher oil yields, has become more widespread in recent years. In the countries around the Gulf of Guinea, small-scale planters have grasped the advantages of mechanising the pressing process. A relatively simple technique enables producers to obtain oil for foodstuffs as well as for the biofuel sector. Women remain in control of traditional processing methods. These include production of the famous and highly-prized red oil, which is mainly sold to wealthy town dwellers. Improving the pressing process while retaining the quality of this oil, which is rich in vitamins A and E, offers real opportunities for adding value to this traditional product (see *Spore* 111).

As well as palm oil, the oil palm also produces palm kernel oil, which, as its name suggests, is extracted from the kernel. The pressing of these kernels produces palm oil cakes, which have a relatively low protein content. In 2004, Africa exported close to 103,000 t, keeping the bulk of its output to feed domestic livestock.

Waste from oil-producing plants is used as fertiliser. It also represents a significant source of biomass with good potential for gas or electricity production. Following the example of coconut fibre, oil palm fibre could perhaps also be used to make sacks for agricultural use.

Sesame: past and future

Photo: © Syfia International

Sesame is by far the oldest of the oil-producing plants, and its seeds have the highest oil content (close to 50%). Sesame oil is also the most costly since the extraction process is a delicate one.

Whilst Asia accounts for three-quarters of global production of sesame seed, estimated by FAO at 3 Mt in 2003-2004, Africa's share is rising steadily. More than 20 African countries produce this crop, with Nigeria, Sudan and Uganda the leading producers and exporters.

Although output is still modest in West Africa, production levels have been growing rapidly in the past decade, especially in Burkina Faso which is developing an organic sesame sector for export. Demand is also on the increase, especially in the leading consumer countries — China, Japan and South Korea — which the neighbouring countries are unable to satisfy. These offer promising markets for African sesame, whose quality is both recognised and sought after.

Sunflower: worth watching

Photo: © Syfia International

Although sunflower is an oil-producing plant generally grown in temperate countries — the Russian Federation and Ukraine are the major producers — southern Africa has succeeded in developing this crop for domestic livestock and human consumption. In 2005, South Africa produced nearly 700,000 t of sunflower seed, accounting for almost 80% of African output.

A French company, Dagris, is carrying out trials in West Africa to introduce sunflower in rotation with cotton. The first trials carried out in Senegal indicated that average yields could reach 600 to 700 kg of oil per hectare and a similar figure for oil cake. By comparison, 1 ha sown with groundnut produces 350 kg of oil and 400 kg of oil cake, while cotton yields 100 kg of oil and 350 kg of oil cake.

Great changes for groundnuts

Of all the tropical oil-producing plants, the groundnut has paid the highest price for market changes over the past 20 years. Sub-Saharan Africa accounted for little more than one-quarter of the global output of almost 36 Mt of unshelled groundnuts in 2004. International trading of groundnut products remains very low compared with levels generally obtained by small-scale farmers cultivating a food crop. Competition from oil-producing plants in temperate countries such as soya, rape and sunseed has been extremely stiff for both oil and oil cakes. Groundnut oil remains expensive, in spite of a fall in price to around US$1,000/t on the world market

Experts believe that the commercial future of this leguminous crop lies in developing peanuts for eating. But this means that processors will need to adapt to EU standards for the toxic mould aflatoxin and as regards the traceability of the products. Senegal is doing just that. It had formerly opted to export almost its entire output of groundnut oil and import less costly oils, but it has now switched to concentrating on marketing value-added peanuts for eating, which it sells under a 'Qualité Sénégal' label. While pursuing this new strategy, the country is also researching new markets, including local and regional ones.

Global trading of main oleaginous crops in 2005 (Mt)

	Seeds	Oil cake	Oil
Soybean	65	50	8.73
Cottonseed	1	0.6	0.2
Rapeseed	5.43	2.44	1.2
Groundnut	1.4	0.29	0.24
Sunflower seed	1.47	0.24	0.2
Palm oil		3.7	23.16
Copra		0.74	2

Adapted from FAO

Regional markets

The tropical oil-producing plant sector appears to be relying less and less on international markets as its sole outlet. The volatility of prices, which are prone to sudden and significant swings, is a strong incentive for oil-producing countries to explore other avenues, while at the same time helping to guarantee supplies for domestic consumption. The West African Economic and Monetary Union (WAEMU) estimates that its eight member countries currently have the capacity to satisfy the entire domestic demand for vegetable oils. If the oilseeds themselves are not exported to any great extent, these countries could even produce a surplus of oils for export. Demand for vegetable oil for this region is projected to rise by at least 68% between now and 2020.

Even without taking increased per capita consumption levels into account, population growth in ACP countries will significantly swell demand. So there is no time to be lost in taking action and rebuilding a solid sector for oleaginous crops, especially those based on perennial plants.

Soya: could do better

Photo: © Syfia International

Although Africa's output of soya has tripled in the past 20 years to a figure of more than 1 Mt in 2004, this crop, which originated from Asia, is proving slow to take hold in the continent. Two notable exceptions are Nigeria and South Africa, which produced 465,000 t and 277,000 t, respectively, in 2005. Elsewhere, in DRC, Ethiopia, Rwanda and Uganda, it is becoming more widely grown, though the quantities remain modest.

By contrast, imports of soybean oil have risen fourfold since the 1990s and reached 1.2 Mt in 2004. The import bill is a heavy one: almost 600 million.

Rather than a cash crop, soya was introduced into Africa as a food crop, given its high protein content and the range of uses to which it can be put both at household and small-scale enterprise level: baby cereals, milk, cheese, etc.

See *Links*, page 10

Taking stock of world fisheries

■ A new one-step service aims to improve reporting on the status of world fish stocks. The Fisheries Resources Monitoring System (FIRMS) pools information gathered from regional fisheries management organisations (RFMOs), FAO and other agencies into a comprehensive source of information on world fisheries. It includes data on catches and stock levels, fishing fleet activities, fishing mortality, biomass trends and management practices. The information is checked before being posted on a website, where it is freely accessible. Already, more than 500 major fishery resources have been profiled.

Website:
http://firms.fao.org

The might of mangroves

■ Global warming could lead to the destruction of more than half the mangrove wetlands of some Pacific islands, according to a report by the United Nations Environment Programme (UNEP). The study looked at the impact of rising seas on mangroves in 16 Pacific nations. It found that the Federated States of Micronesia, Fiji and Tuvalu could lose more than half their mangroves by the end of the century. Mangroves may be worth an average of US$900,000 (€700,000) per square km, mainly as marine breeding grounds. They also provide vital protection to islands from flooding, reducing wave energy by 75%.

Bowled over by bamboo

■ Increasingly prized for its resilience and prolific growth, bamboo is enjoying a boom as a raw material in Europe. Four times more absorbant than cotton, its natural fibres are attracting the interest of small-scale enterprises and major manufacturers alike and is also proving a hit with consumers. Pillows, bathtowels, T-shirts, socks, recyclable nappies, the scope is vast and the potential promising for ACP producers. In 2007, new customs regulations are due to be introduced by the World Customs Organization, a move which should allow ACP producers to negotiate new tariffs and preferential duties on bamboo and rattan products. Ethiopia, Ghana and Rwanda are already testing the new bamboo sector.

