



Climate
and development

The future hangs on Copenhagen

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For ACP countries, the stakes at the Copenhagen conference on climate change could not be higher: obtaining compensation for the damage already caused by global warming and support to adapt to what threatens to be a difficult future.

The African continent has seldom presented such a united front at major international negotiations. And seldom has this position been so firm. Ethiopian Prime Minister Meles Zenawi, named as Africa's representative at Copenhagen, echoed the feeling of unity when he declared: "If needs be, we are prepared to walk out of any negotiations that threaten to be another rape of our continent. We will use our numbers to delegitimise any agreement that is not consistent with our minimal position."

Preparatory meetings have been held so that Africa can present a common stand on the issues that will dominate the agenda – the first was held in Algiers in November 2008, during the African Conference of Ministers in Charge of Environment on Climate Change for Post 2012. This was followed, in Addis Abeba in September 2009, by a gathering which highlighted the decision to present a unanimous African standpoint, which will be defended at Copenhagen by Ethiopia's Prime Minister. The last encounter took place in October in Ouagadougou as a side event of the World Forum on Sustainable Development.

As a group, the ACP countries have virtually nothing to lose and everything to gain in this UN Climate Conference, which will bring together 170 countries in the Danish capital from 7th to 18th December to negotiate new commitments to reductions in greenhouse gas emissions after 2012, the expiry date for the current Kyoto Protocol (see *Spore* Special Issue on *Climate Change*). The poorest countries produce just a fraction of these gases, which are the prime cause of global warming and the climate disturbances that ensue. But it is they who are already – and who will be to an even greater extent in the future – the main victims, forced to endure more frequent and intense incidences of extreme weather conditions such as drought, floods, hurricanes and rising sea levels.

The poorest are most vulnerable

Wealthy nations, responsible for 64% of greenhouse gas emissions since 1850, will only bear 20% of the consequences while developing countries, which caused just 2% of these emissions, will pay 80% of the price, according to the World Bank report for 2010. Rob Vos, a Director of the UN Department of Economic and Social Affairs, claims that the damage caused to the economies of the world's poor countries will be 'ten times greater' than that inflicted on developed nations. A study by UK risk assessment company Maplecroft reveals that of the 28 countries exposed to 'extreme risk', 22 are in Sub-Saharan Africa.

In Copenhagen, the poorest nations are therefore planning to ask for compensation for present and future damage resulting from global warming and assistance in adapting to it. They will also demand that the countries responsible for this situation take action to reduce their greenhouse gas emissions from now on.



Haiti after a cyclone struck in 2008

Estimates vary widely of the sums needed to compensate countries and the most suitable strategies for adaptation to the effects of climate change. This is hardly surprising given the complexity of the issue and of the calculations required. In Addis Abeba, representatives from the African Union claimed that the annual figure needed as redress for the continent from the industrialised countries would be in the region of €45 billion. This estimate does not differ greatly from that of the United Nations which declared that an annual €33.5 billion would be required between now and 2020 for the African continent alone. The World Bank, on the other hand, calculates that €268 billion will be enough to fund adaptation in developing countries as a whole up until 2030, the equivalent of just €10 billion per year.

Crucial support for agriculture

At Copenhagen, the countries of the South are going to focus on asking for support for their agriculture sector, which is particularly weak and vulnerable to climate change (drought, floods,

declining rainfall). According to FAO, their total agricultural output could fall by between 9 and 21% due to global warming. These countries will therefore ask for funding and technical support to adapt their crops to drought (appropriate seeds and new cultivation techniques), develop irrigation, protect themselves from flooding and conserve coastal zones threatened by rising sea levels. But they make it clear that under no circumstances should these funds be taken from existing state aid budgets, at the expense of other programmes. Poor countries will also be asking for help in developing technologies such as solar cookers and improved stoves to replace firewood as an energy source.

Africa would like to draw greater benefit from the Clean Development Mechanism (CDM) which enables developed countries to offset part of their CO₂ emissions by investing in 'clean' projects in the South, focusing on energy or reforestation. To date, Africa has only managed to land 2% of these projects whereas China has obtained 45%. Of 40 forestry projects, just four are in Africa and none of these has yet been ratified. Africans are asking for the entry procedures for the mechanism to be simplified. But some fear that these payments could lead to a proportional drop in state aid to development, penalising countries that have the greatest difficulty in accessing the carbon market.

...and for agroforestry

For its part, the World Agroforestry Centre (ICRAF) is campaigning for the CDM to include tree planting for agroforestry purposes. This suggestion was taken up at the Addis Abeba discussions by the Common Market for Eastern and Southern Africa (COMESA), whose members include several semi-arid countries. Such a scheme would enable farmers who plant trees on their land to receive financial support in return. "We need to get agriculture into the negotiations... in Copenhagen so it has much greater access to adaptation funding. We need to develop appropriate and simplified access of small farmers and rural producers to carbon trading", says Mark Rosegrant, of the International Food Policy Research Institute (IFPRI).

In an effort to bolster prevention, African countries also plan to call on the industrialised nations to take concrete steps to keep global warming at a lower figure of 2°C and cut their greenhouse gas emissions between 25 and 40% by 2020. "Africa will veto any global climate change agreement that does not meet its demand for money from rich nations to cut the impact of global warming on the continent", warns Meles Zenawi. "Africa should go to Copenhagen with a united voice and tell the industrialised countries they have a moral issue on their hands. They should not allow Africa to suffer a disaster that is not of its own making", thunders Kenyan Nobel Peace Prize-winner Wangari Maathai.

As for the small island countries, grouped together under the Alliance of Small Island States (AOSIS), their extreme vulnerability to climate change due to rising sea levels has prompted them to take an even more radical stand than the African states. During a preparatory summit to the Copenhagen conference, held in New York in September, they demanded that the industrialised countries commit to restricting global warming to 1.5°C, although the G7 has only agreed to a limit of 2°C. "For AOSIS, 2°C of temperature rise is unacceptable, because it exceeds safe thresholds necessary for the protection and survival of small islands", said a spokesperson for the islands' organisation.

The 2°C figure proposed is unacceptable because it exceeds the safety limit required to ensure the protection and survival of the small island states, said Alliance chairperson Dessima M Williams, ambassador for Grenada to the United Nations.

Whether they be island, desert or semi-desert states, or nations prone to cyclones, the ACP countries know that their survival depends on Copenhagen. "For us, it is a choice between survival and death", observes Dessima Williams. ■



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Laptops against cassava disease

□ A scheme that distributes laptops to farmers is helping to combat two virulent cassava diseases in Burundi, Democratic Republic of Congo, Kenya, Rwanda, Tanzania and Uganda. Cassava mosaic disease and cassava brown streak have wiped out massive quantities of crops across the region, forcing some producers to abandon cassava altogether. The Great Lakes Cassava Initiative (GLCI), run by the Catholic Relief Services (CRS), is using computers to help farmers recognise plant diseases, monitor their plants and communicate information to field agents. The scheme is also enabling them to repopulate the former cassava lands with new disease-resistant varieties.

The rugged, hand-held PCs come with a wireless modem, a small keyboard, and specially designed software that offers simple data entry forms that can be processed quickly by a central database. Farmers are given

training in using the laptops and training modules have been developed to educate producers on topics such as disease identification, plant spacing and basic business skills. The computer's built-in camera allows users to submit pictures of cassava.

Primary challenges include recharging batteries and network access, but already, the project is producing results, with some regions returning to original levels of cassava production. "By giving farmers access to disease-resistant varieties, we are encouraging them to grow cassava once again", said GLCI director Michael Potts.

Computers are helping to diagnose crop disease.

For further information

• **Maplecroft Climate Change Risk Report 2009-2010**
www.maplecroft.com

ACCID
 Africa-wide Civil Society Climate Change Initiative for Policy Dialogue
www.africaclimatesolution.org

AOSIS
 Alliance of Small Island States Copenhagen Declaration
www.sidsnet.org/aosis

Copenhagen Climate Council
www.copenhagenclimatecouncil.com

FAO
 Climate change
www.fao.org/climatechange/en

IDDRI
 Getting ready for Copenhagen
www.iddri.org

IFPRI
 Impact of Climate Change on Agriculture
www.ifpri.org/pressroom/briefing/impact-climate-change-agriculture

IIED
 International Institute for Environment and Development
www.iied.org/climate-change/home

Official site of Copenhagen conference
<http://en.cop15.dk>

UNFCCC
 United Nations Framework Convention on Climate Change
<http://unfccc.int/2860.php>

World Bank
 Section on climate change:
<http://beta.worldbank.org/climatechange>
 • **World Development Report 2010: Development and Climate Change**
<http://go.worldbank.org/7QPCOWIRFO>

WRI
 World Resources Institute
 COP-15: Countdown to Copenhagen
www.wri.org/project/cop-15

WWF
www.panda.org



© De Voe

Houses from cassava

□ For 2 years now, building a durable dwelling has been easier and cheaper for the people of Kasai in the central Democratic Republic of Congo. They use earthenware bricks strengthened and joined to each other by cassava waste. The offcuts of cassava blended with residues from the distillation of cassava alcohol are left to ferment until they form a paste. This has a glue-like

consistency and is used as mortar to make earthenware bricks and hold them together.

The result is a material that enables communities to build solid houses at a far lower cost than if they used cement (which costs €28, while the average monthly household income is between €18 and €33). The figures speak for themselves: Célestin Tshikenda spent nearly €5,000 to build his four-room house with cement. The same dwelling would have cost barely €700 if he had used earthenware bricks held together with cassava paste.

The only slight blot on the horizon is that since this new technique was developed, cassava waste which previously had no value, has become a real source of revenue for those involved in collecting it. With demand continuing to outstrip supply, speculation has set in. A bowl of these offcuts, which just a year ago sold for CDF800 (€0.70), now costs CDF3,500 (€3.2), according to one villager who has just built a four-room house.

□ Gentler fishing

An international team of scientists has proposed that bans on fishing gear such as spear guns, fish traps, and beach seine nets could aid in the recovery of reefs and fish populations vulnerable to coral bleaching. Around the world corals have been dying at alarming rates, due to unusually warm water events. Research carried out in Kenya and Papua New Guinea has shown that certain types of gear are more damaging to corals, to coral-dependent fish and to the key species of fish that are needed to help reefs recover from bleaching or storm damage.

□ East Africa gets broadband

Malawi, Mozambique and Tanzania are set to benefit from higher speed communications at lower rates due to a US\$151 million (€102 million) grant from the World Bank. The region is the only one not fully connected to the world's broadband infrastructure, and has the lowest number of telephone and Internet users, as well as high tariffs. Seacom, the first undersea cable along the eastern seaboard of Africa went live at the end of July. The 17,000 km fibre-optic cable took 2 years to lay.

□ Local knowledge

Kenyan NGO the Arid Land Information Network (ALIN) has established a network of Community Knowledge Centers (CKCs) known as *Maarifa* centres. ALIN currently runs such telecentres in Marigat, Kyuso and Mwingi as well as one each in Tanzania and Uganda. The *Maarifa* centers are designed to promote documentation of local knowledge and provide access to e-government and e-education services as well as support skill building among youths in rural areas. As well as ICTS, they offer books, newsletters, journals, research reports, CD ROMs, DVDs and videos.

Climate change and land acquisition

CTA and its partners played a prominent role in the 4th Edition of the European Development Days (EDD), held in Stockholm, Sweden from 22-24 October. The Centre and organisations from ACP countries had 13 stands at the event, whose themes this year were citizenship and development, the global economic crisis, democracy and development and climate change. More than 25 ACP experts and media specialists took part in two of CTA's main areas of interest – climate change and land acquisition. CTA also funded the attendance of five African rural radio journalists.

In light of the financial and food crisis, global land acquisition has become a major issue for ACP countries. As a follow up to the February 2009 Brussels Development Briefing on 'Land access and rural development: New challenges, new opportunities', CTA was jointly involved in organising a roundtable on the issue at EDD. The event, 'Global Land Acquisition: trends and challenges', showcased results of recent research and potential solutions such as codes of conduct.

www.eudevdays.eu

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Deadly cocoa pest



© E Tapakau

Papua New Guinea (PNG) is on the brink of losing its entire cocoa industry as a deadly pest Cocoa Pod Borer (*Conopomorpha cramerella*) spreads throughout the country's 14 cocoa growing provinces. The pest is putting PNG's economy at risk with predictions of crop losses of 50-80% and up to 60,000 job losses.

PNG Cocoa Board Chief Executive Officer, Lauatu Tautea says eradicating the pest is likely to prove impossible, but people should learn to live with it and apply management strategies to

limit damage. These include constant pruning, reducing plantation sizes to manageable levels (1 ha/household), controlling shades, regular harvesting of pods and properly applying fertilisers.

The Cocoa Pod Borer lays its eggs on pod surfaces and the minute larvae burrow into pods and feed on the placenta and beans before pupating outside to a moth. The pest has already hit some of PNG's major cocoa growing provinces, including East New Britain, Madang, Sandaun, West New Britain and, most recently, Bougainville, the country's largest producer.