Website:
www.inbar.int/index.htm

Working for nature

Photo: © Sylva International

Saplings of trees native to Madagascar

■ Around 20 unemployed young people in Madagascar's Moramanga region, about 100 km from the capital, have succeeded in creating their own jobs. Since 2003, they had been paid by Mitsinjo, the association that they themselves created. Now, the local NGO dedicated to preserving protected areas, the Association nationale pour la gestion des aires protégées (ANGAP), which trained the young people, has entrusted them with management of the Andasibe natural reserve. Some of them work as eco-guides in the reserve, which is home to some of the world's largest lemurs. Others are engaged in reforesting the land with local varieties of trees. In the heart of the reserve, they have created a tree nursery with endemic species which they either transplant or sell to villagers in outlying communities. Their goal — to reforest 20,000 ha with local trees beyond the borders of the reserve, thereby helping to maintain biodiversity, which is gravely threatened by slash-and-burn cultivation and tree felling for charcoal production.

Spreading the word about leaf meal

Photo: © ICRAF

Livestock thrive on certain forage shrubs

■ Leaf meal made from fodder shrubs is helping small-scale farmers in Tanzania to boost their yields. Experts from the World Agroforestry Centre (ICRAF) are working on ways to develop South-South cooperation and extend the use of this product to other African rural communities. Bayslick Mineral Mix, which contains leaf meal from fodder shrubs, including ground leaf meal from *Leucaena leucocephala,* is widely produced and marketed in the Tanga area of Tanzania. "Several hundred rural women collect *Leucaena* leaves from the wild, then dry and process them into meal for cattle, and package it into bags for sale," said Aichi Kitalyi.

Kitalyi is one of an ICRAF team who visited Tanga to learn how leaf meal is produced and marketed. Work is already under way to replicate the process, and introduce new features to make it even more effective. Said Kitalyi: "We have come up with several ideas for improving performance and rural women's income — compressing the meal into bricks or pellets to reduce transport costs, improved drying procedures to increase wet season production, selling by weight instead of volume and promoting the leaf meal to farmers in other areas."

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E-forum for rural women

■ Information and communication have a major role to play in improving the livelihoods and status of women and can also be an effective tool in combating HIV/AIDS. So said participants in an electronic forum held from January to June 2006. This e-forum, organised by the Women of Uganda Network (WOUGNET), was supported by CTA and the Dimitra Project, an FAO-run initiative which helps women and their organisations get their voices heard. Participants highlighted the contribution made by women's networks in information, skills and resource sharing in rural areas.

HIV/AIDS, now affecting almost every household in much of Africa, was a special focus of their discussion, which heard that culture and poverty still play a big part in spreading the epidemic. Participants noted that effective information and communication strategies combining technology and social networks and using widely available ICT tools such as rural radio networks have a crucial role to play in containing the disease. Many contributors said rural women's networks need more guidance on accessing funds from supporting agencies and called for development partners and funding institutions to be made more aware of the role such networks can play in advancing rural development.

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A last frontier for agar wood

Photo: A Prabha-Yesia @ WWF

Agarwood, which contains a fragrant resin, is used to make incense

■ Papua New Guinea (PNG) is one of the last known sources of agar wood, also called eagle wood, gaharu or aloes wood and prized on global markets for its valuable resin. But since discoveries of natural supplies of the tree in 1997, growing demand has led to over-harvesting, causing extinction in some areas. Now, a scheme launched by the global conservation organisation WWF and other NGOs is offering education and training to local communities about the importance of agar wood as a resource, and encouraging sustainable management of the industry. A series of training workshops has taught villagers how to manage the trees and to set up seed nurseries. The initiative is also helping them with marketing. Often, villagers are paid a fraction of the real value of the wood, which is found naturally in only a small percentage of trees in the *Thymelaeaceae* family, of which supplies are dwindling worldwide. Ayurvedic (Indian), Tibetan and East Asian pharmacopoeiae value agar wood for its ability to treat a range of disorders including pleurisy, asthma, rheumatism and jaundice. Muslims, Buddhists and Hindus use agar wood incense in religious ceremonies and as a perfume, while essences are used to fragrance soaps and shampoos and other cosmetics.

Only about 10% of mature trees produce the fragrant resin, in response to a fungal infection which causes the affected wood to change density and colour. As a result, external signs are not obvious, which can lead to indiscriminate felling. To curb the rate of destruction in PNG, WWF has been helping communities to map their land and predict where the agar wood trees may be. "As part of our work, we are teaching them how to extract the agar wood resin without killing the trees," said WWF's resource use trainer Leo Sunari. "And, we're making sure they know its real value, so they're not ripped off by traders."

Carefree cassava

Photo: © Terre nourricière

Photo: © Syfia International

Photo: © Syfia International

Machines simplify the production of traditional cassava-based products.

■ *Challenge Futura*, a Congo-based firm specialising in agricultural machinery, has unveiled its *'Cassava bakery'* which mechanically prepares *chikouangue,* the cassava bread that is the staple diet of the Congolese people. It consists of a series of appliances which remove the peel and fibre from the cassava before mixing and kneading the dough. At the end of the production line, the cassava dough is cut into loaves and hand-wrapped in leaves. This is the only operation that is not mechanised. More and more consumers are buying the product, attracted by the flavour and especially by the more hygienic production method. The cost of the equipment ranges from FCFA1 to 6 million (€1,500 to 9,000) depending on the number of units purchased.

In Côte d'Ivoire meanwhile, it is the making of *attiéké*, i.e. cassava semolina, one of the country's most popular dishes, which has inspired Professor Offo Ohomon René, joint secretary-general of the national inventors' association. He recently developed a combination of machines which peel, grate, squeeze, crack and sieve cassava. They can even shape it into semolina grains. The appliance will go on sale in a few months' time, at a price below €1500.

Another appliance can cook between 40 and 50 kg of cassava flour to make *attiéké* in just 15 min. His latest invention consists of a machine which picks through the fibres in the dried semolina so that the grains are cleaner and more finely separated. Once again, the whole process is done without any manual intervention.

Challenge Futura
BP 5696
Brazzaville
Republic of the Congo
Email:
challengefutura@yahoo.fr

Sustainable creativity

■ A novel website aims to highlight creative approaches to sustainability issues by hosting the best commercial advertising on the theme. Launched by the United Nations Environment Programme (UNEP), the Creative Gallery on Sustainability Communications currently lists just over 700 public and corporate ads, which can be browsed by theme or searched by keyword. UNEP hopes the site will inspire more communication on environmental issues. Anyone can submit an ad after registering with the database.

Website:
www.unep.fr/pc/sustain/advertising/ad/ad_list.asp?cat=all

Top quality sandalwood

■ Field surveys of natural stands of sandalwood in Vanuatu have uncovered a range of varieties that possess exceptional oil qualities. The main study found that *Santalum austrocaledonicum* trees from the two northern islands produced an oil of international standard, while those from the southern islands produced a slightly lower quality oil. The survey places Vanuatu in second position behind the Indian sandalwood, *Santalum album*, in the world market. A workshop organised in Port Vila has helped teach farmers how to produce and market the top quality sandalwood oil.