□ Crops for the future

The Global Crop Diversity Trust is providing a range of grant awards to support scientists seeking to explore the millions of seed samples maintained in the world's 1,500 crop genebanks. The researchers are searching for biodiversity critically needed to protect food production from the ravages of climate change.

The grants support a wide range of innovative projects, including an initiative to increase the ability of maize to cope with erratic rains in Sub-Saharan Africa and a search in the Pacific for bananas that are resistant to banana streak virus, which is likely to intensify with climate change.

A musical tree



D Gathanju © IPS

Tanzanian botanist Sebastian Chuwa is leading a campaign to save a tree whose timber produces the world's finest musical wind instruments. The African blackwood (*Dalbergia melanoxylon*), known to locals as *mpingo*, has been exploited to extinction in southern Ethiopia and Kenya and is currently only found in Tanzania and northern Mozambique, where it is being harvested unsustainably. *Mpingo* is the world's most expensive hardwood tree, currently fetching up to US\$25,000 (€17,000) per cubic metre.

"The mpingo tree is threatened because it is a slow-growing tree that takes between 50 to 70 years to mature and is being depleted at alarming rates", said Chuwa, who has launched a network of community-based organisations to sensitise people on environmental conservation through tree planting. Chuwa began by collecting the threatened tree's seeds and starting a planting programme in Moshi, northern Tanzania. As his campaign grew, it developed into

Ebony from Mozambique is one of the world's most precious woods

the African Blackwood Conservation Project, enabling Chuwa to establish a major blackwood tree nursery with the help of the Faraja Women's Group. Group leader Yusta Tarimu said the 10 members planted 35,000 blackwood tree seedlings last year and hope to plant 100,000 this year.

Aside from making some of the world's best musical instruments, the African blackwood is also prized by sculptors. Chuwa has donated some *mpingo* tree seedlings to sculptors in Makonde who make a living by selling sculptures to tourists. So far, the carvers have planted more than 3,000 African blackwood tree seedlings near their workshops.

□ Biosafety law

The Ethiopian Parliament has approved a new biosafety bill. The legislation, drafted by the Federal Environmental Protection Authority (FEPA), contains various regulations "aimed at protecting human and animal health, and biological diversity." The new regulations say that the transit, import and production of genetically modified organisms should only be done with written consent from FEPA.

□ Well-adapted maize

In Cameroon, several varieties of hybrid maize have been developed by researchers at the Institute of Agricultural Research for Development (IRAD). These varieties, which are perfectly adapted to the country's different agro-ecological regions, can produce yields of between 8 and 10 t/ha if fertiliser is used.

Young market gardeners

□ Horticulture is seen as a good and rewarding job by young people in Brazzaville, who have grouped into cooperatives to grow vegetables on the city's outskirts. "In the morning, I go to university and in the afternoon, I go to the garden", said Bruchnel Koubemba Lembami, 23, a first-year student at the Faculty of Economic Science and a member of the young Djoué market gardeners' cooperative, COJEMARD. Each young gardener has a dozen nursery beds, measuring 15 x 1.20 m, where most of them grow tomatoes, carrots and onions. Each member contributes FCFA5,000 (€8) every 3 months, which is paid into the association's bank account. Revenues from each bed average FCFA25,000 to 40,000 (€38 to 61) per season. One of these young gardeners' groups, Terre et Vie, has 36 members, of



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In Brazzaville, some young people are students in the morning and market gardeners in the afternoon...

whom more than half are aged between 20 and 35. At the market garden centre of Talangai, on the banks of the Congo River, hundreds

of young gardeners grow vegetables. Among them are 45 members of JMAT, a young Talangai market gardeners' cooperative.

Black belly, roman nose

□ A well-bred Barbados Blackbelly sheep is a noble animal with a roman nose. To maintain these characteristics, the Barbados Agricultural Society (BAS) is carrying out a programme to conserve the sheep's genetic make-up and improve marketing opportunities. Ten farmers are taking part in the initiative, five of them women. The Barbados Blackbelly sheep, first recorded in 1657, is thought to have originated from a cross between African hair sheep and European wool sheep. The animal has a striking appearance – alert, well muscled and leggy, with black markings. Its meat has a distinctive flavour.



© Barbados Agricultural Society

The Barbados Blackbelly is the world's most prolific sheep, capable of lambing every 5 months, producing two to three lambs but occasionally as many as six. The conservation project is combating a reduction in genetic quality

□ Killer fish disease

A killer disease is decimating fish stocks in the Zambezi River Valley, threatening the food security of rural populations in an area shared by seven countries, FAO has warned. An alert issued by FAO's Global Information and Early Warning System (GIEWS) said the disease, known as Epizootic Ulcerative Syndrome (EUS), is caused by the fungus *Aphanomyces invadans*, which forms ugly lesions on fish and causes a high rate of mortality in them.

□ Overfished tuna

Catches of yellow-fin and bigeye tuna have reached a critical level, warns the Western and Central Pacific Fisheries Commission. After 2 weeks of meetings in Vanuatu, the commission has announced that catches of bigeye tuna may have already exceeded the levels imposed to ensure its survival. The commission's executive director has pledged to apply more pressure on fisheries in the region.

by using improved management to prevent inbreeding and crossbreeding. Inbreeding often results from ewes not being separated from rams, while crossbreeding with the stockier African hair sheep occurs in mixed flocks. Farmers are being given grants to buy building materials to provide better housing, so that rams can be separated from ewes.

Accurate breeding records are also important to keep track of genetic lines and sheep that meet the standards are tagged, registered and certified by the BAS. The organisation is hoping to revive a logo to brand certified sheep.

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□ Tsunami alerts

Experts from the Caribbean Disaster Emergency Response Agency (CDERA) have put the final touches to tsunami warning protocols for Antigua and Barbuda, Barbados, Grenada and Jamaica. The initiative is the first phase of a region-wide tsunami warning system under the Tsunami and Other Coastal Systems Warning (TCHWS) project being implemented by CDERA. Other components include a public awareness campaign, a teacher education project and a series of regional and national workshops.

Our fungal friends

□ A mycorrhiza is a beneficial symbiotic association between a microscopic fungus and the roots of a plant. It increases the plant's capacity to absorb minerals from the soil, thereby encouraging growth. Producing mycorrhizal plants such as fruiting or forestry trees requires large quantities of these highly expensive microorganisms (fungal inoculum), which increases the price of the plants. The addition of dust from termite mounds to the inoculum enables the quantity of inoculum generally used to be reduced by 100-fold. The mixture has been successfully tested on horticultural crops.

The inventor of this technique, Robin Duponnois, a researcher in microbiology at IRD, the French development research institute, has developed a new way of recycling the substrate used to grow edible mushrooms. Rich in phosphorus and nitrogen, this substrate contains enzymes that protect horticultural crops against certain pathogens such as nematodes. The development should make mushroom production even more profitable. This process will soon be the object of a start-up project run by IRD together with various institutions in Senegal (the Polytechnic and University of Dakar) and France, says Duponnois.

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□ Solar drying

The EU-funded Facilitating Agricultural Commodity Trade (FACT) project has installed a solar dryer at Balata, Tavua to help Pacific communities preserve and pack seasonal fruits and vegetables. In August, 31 women from 11 Pacific Island countries attended a FACT intensive food processing and safety course at the Secretariat of the Pacific Community's (SPC's) centre at Narere, Fiji Islands. The FACT project aims to increase trade from the Pacific region by adding value to agricultural and forestry products.

Super kitchen garden

□ The 'Super Potager' (Super Kitchen Garden) is a kit designed to help create an environmentally-friendly vegetable garden to feed a family on a plot of 60 m². This method of intensive organic cultivation enables production to be extended throughout the year with a very regular cycle of 45 days, whatever the season. The system also cuts water consumption by more than 80% and limits work to 2 h/day. Developed in Niger and Senegal, it is suitable for all tropical zones. The kit combines the improved tropical gardening technique (the use of beds edged with plastic sheeting fixed in the soil, enabling plants to put out roots to a greater depth and therefore have greater resistance to heat) developed by the French company JTS (see *Spore* n° 135) and Biochar from Pro-Natura.

© JTS Semences



A highly productive and environmentally-sound garden

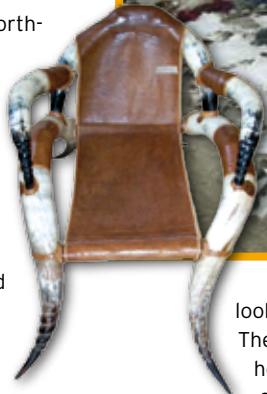
Biochar, which consists of charcoal dust made from renewable biomass (agricultural or forest residue, invasive plants, etc.), is an ancient soil fertilisation technique. When added just once to soil at a rate of 1 kg/ m², it leads to better quality of output and a doubling of yields. The kit includes suitable seeds (not GMO), soil conditioner, irrigation material, innovative equipment (covering sheet, tools etc.) and is sold separately from €149.

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Hides and horns

□ In Maroua (extreme northern Cameroon), a group of young craftworkers are making up-market furniture from animal horns and hides. For herders who already converge on this town because of the hide and horn market organised here, the furniture offers an additional outlet for by-products from livestock farming. The craftworkers also travel to rural areas to



look for raw material. They transform the horns into table legs or pedestals and

the hides into chairs or satchels. These unusual objects sell for FCFA50,000 to 250,000 (€76 and 385). The venture is proving good business, with strong demand for the original

In Garoua, Cameroon, the market where young craft workers buy their hides and horns

furniture designs in Cameroon, and also in the neighbouring countries of the Central African Republic, Chad and Nigeria.

Sharing ideas

Africa's most marginalised communities will be able to share their experiences of adapting to climate change thanks to a new fund that seeks to promote knowledge sharing across the continent. The AfricaAdapt network has launched a Knowledge Sharing Innovation Fund, offering grants of up to US\$10,000 (€7,000) to projects, testing new ways of sharing knowledge, such as theatre performances and radio broadcasts.

www.africa-adapt.net

Plant protection

The European Network for the Durable Exploitation of Crop Protection Strategies (ENDURE) has a new website, offering easy access to information on integrated pest management (IPM) strategies. The new home page also offers several online tools, including an information centre for expert advice on IPM issues.

www.endure-network.eu

No safe haven

The final text of a new treaty that aims to close fishing ports to vessels involved in illegal, unreported and unregulated (IUU) fishing has been agreed upon by a group of 91 countries during talks brokered by FAO. The Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing will be the first ever global treaty focused specifically on the problem of IUU fishing.

Carbon benefits

□ Communities on the border of Niger and Nigeria are taking part in a programme to assess how much carbon can be stored in trees and soils when the land is managed in sustainable, climate-friendly ways. Funded by the Global Environment Facility (GEF), the Carbon Benefits Project is also being carried out around Lake Victoria in western Kenya.

The GEF finances a wide range of sustainable land management (SLM) activities in developing countries, from reforestation and agro-forestry projects, to projects that protect wetlands or foster sustainable farming methods. The carbon benefits of these projects are likely to be considerable, but are hard to quantify. For the same reason, it is difficult for SLM activities to gain financial rewards from emerging carbon markets.

The initiative on the border between Nigeria and Niger is operating in several catchments – Maggia-Lamido, Gada-Gulbin Maradi, Tagwai-El Fadama and Komadugu Yobe – all of which are affected by land degradation and soil erosion due to unsustainable agriculture and reduced rainfall. The project is introducing SLM through changes in transboundary policy and the introduction of sustainable cropping and grazing practices. The ultimate goal is to work towards a standardised system that is cost-effective and user-friendly to measure, monitor, model and forecast carbon stock changes and greenhouse gas emissions for SLM projects.

© F Essomba

Microinsurance

The world's first microinsurance fund has been launched with the aim of offering insurance to households in developing countries. The LeapFrog Financial Inclusion Fund, based in Luxembourg, is aiming to bring insurance and financial services to 25 million low-income people in Africa and Asia, not served by typical social or commercial insurance schemes. The fund will invest in fast-growing markets such as Ghana, Kenya and South Africa. Investors in the fund include public and private institutions.

www.leapfroginvest.com

Widows with a Will

□ In Lam, a village in northern Cameroon, widows have come up with an answer for people who consider them too weak to meet their own needs without outside help. In 2000, seven women launched a self-help group called Dynamic Widows in an effort to make themselves stronger and less prone to constant shortages of cereals.

Today, the numbers working community fields growing maize, groundnuts, millet and soya have grown to about 20. They sell half of their harvest and keep the rest to see them through hard times. For example, they may help one of the group during the lean period before harvest (July-August). When other villagers are struck by famine,



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illness or a death in the family, the group dips into its coffers to help out. It also offers assistance to old people no longer strong enough to work their fields and pays the school expenses of disadvantaged children so that they can start school or return to their studies.

The success of this group is helping to counter the prejudices which continue to blight many rural women, whose standing often

Through determination, these widows in northern Cameroon have overcome prejudice.

declines after the death of their husbands.