Nourishing the soil

■ More than US$4 billion (€3.1 bn) — that is the price of annual losses to soil nutrients in Africa according to the New Partnership for Africa's Development (NEPAD). At the Africa Fertilizer Summit held in June 2006 in Abuja (Nigeria), agriculture ministers from the African Union adopted a plan of action: grants for local and regional production of fertilizer, setting up of strategic partnerships between civil society, the public and private sectors and launching of an African mechanism for financing the development of fertilizer.

Tropical aquaculture

■ This new website offers news about the latest developments in tropical aquaculture, and includes a searchable encyclopedia and other internet resources, a photo gallery and even games and recipes. Though mainly in French, some information is also provided in English.

Website: http://aquatrop.cirad.fr
Email: aquaculture@cirad.fr

Animal disease crisis centre

■ FAO has opened a new Crisis Management Centre (CMC) to improve worldwide response to animal disease. The Centre, based at FAO headquarters in Rome, Italy, is run in close collaboration with the World Organization for Animal Health (OIE) to provide animal disease analysis and deploy international resources to prevent and contain dangerous animal diseases. The current focus is on highly pathogenic H5N1 avian influenza.

Crisis Management Centre (CMC)
FAO
Viale delle Terme di Caracalla
00100 Rome
Italy
Fax: +39 (0)6 57056850
Website: www.fao.org/ag/againfo/programmes/en/empres/home.asp

Connecting the countryside

■ ADEN is an international development project launched by the French Ministry of Foreign Affairs which aims to expand the use of ITCs by creating 60 public internet access points. Run by associations, local organisations and educational institutions, these centres are located in remote areas of 13 sub-Saharan African countries: Angola, Burkina Faso, Burundi, Cameroon, Central African Republic, Democratic Republic of the Congo, Ethiopia, Guinea, Mali, Mozambique, Nigeria, Senegal and Tanzania.

Website: www.africaden.net/article.php3?id_article=30

ACP-EU-trade website

■ A new website provides information and analysis relating to ACP-EU trade relations and resources on Economic Partnership Agreements (EPA). It offers key documents, news and details of upcoming events as well as a library containing more than 2,000 documents. Expert advice is available on a range of ACP-EU trade topics.

Website: www.acp-eu-trade.org

Ethiopian gardens

■ Using appellations of origin to promote traditional knowledge of producers and protect biodiversity. That is the goal of a national geographical indications system launched in Ethiopia, which especially targets gardens with a rich diversity of plants that play a crucial role in food security. The Ethiopian Gardens project, jointly run by the French Institut de recherche pour le développement (IRD) and the Ethiopian government, focuses on the production of arabica coffee, spices, condiments and oleaginous plants.

Email: verdeaux@bondy.ird.fr and roussel@mnhn.fr

IRS: Reluctance in Madagascar

Photo: © Syfia International

The intensive rice-growing system produces higher yields but is more labour intensive

■ There is a certain irony in the fact that while the intensive rice-growing system (IRS) is undergoing trials in about 20 countries in Africa, America and Asia, the technique is proving slow to take hold in Madagascar. For it was here that the discovery was made, back in the 1980s, that plants pricked out early develop more secondary stalks, producing yields of more than 10 t/ha compared with the island's average of 2 t — a boon in a country where rice is a vital crop, especially for smallholder families who eat it for breakfast, lunch and dinner.

To date, these impressive figures have only convinced between 20,000 and 30,000 farmers to turn to IRS, and they are now practising it systematically on plots averaging 10 ares (about 1 acre). A drop in the ocean given that there are some 12 million farmers on the island, most of whom grow rice! This method of cultivation is in fact extremely demanding for small-scale producers: it requires careful pricking out of young plants, meticulous hoeing and weeding, rigorous control of water, the use of compost and the expense of extra labour.

As a result, most Malagasy farmers, knowing that rice will grow anywhere and with very little maintenance, cling to traditional crop growing systems, whether they be irrigation or rainfed. Tefy Saina (literally 'that which builds grey matter'), a farmers' association formed to promote IRS, still has a long task ahead to spread the word to its village schools.

Website: www.tefysaina.org

Fewer bananas make bigger profits

Photo: © Syfia International

■ Cutting banana production to fetch better prices. That is the motto of the 30,000 inhabitants of the Masisi territory in the Democratic Republic of the Congo's province of Nord-Kivu, most of whose livelihoods depend exclusively on agriculture. The Syndicat de défense des intérêts paysans (SYDIP), a local NGO launched in 1993 to group together and train farmers, has been encouraging them for a year now to reduce their output of bananas. This unusual strategy is aimed at stimulating a rise in the selling price of these fruits, which are grown extensively in the region. To help persuade farmers, many of whom were reluctant at the outset, SYDIP has organised a series of meetings and set up a marketing network.

On the plantations, farmers began uprooting some of their crops at the end of 2005. Plots which once hosted between four and seven banana trees now contain just one. The banana trees have gradually been replaced by haricot beans, sweet potatoes and marrows. It is a form of diversification that has paid off, for in less than 6 months, the price of bananas has risen tenfold.

Gluten free

■ Allergies to gluten, found in the grains of certain cereals such as wheat, barley and rye, are becoming increasingly common in industrialised countries. So widespread is the problem that even supermarkets are stocking more and more dietetic, gluten-free products for people who are intolerant. For some years now, the food industry has been seeking gluten-free raw materials to replace wheat flour in bread, pasta and various cakes.

A number of tropical products could offer a solution. Tuberous plants such as cassava, yams and sweet potatoes, cereals such as maize and sorghum and leguminous crops such as soya and cowpea are suitable for the manufacture of substitute food products. In Cameroon, Nigeria, Senegal, Sudan, Tanzania, Togo and Zambia, a number of trials have been carried out. In Cameroon, scientists at the Institute for Agricultural Research for Development (IRAD) have developed biscuits made from a mixture of maize flour and natural cocoa powder. These biscuits, which are similar in taste and appearance to their gluten-containing counterparts, are now ready for marketing. The difficulty in making such products lies in obtaining the same sticky dough as that produced by wheat flour, which is ideal for bread-making precisely because of the presence of gluten (from the Latin *glu* meaning glue).

Dr Njoya Aboubakar
IRAD
BP 2067, Yaoundé
Cameroon
Fax: +237 222 33 62
E-mail : njoya_aboubakar@yahoo.fr

Water-saving technology boosts harvests

Photo: Dayan @ Terra Verde

An Angolan-Israeli company is using the latest water-saving technology to grow fruit and vegetables in Angola, which imports much of its food after 27 years of civil war left the agriculture sector devastated. Terra Verde, a 45-ha farm outside Luanda, was set up at the end of the conflict in 2002 and has been harvesting tomatoes, peppers, cucumber, mangoes, melons and grapes for 4 years. The farm has a weekly output of 35 t, selling most of its produce to supermarkets and restaurants in the capital.

Key to the farm's success is a sophisticated drip-irrigation system, where plants are fed water and fertiliser in small doses through ground level pipes (see p.1 on desertification). A computer programme calculates the exact amount of water needed, depending on temperature and humidity. A second farm, ten times larger than Terra Verde, has now been set up in Kwanza Sul province.