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Sacks for seedlings

□ Craft workers in Rwanda are making bags and baskets from local vegetable fibres to replace the plastic bags that have been outlawed since 2006. Prior to the ban, farmers used to germinate seeds in plastic bags which they threw away in the countryside once the seedlings had been planted out. But necessity is the mother of invention, and for the past 2 years, Land Love Rwanda, a cooperative of craft workers with a green conscience, has been producing small sacks made from banana bark to grow tree seedlings. "A feature of these *ibihoho* – germination sacks in Kinyarwanda – is that they retain

moisture and remain cool after watering, and they are easily degradable, so they become compost for the plants", explains Alexis, a member of the cooperative. It is proving a flourishing market, since "all the tree nurseries order our products for their seeds", says Alexis. But banana leaves and fibres are not limited to this sector. Other craft workers are using them to make tables, chairs, small traditional baskets, footballs and matting. Among them is KOABIMU, a cooperative that weaves banana leaves and fibres in Murunda, near Kibuye, in the west of the country. "The finished products such as



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□ Outside rice

China is investing €530 million to develop agriculture in Mozambique, building an agricultural research centre at Umbeluzi and a technology park at Moamba. A cooperation agreement between two Chinese and Mozambican provinces also aims to introduce higher-yielding Chinese hybrid varieties into the African country, as well as 3,000 Chinese farmers, according to the NGO Grain. The terms of the contract have not been revealed but the NGO fears that these hybrid varieties, which farmers will be unable to replant, are aimed at mechanised industrial rice cultivation.

□ Banana wilt

A bacterial wilt disease is threatening all types of banana plantations in Kenya, Tanzania and Uganda. Scientists in East Africa say they have limited capacity to tackle *Xanthomonas* wilt (BWV), which can cause 80-100% yield loss. "The only option is to enhance farmers' capacity to recognise and manage the BWV disease through collective and participatory community action", advises Dr Lusike Wasilwa at the Kenya Agricultural Research Institute (KARI).

traditional baskets or bags made from banana bark and leaves are very popular and quite profitable", said a manager from Kigali. "They help reduce pollution in the country and enable local communities to earn a living from handicrafts."

□ Bacteria attack

Bacterial leaf spot, a harmful disease of cucurbits – which include crops such as cucumbers, squashes and melons – has been identified in the Seychelles Islands for the first time, according to researchers. They identified the disease in watermelons located on the largest island, Mahe and are warning producers to be on the lookout for the disease.

Closing the gender gap

□ The African Women in Agricultural Research and Development (AWARD) fund has chosen 61 women scientists to receive a fellowship designed to boost the female talent pool for African agriculture. Selected from nearly 500 applicants from 10 sub-Saharan African countries, the women are working on major issues such as the food crisis and climate change. The AWARD fellowship assigns each recipient a mentor. During the second year of her fellowship, each fellow in turn serves as a mentor to a more junior woman scientist. In addition she is expected to help organise community-level events. Benefits include help to attend workshops on science writing, proposal writing and leadership and sponsorship to attend science conferences.

In southern and eastern Africa, the influence of women farmers looks set to increase thanks to a pilot programme announced by the Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN). The Women Accessing Realigned Markets (WARM) project seeks to strengthen women farmers' ability to advocate for appropriate agricultural policies and programmes. FANRPAN is piloting the project in Malawi and Mozambique before rolling out results to other southern and eastern African countries to reach a combined population of 400 million.

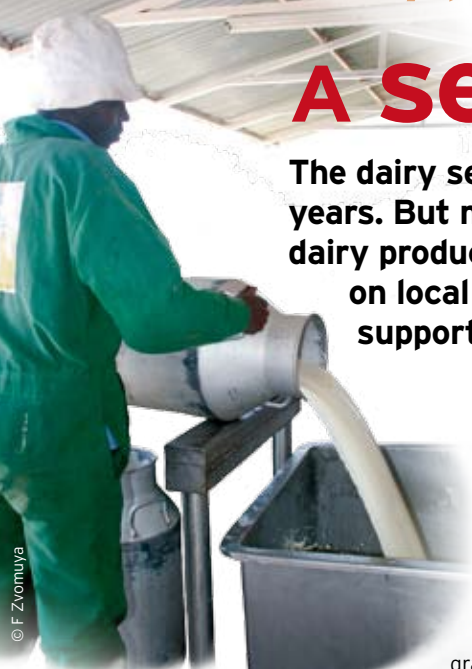
□ Natural decaf

Coffea charrieriana is the first wild species of caffeine-free coffee plant to be recorded in central Africa. Collected in Cameroon by three researchers from IRD, the French development research institute, it could be included in programmes to select grains that are naturally lacking in caffeine. Such a development would be a boost to the decaffeinated industry since use of this type of grain would lower production costs by removing one stage in the process.

Dairy production

A sector worth milking

The dairy sector has seen spectacular growth at the global level in recent years. But many ACP herds are failing to keep pace with higher yields and dairy production is suffering from cheaper powdered milk imports. Focusing on local products may be the answer, together with more investment to support production, processing and trade.



Fijian farmer Rajen Prasad is no stranger to hard work. Since he diversified into dairy production from root crops a few years ago he has milked his 30 cows by hand, collecting 165 l per day. Now, as part of the country's Dairy Industry Support (DIS) programme, he is the proud owner of an electric milking machine and has been

helped to build a modern milking shed at his farm in Muainaweni. As a result of support to small-scale dairies, Fiji is slowly reversing a steady decline in local milk production, caused by problems of land tenure, low-yielding breeds and inadequate feed and infrastructures. But with local production accounting for just 14 million of the country's annual demand of 80 million l, there is still a long way to go.

With its high content in proteins, lipids, lactose, vitamins and mineral salts, milk has an important place in healthy diets and milking offers a regular and constant income to farmers – two good reasons for promoting the dairy industry to producers. But although efforts are being made to boost dairy production, the sector is way below its potential in many ACP countries. Experts say governments need to make significant investments to support production, processing and trade – improving breeds, milking equipment and hygiene. As global milk output grows – increasing by more than 20% in the past 10 years – production rates in many ACP countries remain low. In Africa, a dairy cow produces an average of just 461 kg/year, compared with 5,874 kg in Europe. In the Pacific, the

annual milk yield of 1,350 kg/cow compares poorly with that of 6,072 to 7,150 kg obtained in Australia and New Zealand.

Furthermore, in many ACP countries, the erratic quality of local milk, often due to power cuts or poor conservation facilities, is a constraint to meeting consumer demand. Disease remains a major problem, especially for small-scale herds in ACP countries. Among the most serious ailments are mastitis and brucellosis. And Kenya has seen the arrival of an invasive weed that degrades and taints milk and meat from animals that feed on it. The *Parthenium hysterophorus* weed is toxic to livestock if eaten in quantity.

Other obstacles to a vibrant ACP dairy sector include a lack of processing units, inadequate health monitoring, insufficient collecting structures and the high cost of inputs. In Namibia, once well known for its dairy industry, increased expenses have led some farmers to leave the sector. In Madagascar, as in many ACP countries, local milk production is unable to keep pace with growing demand. Lower-priced subsidised powdered milk, mainly imported from the EU, now dominates the market. In much of the Caribbean, cheaper imported milk is also having a serious effect on local dairy output. In the Dominican Republic, domestic dairy demand doubled during the 1990s, but national output dwindled due to competition from imported powdered milk. Some 100,000 dairy farmers are estimated to have left the country's dairy sector over the past two decades.

A helping hand

In spite of the problems, studies reveal that many countries have considerable potential to increase production and that there is good scope to earn added value through processing. Faced with these challenges, some governments, as well as NGOs, producer organisations and the private sector are taking steps to improve the dairy industry. In an effort to rescue the Jamaican dairy sector, where the number of dairy farmers is down from 4,000 in the 1960s to a record low of just 92, the government has

Variety is the spice...

Milk derived from sheep, buffalo and even camels could open up promising new avenues for dairy processors. But innovation and investment will be needed, according to Joerg Seifert, technical director of the International Dairy Federation (IDF). He says that markets for non-cow milk look set to grow even further in the future. Meanwhile, a study claims that camel farming could be an option for some 20 million to 35 million people living on semi-arid land in Africa, who will soon be unable to grow crops because of climate change. The report, *Croppers to livestock keepers*, cites the case of the Samburu tribe in northern Kenya. Though traditionally cattle farmers, they began keeping camels when

droughts diminished grazing, taking their lead from neighbouring tribes, who kept camels and fared better. Goats – which require less grazing than cows, can be reared in urban and peri-urban plots and are less vulnerable to disease – also have good potential for small-scale farmers, especially in harsh conditions. Kenya's national farmers information service, NAFIS, has been training farmers in goat dairy production, teaching them husbandry skills as well as ways of adding value by making cheese and yoghurt. The Dairy Goat Association of Kenya (DGAK) has been helping farmers to breed goats and sell milk to small scale outlets for processing. "The demand is so high that our farmers cannot satisfy the market", said DGAK National Co-ordinator Bernard Irungu.



© T. Mushayuma

Milk production goes green

Stung by evidence that livestock keeping is harmful to the environment, the industry has launched a campaign to make dairy production greener. During a recent All Africa Dairy Conference, Tom Opio, chairman of the East and Southern Africa Dairy Association (ESADA) said it is time for dairy farmers to adapt to modern milk production systems that have a smaller carbon footprint. "Our next step will be to work on climate change solutions that include the introduction of bio-digesters and energy audits at our farms", he said. In 2006, a report by FAO blamed livestock for generating some

18% of the greenhouse gases that cause global warming — more than cars, planes and all other forms of transport put together. It says livestock also produces more than 100 other polluting gases, including over two-thirds of the world's emissions of ammonia, one of the main causes of acid rain. In September 2009, ESADA and seven other trade organisations signed a pact to make milk in a more environmentally-friendly manner. The Global Dairy Agenda for Action, signed in Germany, aims to reduce emissions associated with milk production, and develop and share innovations for lower-impact milk processing, packaging and distribution.

launched a 5-year plan to more than double milk production by 2012. Jamaica's breeding herd of dairy cattle is scheduled to increase from 10,500 to 29,000 by the same date, with better pastures and training for dairy farmers.

The East Africa Dairy Development Project covering Kenya, Rwanda and Uganda is helping dairy farmers get their milk to processors more efficiently. The Kenya milk hub had its first milk collection in June 2009, taking 1,600 l. Just 2 months later, it collected 9,300 l. The Zambia Smallholder Milk Processing Extension Programme targets four smallholder dairy farming associations in Zambia's Southern Province, offering improved livestock extension services, leading to more opportunities for milk processing by smallholder dairy farmers. Also in Zambia, an IT Literacy Training programme is helping dairy farmers to use computers to record milk yields and sales. One farmer, Christina Ngoma, says the training offered by the Zambia Association for Research and Development (ZARD) project has helped her increase the amount of milk she gets from her cows. "I now use the computer to record my milking, daily and monthly income, stock-taking and budgeting and the dates when insemination of animals takes place", said Ngoma. "I also use it to increase the feeding of my animals, which results in better milk yields."

Keep it local

In many cases, a stronger focus on small-scale local production is the key to success. In Burkina Faso, Mali and Senegal the 'I like my milk local' campaign is weaning consumers off imported powdered milk. In Cameroon, livestock association APSS has made a priority of 'the livestock economy based on dairy production', and support to local dairy farmers is leading to improvements in production methods. Increased output of processed products, including butter, cream, curds, fermented milk and yoghurt as well as specific local dairy products developed in small

In the pastures and cowsheds, animal rearing is becoming more professional. Pictured are Mr. and Mrs. Ngoma, livestock keepers in Zambia.



© B Zulu

production units is proving a winning strategy for several ACP dairy sectors. Urban markets are especially fertile. Local products include *dèguè* – a mixture of cooked millet granules, sorghum and fermented milk or yoghurt – and *wagachi*, a Fulani cheese. In Chad, the growing population of the capital N'Djamena is fuelling a burgeoning trade in products made from local milk, as well as milk bars in which to consume them. Popular drinks include fresh milk with sugar and *rayeb*, a fermented milk. The bars' increasing success is linked to a network of dynamic collectors who ferry milk to them on mopeds, monitor hygiene conditions of producers and traders and supply fresh milk to small-scale processors to make butter, cheese and yoghurt.

In Kenya, the informal economy is helping to boost the local milk trade. A network of 40,000 independent collectors pick up milk from 1.8 million small-scale producers, selling 86% of the national output, fuelling a booming local but also regional market. Annual domestic consumption has soared to 112 l per person, and North Africa and the Middle East are among Kenya's clients for dairy products. Predominantly based on smallholder production, Kenya's dairy industry keeps 350,000 people in full-time employment and over 40,000 in dairy marketing jobs. In Rwanda, local milk production is increasing due to the *Girinka* 'one cow per poor family' programme launched 3 years ago. To date, 700,000 cows have been distributed, and the country produced nearly 260,000 t of milk in 2008 compared with 190,000 t in 2007, greatly reducing powder milk imports. In Bujumbura, the capital of Burundi, owners of bike-taxis have turned their hand to collecting milk since a government decision to ban cows from the city for reasons of hygiene. "I buy a litre of milk for 500 FBu (€0.27) and I resell it at 600 FBu (€0.33) to regular clients who in turn sell it on for 800 (€0.44) FBu", said collector Eric Niyongabo. "We make good money from cow's milk, butter, cheese, raw condensed yoghurts and *moi-saanu* (local butter) that we get from the animals", added Hamidu Lawan, a farmer in northern Nigeria.