Cyclists and livestock farmers in tandem

Photo: © Syfia international

Young people on bikes deliver milk in Bujumbura

Since mid-June 2006, the dwelling rights of cows have been revoked in Bujumbura, the capital of Burundi. The authorities, who put the number of animals in the city at 18,000, claim they are too invasive and dirty. Accused of being the cause of too many accidents, bicycle taxis have also been banned from the capital. Almost overnight, the town's livestock keepers, most of them civil servants or soldiers, have removed their animals, while owners of the bike-taxis have turned to transporting milk. This unexpected marriage of interests has ensured a continued supply of fresh milk for the town. Some cyclists go twice a day to collect milk from the cowsheds, some of which are now more than 20 km from the capital. Thanks to them, the price of milk has barely risen, in spite of longer transportation times. As for the livestock keepers, they are delighted with this new service, which makes life so much easier.

Satellite imagery for peanut farmers

Peanut farmers in Papua New Guinea (PNG) are learning how to use satellite technology to obtain bigger yields. "By using remote sensing technologies, peanut growers can make accurate in-season decisions about crop protection and harvesting management to minimise yield and quality losses due to varying environmental conditions in their fields and achieve greater profitability," said Australian peanut expert Dr Rao Rachaputi.

Photo: G Bizzari @ FAO/Swa 13/0020

The satellite scheme is a joint project launched by the National Agricultural Research Institute (NARI) and the Australian Centre for International Agricultural Research (ACIAR). It is part of a strategy to revamp PNG's once thriving peanut industry, which has fallen into decline in recent years. The programme includes a series of on-farm initiatives known as Seed Village trials in the Eastern Highlands Province. Farmers are being provided with improved peanut varieties and shown how to diagnose common fungal diseases, namely early and late leaf spot, which affect the leaves by causing defoliation and reducing yield. They are also learning processing techniques to produce value added products such as peanut butter, roasted nuts and peanut brittle.

NARI Head Office
Sir Alkan Tololo Research Centre
PO Box 4415
Lae, Morobe Province
Papua New Guinea
Fax: + 675 475 1450
Email: narihq@nari.org.pg

Comments on community radio

The final report on an email discussion on Community Radio for Development is now available. The report provides suggestions on how to make this popular information tool even more effective.

Downloadable from:
www.id21.org/communityradio/finalreport/index.html or
as PDF from:
www.id21.org/communityradio/finalreport/pdf.html.

Armed but not dangerous

The University of Stellenbosch in South Africa is working together with private companies to develop varieties of maize that have resistance to certain diseases without being genetically modified. Armed with knowledge of the plant's genome, scientists can identify the disease-resistant gene and then look for this in the leaves. The next step is to cross the gene-bearing plant so as to obtain a variety of maize that has stronger resistance to the disease. This technology may be applied to any plant whose genome has been sufficiently decoded.

Professor Andries Retief
University of Stellenbosch
Email: thrip@nrf.ac.za

The oba tree

The oba tree *(Irvingia gabonensis)*, particularly rich in proteins and lipids, is used in the production of processed foodstuffs, cosmetics and traditional medicines. In order to combat over-exploitation of this tree in the forests of central and southern Cameroon, the World Agroforestry Centre (ICRAF) has developed several techniques for grafting and propagating with cuttings and is teaching these to farmers. The initiative is helping to boost production of this valuable tree and expand its cultivation in Cameroon.

Website:
www.worldagroforestrycentre.org

Keeping tabs on EU-Africa relations

Information on decisions and developments relating to the new EU Strategy for Africa is now available in an electronic bulletin. The first e-alert focuses primarily on issues regarding the EU and the African Union (AU) but future newsletters will have a more sub-regional and local focus. Contributions of web sources of information, articles and opinions are welcome, especially from African partners.

To subscribe, email:
europafrica.e-alert@ecdpm.org
Website: www.ecdpm.org

Information blooms on desertification

The obvious place to look for more information in this **International Year of Deserts and Desertification** (IYDD) is the special website created for the event, which gives a useful overview of the issues.

But a number of other international initiatives have been mounted to combat desertification, and some of these offer more substantial resources on the challenges involved and the solutions being adopted. Your first stop should be the website of the **UN Convention to Combat Desertification** (UNCCD), which is full of reports and background documents about the scale of the problem. Click on the link for the new publication, ***Ten African Experiences*** to get an uplifting view of some of the successful initiatives being undertaken on the continent. See also the **United Nations Environment Programme's** (UNEP) website, and especially its attractively presented booklet, ***Deserts and Desertification*** which has plenty of facts and figures accompanied by some stunning photographs.

The **International Network of NGOs on Desertification** (RIOD) is a global forum for NGOs to share information and co-ordinate their interventions. The network has a wide range of partners operating as focal points, and is hosted by the **Environment Liaison Centre International** (ELCI) in Kenya

SciDev.Net has created an excellent dossier on drylands and desertification, with a good range of articles and a very comprehensive set of links. For an idea of some of the most innovative community-based initiatives operating in southern Africa, visit the website of the **Desert Research Foundation of Namibia** (DRFN), which is very active in research and training to combat land degradation and desertification. Lastly, for a practical look at how to build half-moon ditches, a simple and virtually cost-free method of keeping water in the soil, read the easy-to-follow guidelines published on-line by the **Developing Countries Farm Radio Network.**

Photo: © M Landolt

In Burkina Faso, rural communities are pushing back the desert

For further information:

Developing Countries Farm Radio Network
• Use Half-Moon Ditches to Prevent Soil Erosion
Website: http://64.233.183.104/search?q=cache:l4pz2tsdx2MJ:www.farmradio.org/english/radio-scripts/42-8script_en.asp+desertification+soil+bunds&hl=en&ct=clnk&cd=3.

DRFN
Website:www.drfn.org.na/index.htm
To obtain copies of the booklet, contact Ms Manyahleshal Kebede:
Email: manyahleshal.kebede@unep.org

RIOD
Baudouine Kamatari
Coordinator/Desertification Programme
ELCI
PO Box 72461, Nairobi
Kenya
Fax: (254 2)56 21 75
Email: bkamatari@elci.sasa.unon.org
Website: www.elci.org

SciDev.Net
Website: www.scidev.net/desertscience

UNCCD
Website: www.unccd.int

UNEP
Website: www.unep.org

IYDD
Website: www.iydd.org
• Deserts and Desertification
Downloadable as PDF from: www.unep.org/wed/2006/downloads/PDF/WED2006Booklet_en.pdf

Seeds, fruits, oil and oil cake

First, to get a global overview of oil-producing plants, type the phrase 'list of vegetable oils' into the research facility on the **Wikipedia** website. Both the major and secondary oil-producing plants are described, individually and in some detail. To have a clearer idea of how tropical oil-producing plants fit into the global trading picture and to understand their prospects in the international marketplace, visit **FAO**'s ***Food Outlook*** website. **Oil World** is another useful site. Part of it is accessible free of charge and it closely follows developments in this sector. The EU is the main client of ACP producer countries, and the article on oil products on the CTA portal **Agritrade** should help you grasp the issues relating to their export markets and the obstacles that producers still need to overcome.

The **Ag Marketing Resource Center**, an electronic resource for producers interested in value-added agriculture, has an excellent section on oilseeds, with detailed information on the main categories. The bimonthly review ***Oléagineux corps gras lipides (OCL)***, in English and French, provides an extensive array of research documents on production and processing in this sector. A CD-ROM contains all the articles published between 1972 and 1994. For more technical information about processing oleaginous plants, there is a practical guide, in French only, ***La transformation artisanale des plantes à huile. Expériences et procédés.*** It is available free on-line, but is out of print in hard copy.