Good breeding

With a growing awareness that milk is no longer just a by-product of traditional farming, increasing attention is being paid to breeding, though in Rwanda, government attempts to introduce foreign breeds which produce more milk have not been entirely successful. Many farmers have resisted trading their local breeds for the more costly imports, which are also more expensive to maintain. Maurice Oudet, who has worked with livestock keepers in Burkina Faso, believes that rather than introducing foreign breeds it might be better to invest efforts in "improving local breeds and improving their health and feed."

As for processing, several examples of 'mini-dairies' developed in West Africa show promising results. The most successful are those located close to dairy production units. Burkina Faso's National Union of Mini Dairies has launched its own label 'BurkinaLait' and now has 23 mini-dairies as well as producers countrywide. It exercises quality controls on both producers and processors. Guillaume Duteurtre, an economist at CIRAD who has carried out several studies on African dairy production, is convinced that small-scale processors play a major role in the future development of the sector. They negotiate production goals with local dairy farmers and are able to make demands over quality and hygiene. "They are the



© F Zwomuya



G. Duteurtre © CIRAD

Milk is delivered by motorbike in Chad

engines of development for livestock techniques, (such as the introduction of concentrated feed in time of drought) and for the sanitary and nutritional quality of milk", he said. In Burkina Faso, mini-dairies, making products exclusively from local milk are flourishing, though often, local producers cannot keep up with demand. "All we need now is for the dairy farmers to supply us with more milk", said the owner of one mini dairy in Koudougou. ■

For further information

EDA

European Dairy Association
www.euromilk.org

GDP

Global Dairy Platform
www.globaldairyplatform.com

IDF

International Dairy Federation
www.fil-idf.org

• **Guide to Good Dairy Farming Practice**

Downloadable free from:
<http://tinyurl.com/y859ucj>

• **FAO/IDF Special Issue: A farm-to-table approach for emerging and developed dairy countries**

Downloadable free from:

<http://tinyurl.com/yzrdca3>

IDFA

International Dairy Foods Association
www.idfa.org

milkproduction.com

An on-line reference library about the dairy business and new research
www.milkproduction.com

SOS Faim Belgium

www.sosfaim.org

• **Milk Production in the Framework of Globalisation**

Downloadable free from:
<http://tinyurl.com/y9vupos>

[FIELD REPORT]

White "gold"

Mauritius



© Syfia International

In Mauritius, Shailendra has revived the family dairy business.

Young dairy farmer Shailendra Singh Totaram, who lives in Triolet, northern Mauritius, grew up with cows. For years, his grandparents and parents kept cattle to supplement their income. But a combination of increased urbanisation and the advent of cheap imported powdered milk forced them to give up their livestock. Two decades on, Shailendra, now 28, has revived the family dairy business, making it bigger and better than ever.

Shailendra keeps 20 cows in a concrete cowshed outside the village. He took up dairy farming last year following training from the Agricultural Research and Extension Unit (AREU). He sells his entire daily output of 200 l

to a local food processor. "I want to enhance the value of this job and become the best farmer in the island", he says. Then, talking to one of his cows, he urges: "Eat my friend, you have to give plenty of milk."

Shailendra is one of a number of young entrepreneurs to have taken up dairy farming in the past year or so, encouraged by a range of incentives offered in an attempt to revive Mauritius' flagging industry. With milk production levels down to just 2% of local demand, the country's aim is to restore the sector and produce 10% of consumer requirements by 2015. Traditionally, the dairy industry in Mauritius was dominated by backyard producers, mostly women. But many of them abandoned farming in the 1980s to take higher paid jobs in the textile

and clothing manufacturing industry. Powdered milk did the rest, making the island largely dependent on imports. As a result, the country's herds dropped from 25,000 heads to the current figure of 5,500 and from 10,000 small breeders to just 1,750.

To stimulate dairy production, the government has introduced a battery of grants and loans to purchase equipment, import improved genetic breeds and acquire land for grazing. Ten other young dairy farmers recently joined the Cowbreeders Cooperative Society at Nouvelle Découverte, in the centre of the island. Together they produce about 1500 l a day. Since small-scale milk production will not be enough to meet the ambitious target, Mauritius has also offered huge areas of land and other incentives, to three major companies. Two of them – Gold Cream Ltd and SKC Surat – started operations several months ago using South African technical know-how. "We had to find a foreign partner", says Suren Surat, managing director of SKC Surat, whose farm lies at Rose-Belle, in southern Mauritius. This enterprise produces 1,000 l/day, all of it sold on the local market. Surat plans to produce 2,500 l/day by March 2010 and 4,000 l/day by the end of next year.

At Salazie, in northern Mauritius, Gold Cream's Eroll Parker manages a herd of 600 cows that he imported from his native South Africa. His milking shed is a huge steel building in the midst of a forest where he plans to house some 2,000 cows by next year. He sells his entire daily output of 1,500 l to a local processor. "A cow is every day; seven days a week. You have to feed and milk it daily. This is a very tough job", he says, as he milks 160 of his large herd. "But this is quite a promising industry now in Mauritius."

Nasseem Ackbarally

Tomatoes

Plentiful but fragile

Tomatoes are easy to grow, but their seasonal nature remains a headache for ACP producers. On-the-spot processing, whether on an industrial, small business or even household scale, is still the best way of countering the invasion of tomato paste from Europe. The price of these imports leaves no room for competition.

The tomato (*Lycopersicon esculentum* Mill.) is used in many dishes in ACP countries. Although botanically speaking it is a fruit, its use in cooking makes it the second most widely consumed vegetable in the world, and the most attractive of all horticultural products for farmers. "With potatoes, onions, carrots, etc., you have to dig up the plant to get the fruit. You only get one harvest and then you have to start again from scratch. But with tomatoes, you can get two or three harvests from the same plant", explains Madi Mathieu Kinda, of the Federation of market gardening cooperatives in Bam, a province in the central northern part of Burkina Faso. Global output rose from 107 to 130 million t between 2001 and 2007, according to FAO. Nigeria is the only ACP country to have a significant yield, ranking 17th in the world with an output of more than 1 million t in 2007.

Sell quickly

Tomatoes grow very well in tropical climates, but unfortunately these conditions also make the fruit highly perishable. Even when picked before they are ripe, tomatoes are extremely fragile, do not travel well and tend to rot within a few days. Most African farmers have problems disposing of their crop during the seasonal glut. These difficulties are compounded by insufficient planning of harvests and inadequate infrastructures for packaging, storage and transport. The spread of mobile phones and money transfer systems has helped improve marketing by reducing transaction costs. In Cameroon, tomatoes grown in the west are now sold more quickly in neighbouring countries.