Most of the websites focusing on a single tropical oil-producing plant deal with all aspects (agronomy, processing, trade, etc.). On its Sri Lankan website, the **Coconut Development Authority** (CDA) gives details of all the coconut's many applications. A book, ***Coconut. A guide to traditional and improved varieties*** also reviews the coconut's main uses (see *Spore* 124).

For further information:

Agritrade
Website: http://agritrade.cta.int

Ag Marketing Resource Center
Website: www.agmrc.org/agmrc/commodity/grainsoilseeds

CDA
Website: www.cda.lk/index.php

FAO
Food Outlook
Website: www.fao.org/docrep/009/j7927e/j7927e06.htmPerspectives de l'alimentation
• La transformation artisanale des plantes à huile
Downloadable from: http://sleekfreak.ath.cx:81/3wdev/CD3WD/FOODPROC/GR18/INDEX.HTM

OCL
• Oléagineux 1972-1994
CD-ROM, CIRAD 2001
ISBN 2 87614 485 9
Website: www.john-libbey-eurotext.fr/en/index.md

Oil World
Website: www.oilworld.biz/home

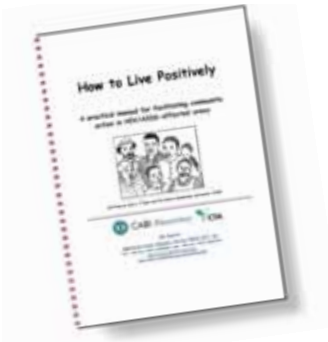
Wikipedia
Website: http://en.wikipedia.org/wiki/Main_Page

Publications

Living with HIV/AIDS

■ Worldwide, more than 38 million people live with HIV/AIDS. Of this number, two out of three live in sub-Saharan Africa. How to respond to the needs of people infected with the disease who are apparently healthy, but are vulnerable and too often neglected in the early stages of the illness? This manual, written for rural communities, explains in simple terms the links between diet, environment, hygiene and immunity. Well illustrated with tables and drawings, the guide can be used when organising workshops, and contains plenty of interactive exercises and discussions.

Dimitra, an information and communication project for rural women, stresses the need for breaking the silence and isolation that often surrounds HIV/AIDS. Here too, the approach is participatory. This book, published in the wake of a workshop on the subject, focuses on the role of women, encouraging them to move into the front line in order to stengthen knowledge and build local, national and international networks.



How to Live Positively
A practical manual for facilitating community action in HIV/AIDS-affected areas
By SLJ Page & F Nyakanda
CTA/CABI, 2006, 78 pp.
CTA number 1308
***5** credit points*

Rural Women, Dynamisation of Networks and the Fight Against HIV/AIDS in Rural Areas
Dimitra Bulletin n°11,
Special edition 2006
FAO-Dimitra/CTA Workshop, 2005, 140 pp.
Available free from:
Dimitra
21, rue de Brederode
1000 Brussels
Belgium
Fax: +32 2 549 03 14
Email: dimitra@dimitra.org
Website: www.fao.org/Dimitra/servlet/LogOnLoaderServlet

Photo: © Dimitra

Weighing up the impact

Impact assessment has moved on from being a trendy, if often poorly understood buzzword to a non-negotiable requirement for organisations working in development. As demand grows for organisations to be more accountable to their donors, there has been a marked shift towards more qualitative and meaningful assessments, especially in organisations involved in knowledge-based activities.

The challenge is often a daunting one for project managers and others in the development community. But some help is now at hand in the form of this entertaining and informative collection of 61 stories told by people involved in impact assessment studies around the world.

Commissioned by CTA, which has played an increasingly active role in developing impact assessment strategies, the technique of allowing the storytellers to do the talking offers a refreshingly practical approach to a topic that is often hard to address. People interviewed for the book range from a top NGO director in London to a farmer in Trinidad and Tobago. Through their eyes the reader gains useful insights into how effective a good impact assessment can be, and what can go wrong if the process is not properly planned. One coordinator involved in an impact assessment study in Kenya complained that questionnaires sent out to garner opinions seldom reached the recipients, and that when they did, most people failed to respond. A lively read on a difficult topic.

Perceptions and Practice: An anthology of impact assessment experiences
By K Sayce, with P Norrish
CTA, 2006. 196 pp.
ISBN 92 9081 312 1
CTA number 1307
***20** credit points*

Energy bulletin

■ The German development corporation, GTZ, has launched an English language energy bulletin. The first issue gives details of an electrification project in rural areas of Madagascar as well as an initiative aimed at promoting the use of biomass in Africa.

GTZ Energy News n°1
GTZ GmbH, 2006
PO Box 5180
65726 Eschborn
Germany
Fax: +49 61 96 79 11 15
Email: energy@gtz.de
Downloadable free from:
www.gtz.de/de/dokumente/en-Energy-News01-June.pdf

Powerful plant nutrients

■ A massive body of information exists on plant nutrition, but much of it remains scattered. This handbook provides updated coverage of the key aspects of the subject with special reference to integrated nutrient management for crop production. Topics covered include food security and agricultural production, the basics of plant nutrition, soil fertility and crop production, sources of plant nutrients and soil amendments, and economic and policy issues of plant nutrition. There is also an interesting section on plant nutrition and environmental issues.

Plant Nutrition for Food Security: A guide for integrated nutrient management
By GJ Blair, A Finck, RN Roy and HLS Tandon
FAO, 2006, 368 pp.
ISBN 92 5 105490 8
US$70 • €54
FAO Sales and Marketing Group
Viale delle Terme di Caracalla
00100 Rome
Italy
Fax: +39 6 5705 3360
Email: publications-sales@fao.org

Ways to lift water

■ This revised and expanded edition examines a range of water-lifting technologies that are suitable for smallholders. As well as exploring the systems and how they work, it looks at the cost and offers advice on the pros and cons of the various options so that farmers and policy-makers can make the most appropriate choices.

Water Lifting Devices: A Handbook
By J Thake & P Fraenkel
ITDG Publishing, 2006. 344 pp.
ISBN 1833595382
GBP19.95 • €30
ITDG Publishing
Bourton Hall,
Bourton-on-Dunsmore
Rugby
Warwickshire CV23 9QZ
UK
Fax: +44 1926 634502
Email: info@itpubs.org.uk
Website:
www.itdgpublishing.org.uk

MDGs and daily life

■ Bamtaré is a small imaginary town in Africa in 2015. The children all go to school, the health centre works, people know how to read and make use of the bookshop which is next to the school. Such a scenario would be a dream for many living in Africa. This booklet, published by the Belgian Development Cooperation, offers an enjoyable forward glimpse at some of the changes hoped for in 2015, the deadline for the Millennium Development Goals (MDGs).

Bamtaré in 2015 or the true story of the Millennium Development Goals in a small town somewhere in Africa
By FPS & DGDC
Jan Grauls/GRESEA, 2006, 28 pp.
15 rue des Petits Carmes
1000 Brussels
Belgium
Fax: + 32 2 519.05.44
Email: Info.DGCD@diplobel.fed.be
Downloadable free (2.5 Mo) from: www.dgdc.be/documents/en/MDG/brochure_bamtare_uk.pdf

A reasoned revolution

■ The growth in livestock production is a positive trend, but it can cause problems if it happens too rapidly. FAO has launched a series of briefs which examine issues relating to animal production, outline political measures and present some of the most successful approaches.

Livestock policy brief – Newsletter Facing the opportunities and challenges of the livestock sector
Downloadable as PDF from: www.fao.org/ag/AGAinfo/resources/documents/pol-briefs/01/EN/AGA01_10.pdf

Health and agriculture

■ This set of briefs from the International Food and Policy Research Institute (IFPRI) examines how agriculture influences health, how health influences agriculture, and how the two need to be linked in the fight against poverty.

The papers argue that joint action in both fields provides important opportunities in improving food security.

Understanding the Links between Agriculture and Health
Edited by C Hawkes & MT Ruel
IFPRI, 2006. 36 pp.
Free. US$5 • €4 each for multiple copies
Publication Services
Communication Division
International Food Policy Research Institute
2033 K Street NW 4th Floor
Washington
DC 20006-1002
USA
Email: IFPRI-info@cgiar.org
Fax: +1 202 467 4439
Downloadable from: www.ifpri.org/2020/focus/focus13.asp

Mapping West Africa

■ Population, economy, transport and telecommunications, environment — every one of these fields transcend national boundaries. The *Web Atlas of Regional Integration in West Africa* offers a view of some of the cross-border initiatives undertaken by the Economic Community of West African States (ECOWAS) and the Sahel and West Africa Club (SWAC).

The tools available are varied and attractive: maps, graphics and short analyses. A precious aid for gathering and cross-checking information, useful for governing bodies, partners and anyone interested in a regional perspective. Particularly noteworthy is a collection of highly informative maps of the ecologically fragile Sahel, the agropastoral region that is most vulnerable to climatic hasards and regularly threatened by food insecurity. Another valuable collection of maps and tables focuses on telecommunications, especially the internet.

A second website, jointly created by Prospectives dialogues politiques and SWAC, embraces a similar philosophy. *Frontières et Intégrations en Afrique de l'Ouest*, partly in English, publishes surveys and reports on regional construction in its bulletin *Chroniques frontalières.*

Many of the documents offered on these two sites are also available in hard copy.

The Web Atlas of Regional Integration in West Africa
ECOWAS/SWAC-OECD
2, rue André Pascal
75775 Paris Cedex 16
France
Fax: +33 1 45 24 90 31
Email: contact@atlas-ouestafrique.org
Website: www.atlas-ouestafrique.org/rubrique.php3?id_rubrique=36

West African Borders and Integration Cross-borders diaries
CSAO-OCDE/Prospectives dialogues politiques
Email: marie.tremolieres@oecd.org
Website: www.afriquefrontieres.org/index.php?lang=en

Small volumes, big capacity

Close to 500 documents, 12,000 pages and 6,000 images! This trilingual CD-ROM (English, French and Spanish) is tantamount to a small library, and can be consulted using a few pieces of relatively simple equipment: a PC hooked up to the internet and equipped with a browser and software for reading PDF files. A dozen member organisations of the International Network for Technical Information (INTI) have agreed to allow their works and texts on appropriate technology to be made available in this way.

The documents are organised according to eight main themes: agriculture and nutrition, agroforestry, construction, water and health, livestock rearing, the environment, manufacturing and manufacturing processes. Searches can be carried out by key word, title, subject, theme or publishing organisation. Among texts you will find here are manuals of

the Agrodok series jointly published by Agromisa and CTA and documents from the German cooperation agency (GTZ). You will also be able to find out how to make soap or vinegar, how to grow green fertiliser plants and how to build using the right materials.

A mine of information at the click of a mouse.

Appropriate Technology Knowledge Collection
CD-ROM, 2006
CTA/INTI/Human Info NGO
CTA number 1316
***10** credit points*

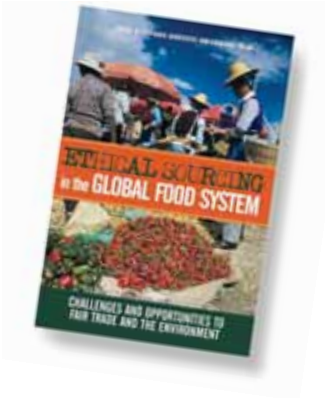
Hi-tech mapping tools

You may know what remote sensing is, but how many of you know what cultural maps are, or for that matter counter maps, or participatory 3D modelling? Read this volume, a special edition in the Participatory Learning and Action series, and such mysteries will be unveiled. The book is devoted to the fast developing field of spatial technology — in a nutshell, tools which can help communities map and manage their natural resources. In September 2005, CTA helped organise the Mapping for Change International Conference on Participatory Spatial Information Management and Communication conference in Kenya, a key event which brought together 154 people from 45 countries with practical experience in implementing spatial technology. Compiled from articles submitted to the conference, the book wisely kicks off with a full and very well-designed glossary, to help newcomers through the often daunting terminology. That hurdle over, readers can settle down to explore just how these high-tech tools can provide concrete help to local communities.

The articles do a good job in explaining this crucial aspect, using a wide range of examples, from indigenous communities' use of geographic information systems (GIS) to store and analyse information about land use and intangible cultural heritage in the Fiji Islands to natural resource mapping by San communities in Namibia.

Mapping for Change: Practice, technologies and communication
Participatory learning and action, No. 54
CTA/IIED, 2006. 150 pp.
ISBN 1 84369 605 3
CTA number 1306
***10** credit points*

Consumers with a conscience



■ Once considered a small niche market for cranky consumers, fair and ethical trade products are moving swiftly into the mainstream of global food systems.

The major supermarket chains are coming under growing pressure to stock such products, and to improve the returns to small-scale farmers and conditions of employment within their supply chains. But is ethical sourcing really effective in helping to improve the conditions of producers and workers in the South, or is it just a cosmetic ploy designed to salve consciences in the North? And can southern initiatives be developed to create a more sustainable approach to ethical sourcing?

A range of academics and practitioners working in this fast-developing field discuss some of the opportunities and challenges posed by the ethical sourcing of food, exploring its rapid growth, considerable potential and some of its limitations.

The discussion is amply punctuated by case studies that examine a range of approaches; one chapter examines the impact of ethical sourcing on women farmers working in the horticulture sector in Africa, while another explores fair trade initiatives in the coffee sector.

Ethical Sourcing in the Global Food System
Edited by S Barrientos & C Dolan
Earthscan, 2006. 192 pp.
ISBN 1844071995
GBP22.95 • €34
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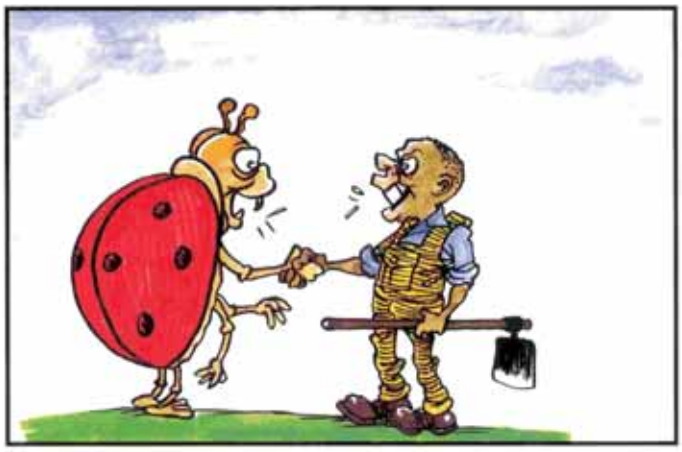
A sustainable calendar for 2007



Some insects like the ladybird are farmers' friends because they kill pests
Wadudu wengine kama wadudu kobe ni marafiki wa wakulima sababu wanana visumbufu

The Natural Resources Institute and CTA are publishing a 2007 calendar in English, French and Swahili, containing key messages for small scale farmers about integrated pest management (IPM) and livestock, fisheries and forestry management. As in previous years, the satirical cartoonist GADO from the *Kenyan Nation* newspaper has agreed to illustrate the calendar, bringing the messages to life in his uniquely humorous way.

The calendars will have a life after 2007 as a visual aid in training courses – the date part of each page can be cut off to leave a flip chart of cartoons for use by trainers at farm level.

CTA number 1324
***0** credit point*

Gardening with care

■ This book sets out from the premise that anyone tending a garden or plot of land has a duty to do so with future generations in mind. All gardeners and farmers are, in a sense, temporary stewards — hence the title *Garden Guardians* — and all their practices will have an important impact on the future state of the environment. The author questions the often knee-jerk reflex to reach for pesticides when gardeners find insects gorging on their fruit, flowers and vegetables, and sets out to offer some of the many less damaging alternatives: biological controls including beneficial predators and parasites, relatively non-toxic organic or natural pesticides and optimal cultivation techniques.

After an introductory chapter discussing the politics of pesticides — and the massive commercial interests involved — the book provides an easy-to-use guide to some of the many pests and diseases that are found in South African gardens. Many of these unwanted visitors will be all too familiar to gardeners and small-scale producers in other countries as well. Just as important, the guide provides practical advice on how to dispose of them. Aphids on your roses or tomatoes? Finely chop a large onion, two medium cloves of garlic, add two cups of water and blend at high speed before spraying the liquid on your plants. Cheaper and much less harmful than anything you can buy!

The Garden Guardian's Guide to Environmentally-Responsible Garden Care
By J Gerber
Aardvark Press, 2006. 252 pp.
ISBN 0 9584785 5 4
€19.50
Aardvark Press Publishing Ltd
PO Box 37571
Valyland 7978
South Africa
Website: www.aardvarkpress.co.za
Email: orders@aardvarkpress.co.za

Pacific gardening

■ This newsletter aims to develop the horticulture industry in remote Pacific communities. Each issue features an editorial on a key topic, as well as practical advice, sources of further information and book reviews. Current and upcoming issues (7 and 8) look at gardening in tropical areas, the phytophthora disease in papaya, nutritional aspects for growing and eating fresh produce and issues relating to setting up road-side stalls. Copies are available in electronic format or hard copy, both free of charge. To be added to the mailing list for either version of *The Pacific Gardener*, contact:

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Poverty and conservation

■ Here is a new mechanism for sharing information and experience on links between poverty and conservation. The website offers a bibliographic database, as well as separate ones for organisations, initiatives and case studies. You can also sign up to receive the monthly newsletter *BIOSOC* (Biodiversity and Society) in English, French or Spanish.

Website: www.PovertyandConservation.info

Agricultural advisory services

■ After years of neglect, agricultural advisory services are enjoying a revival in many countries. Such services play an important role in supporting the use of the agricultural sector as an engine of growth and enabling small farmers to meet new challenges such as accessing export markets, adopting environmentally sustainable production techniques, and coping with HIV/AIDS. But there is considerable debate as to the best way of offering and financing them. This policy brief presents a framework tool for the design, analysis, and evaluation of agricultural advisory services. The aim is to help policy planners and extension managers identify best-fit options for funding and providing them.

From "Best Practice" to "Best Fit": A Framework for Designing and Analysing Pluralistic Agricultural Advisory Services
By R Birner et al.
IFPRI, 2006. 4 pp.
Downloadable as PDF file from: http://www.ifpri.org/pubs/ib/rb04.pdf

Africa's youth speaks out

Spore has written extensively on the declining appeal of agriculture for young people in ACP countries (see, most recently, *Spore* 124, Viewpoint), and the CTA-supported 2nd African Regional Youth Congress on Science and Technology, held in Accra, Ghana, in June 2006, confirmed the worrying picture. Among the many topics discussed by young professionals, scientists, researchers and youth leaders from 16 African countries, the plummeting numbers of students enrolling in agriculture topped the agenda.

Yet the conference, which focussed specially on the dual challenges of food security and ill health facing Africa, also recognised that the "application of science, technology and innovation in agriculture hold the key to transforming African economies" and that "Africa's youth have an integral part to play in Africa's socio-economic development". Young people represent one of the continent's greatest resources. Harness that talent and energy and Africa's prospects could improve dramatically.

As the participants noted, Africa's problems are greatly compounded by the increasing disease burden. In the case of HIV/AIDS, whose effects on agriculture and rural development are tragically clear, young people are the worst affected. Yet in spite of the massive scale of the difficulties facing Africa's youth, the tone of the meeting was decidedly upbeat. Many of the sessions were positively fizzing with ideas, as some of the continent's brightest young minds grappled with the challenge of carving a better future for themselves and the generations to come.

The participants noted that shortcomings in African tertiary agricultural education are partly to blame for the fall-off in enrolments. They therefore suggested a portfolio of strategies, ranging from regular reviews of the curriculum — to take on board emerging issues and contemporary research findings — to better and earlier career advice for school pupils. The potential of agri-business deserves a better press among young people and the creation of job opportunities in the agricultural sector could do much to help graduates get their foot on the crucial first step of the ladder.

A call to young people

Established farmers, research and development institutes and African governments and policymakers all have a role to play in steering more young people towards farming, and in helping to make the agricultural sector a more profitable one. There were plenty of recommendations on how to achieve this. But young people can do much to shape their own destiny and young delegates at the conference called on their contemporaries to be ready to change their attitudes towards agriculture, to be willing to learn and be trained and above all, to be willing to 'soil their hands' and work in the rural areas.

Spore magazine

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Mailbox

Whether you are looking at it from the standpoint of small-scale producers or from the wider perspective of global needs, energy ranks as one of this century's top burning issues. This edition of* Mailbox *examines some of the challenges.

Four-leg drive

From Zambia, **Daniel Chonde**, a senior livestock production specialist at the Ministry of Agriculture, writes in praise of donkeys. A programme supported by the African Development Bank has so far helped 250 small-scale farmers in the country's Eastern Province to buy these animals, and discover their advantages over oxen. For while the latter are prone to a range of conditions, including East Coast fever (theileriosis) and trypanosomosis, donkeys generally have good resistance to disease.

"Donkeys are well-suited to routine work and are easy to guide," writes Mr Chonde. "They are more hardy animals than cattle because no major diseases have so far been noticed. Donkeys are easy to feed, and because they require less food, can thrive

Photo: © Syfia International

Women in action

Partners and players involved in the Gender and Agriculture in the Information Society (GenARDIS) Small Grants Fund have been meeting to share experiences in what has been widely hailed as an important learning process. More than 30 people spent 5 days in Entebbe, Uganda in July 2006 exchanging views about the benefits of the projects made possible through the fund, as well as some of the obstacles encountered along the way. Innovative projects supported by GenARDIS include an agricultural information system to benefit women's groups in Benin, a scheme to test the use of mobile phones among farmers in Trinidad and Tobago and a programme to develop ICT skills among rural women in Burkina Faso.

GenARDIS was launched in 2002 to support work on gender-related issues in ICTs for agricultural and rural development in ACP countries. It was developed in response to some of the many cultural and socio-economic constraints encountered by rural women in accessing radios, mobile telephones and computers. As well as CTA, GenARDIS partners include the International Development Research Centre (IDRC), the Humanist Institute for Cooperation with Developing Countries (Hivos) and the International Institute for Communication and Development (IICD). The GenARDIS workshop was coordinated by the Association for Progressive Communications (APC) and Women of Uganda Network (WOUGNET).

Photos : © CTA

Sharing experiences in Entebbe in July 2006

The gathering was held parallel to the African Regional Congress on Women and Science in Food and Nutrition Security which brought together 85 women scientists drawn from a range of agricultural disciplines in 25 African countries. The meeting, organised by CTA, the Forum for Agricultural Research in Africa (FARA) and the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), called for governments to give greater emphasis to policies encouraging girls and women to pursue science and urged a target to increase the percentage of women in colleges and universities throughout Africa from about 15% to 20 % over the next 5 years. It also recommended better networking for women scientists and improved access by women farmers and agro-entrepreneurs to technical and business training.

The Uganda gathering was rounded off by field trips to the Buwama Telecentre and to the St. Jude's Integrated Agri-business Enterprise. The latter is a women-led enterprise promoting integrated organic farming in the community as well as training on the Gender Evaluation Methodology (GEM), a tool for integrating gender analysis into evaluations of initiatives that use ICTs for social change.

Website: www.agricta.org/about/genardis.htm

better on natural pastures, even during the dry season." In addition, donkeys are easier to handle for women and children, an important consideration given the role played by these two groups in fetching water and transporting goods. The major factor hampering a more widespread use of these versatile animals is the relatively high cost of buying the donkey itself and equipping it to work the fields, draw water and carry loads. As the demand for donkeys increases, writes Mr Chonde, "our major task is to ensure that donkeys are acquired as a complete package together with tillage implements and donkey carts."

Reservations about biofuels

Meanwhile, **Harry van den Burg** writes from Swaziland to comment on our recent article on biofuel (*Spore* 123). He agrees that it is important to explore all possible alternatives to fossil fuel, since supplies are finite and green fuel could open up opportunities for farmers in ACP countries. But he puts forward what he describes as two important counter-arguments to the case for biofuel. He comments that "land, and especially good agricultural land, is as finite as fossil fuels, perhaps more so!" and questions the premise that biofuels are good for the environment. "They (green fuels) are supposed to capture CO_2 from the air, and then return it when burned," he says. "True. But what was growing (and capturing CO_2) on that land before biofuels were growing there? Only if you start to produce biofuels on previously bare land are you going to make a difference!"

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www.cta.int

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Agricultural policy

Small is still beautiful

Against a background of globalisation, trade liberalisation and new market rules, some policy-makers are urging a shift away from small-scale agriculture towards larger commercial farms and non-farm development. But for many ACP countries, smallholder production continues to represent the best way forward for economic growth and poverty reduction.

Agriculture has played a key role in kick-starting economic growth and reducing poverty and hunger in many developing countries. Most of the countries that have failed to launch an agricultural revolution remain trapped in poverty, hunger, and economic stagnation. But the conventional conclusion that these states should invest more heavily in their agricultural development, and particularly in food staples and small farms, is now being challenged. In an era of globalisation, trade liberalisation, changing market structures and ample world food supplies, a new breed of agricultural sceptics argues that poor countries should downplay the importance of food staples and small farms and focus instead on commercial farms, higher-value agriculture, and rural income diversification through migration and non-farm development. These arguments have merit, but they can also trigger simplistic conclusions that overlook the diverse needs and opportunities facing developing countries today. Not only are there still many viable opportunities for small farms, but the kind of state withdrawal from agriculture being promoted by some could lead to a massive and premature exodus of small farms that could overwhelm the capacity of many countries to cope.

The changing face of agriculture

Agriculture's role changes as a country develops. As people get richer, agriculture's share in national income and employment falls, small farms find it harder to compete with larger, more mechanised farms and consumers diversify their diets into higher value products and more processed and pre-cooked foods. Urbanisation accentuates these patterns. In short, as countries become wealthier, farms become progressively larger, more commercial and more specialised in higher-value products. Many small farms disappear, while others adapt either by finding high-value niches in which they can compete, or by becoming part-time farmers. These changes are a normal part of the economic transformation of a country. But what is new is the speed and scale of today's transformation processes, coupled with fundamental changes in the global economic landscape. New driving forces, particularly globalisation, the virtual withdrawal of most publicly provided services for agriculture, and HIV/AIDS are creating a situation in which small farms are being prematurely threatened. The challenge is especially daunting for many African and South Asian countries whose small farms still account for over 80% of total farms and 40% or more of total agricultural output.

Left to market forces alone, the major beneficiaries of the new high-value and liberalised agriculture will be the larger, commercially-oriented farms, and ones which are well connected to roads and markets. There is a potential crisis looming as powerful demographic forces collide with powerful market forces and hordes of small farms are squeezed out of their livelihoods. If this crisis is to be averted, governments, NGOs and the private sector need to make a concerted effort to create a more equitable and enabling economic environment for agricultural and small farm development.

Finding the right formula

But the right solutions must be found for different situations. There are huge differences between what is needed in Africa and Asia. Asia's dynamic and growing national economies offer small farmers many more opportunities to diversify into higher value products and non-farm sources of income. But in Africa's poorer and slower-growing economies, such opportunities are much more limited and many smallholders are trapped in subsistence modes of farming. It is also crucial to craft different strategies for small farms which have viable commercial futures and those which do not, with greater emphasis on safety nets and exit strategies for the latter. A 'one size fits all' approach will not work.

The greatest challenge for small farmers in much of Asia is to find cost-effective ways of accessing modern market chains to benefit from the rapidly growing domestic demands for high-value agriculture. In Africa, however, domestic markets for high-value products remain small and stagnant, and the best high-value opportunities are in export markets. These are particularly difficult for small farmers to penetrate. Recent successes with flower, fruit and vegetable exports from countries like Kenya and Uganda are encouraging. But they are too small to provide much hope for most of Africa's small farms any time soon. On the other hand, food staples still have a critical role to play in helping large numbers of African farmers to overcome poverty and hunger. Unlike Asia, where growth in demand for food staples (cereals, roots and tubers and traditional livestock products) is flat, demand in Africa continues to grow at 3-4% each year. This offers a much larger and more accessible market for many African smallholders in the next decade than growth in non-traditional, high-value markets.

"A 'one size fits all' approach will not work"

If many of Africa's small farmers are to find viable market opportunities, then much more will need to be done to improve their access to basic inputs like fertilisers and farm credit, and to reduce transport and marketing costs. Past failures have highlighted the need for new approaches to achieving these goals, but state neglect and withdrawal from agriculture is not the right way forward.

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The opinions expressed in Viewpoint *are those of the authors, and do not necessarily reflect the views of CTA.*