Some West African countries such as Senegal have succeeded in exporting tomatoes to the EU. Senegal exported 8,731 t of fresh tomatoes to the EU (mainly to Belgium, France and the Netherlands) in 2007, out of a total of 472,337 t imported by the EU. Producers who export can sometimes earn double the price they would get for their product from the local market. In northern Senegal, market gardeners put a premium on their work by growing cherry tomatoes, which are highly sought after in Europe as an appetiser or garnish. The country exports around 3,500 t of this variety each year.

A useful substitute for perishable fresh tomatoes in cooking is preserved tomato (puree or paste), which is cheaper and easier to use. Although local demand for these preserves is strong and stable, African producers do not draw much profit from the market. Come harvest time, they have trouble getting rid of their tomatoes, not least because of inadequate preservation and processing units

© Syfia International



Tomatoes arrive at a market close to the capital of Madagascar.

compared with those owned by the competition in China and the EU. Processing units in ACP countries are no match for those that churn out canned tomatoes abroad, especially the paste imported from Italy, which benefits from various types of aid.

Fighting off competition

Between 2004 and 2006, ACP countries imported nearly €150 million worth of tomato conserves from the EU. Between 1995-1997 and 2004-2006, imports of tomato conserves to ACP countries more than doubled. However, there has been a slight slowdown in the trend since 2003. Unfair competition for this high volume import product causes bankruptcies, prompting debt-ridden producers to leave the sector, as has happened in Burkina Faso and Ghana.

An impact study on the sustainable development of the agri-industrial sector in West Africa, funded by the EC, acknowledges that due to the demand for reciprocity introduced by the EPAs, "there is a risk that local markets could be flooded with imports of processed tomatoes...which will threaten local production." The Economic Community of West African States (ECOWAS) is currently holding discussions to increase import duties on double concentrated tomato puree from 20% to 35%. It is also asking the EU as part of the EPA negotiations to classify concentrate as a 'sensitive product' which is therefore exempt from liberalisation.

Nevertheless, some producer countries are holding out and attempting to step up local tomato processing to industrial levels.

Two factories are due to open in Burkina Faso and Ghana in 2010. Côte d'Ivoire is planning to open a factory shortly in Bonoua, near Abidjan. In South Africa meanwhile, two processing heavyweights, Giant Foods and Tiger Brands, are selling sauces and puree aimed at the domestic market, made from tomatoes mostly grown by small-scale farmers who, in the case of the latter firm, are under contract.

But adding value to tomatoes on an industrial scale is not the only option for ACP producers. This crop also lends itself to processing into various products by small-scale outfits, requiring little capital outlay. Tomatoes turned into powder, puree and jams become available year-round, as well as a source of income. Old recipes adapted to suit modern tastes add value to the product. Cases in point include sun-dried tomatoes, a process long practised in Burkina Faso and Chad. In Mali, at Baguinéda, about 30 km from the capital, about one thousand women from 24 villages have formed a cooperative for producing and processing fruit and vegetables. By drying tomatoes, they make them available throughout the year and can sell the surplus in Bamako.

Last but not least, processing tomatoes is easily done at household level. You can find a number of recipes in this *Practical Guide*:

Processing Tomatoes

Practical Guide n° 12

CTA n° 1391

Downloadable from:

<http://tinyurl.com/yknwmcu>



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Fuelling growth

Efficient agro-industries are important engines for economic growth and employment, creating jobs and earning opportunities for farmers, as well as markets for the agricultural products that they generate. But if there is to be real broad-based economic development and poverty reduction, it is vital that these industries be competitive and well managed. If not, there is a risk that small-scale producers, especially those in developing countries, will be excluded from the benefits.

The result of a meeting of policy makers, governments, UN technical agencies and agro-industry specialists, this book describes strategies and actions required for improving agro-industrial competitiveness in ways that can contribute to poverty reduction. Chapters examine enabling environments for competitive agro-industries, business models that are inclusive

of small-scale farmers and corporate social responsibility for agro-industry development.



Agro-industries for development

Edited by D Baker, S M da Cruz, C Jenane, A W Shepherd & C A da Silva
CABI/FAO/UNIDO, 2009. 304 pp.
ISBN 978 1 845 93577 1
€70

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Wallingford
Oxfordshire
OX10 8DE
UK
Fax: +44 (0) 149 182 9198
www.cabi.org

Trading emissions

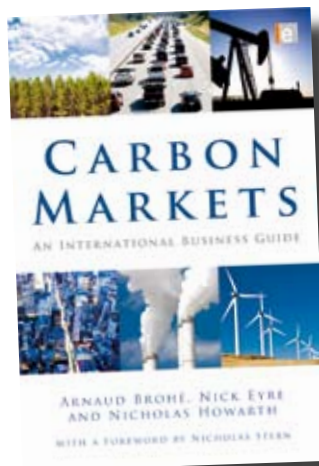
The case for carbon markets is stronger than ever at a time when accepted business models are being increasingly challenged and public pressure for more action on climate change is growing. This book documents the growing trend among nations towards the use of emissions trading in managing greenhouse gases. Written in comprehensible language, with full explanations of technical terms, it looks at the science of climate change, the theory of emissions trading and examines how carbon markets operate in individual countries and regions.

Currently dominated by countries of the North, the burgeoning market is expected to expand rapidly over the next few years in the new carbon-constrained world. The authors warn that companies and countries that remain outside the system are likely to leave themselves increasingly exposed to risk as consumers and government push for the cost of carbon to be accounted for. One prospect increasingly talked about is that of environmental protectionism, with border tariffs for those who fail to take stock of their emissions.

Carbon Markets: An International Business Guide

By A Brohe, N Eyre & N Howarth
Earthscan, 2009. 340 pp.
ISBN 978 1 844 07727 4
GBP29.95 • €35

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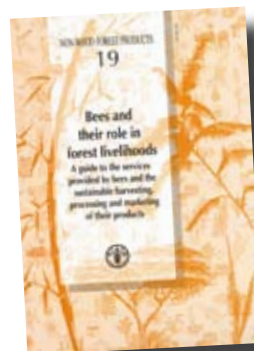


Bees and trees

Honey hunting and beekeeping have been practised by humans for at least 4,500 years, with benefits including the pollination of plants and the harvesting of honey and beeswax, as well as a number of other useful products, such as pollen, propolis, royal jelly and venom. In a forest setting, the advantages of beekeeping are especially strong. Bees and trees are interdependent, bees representing a renewable resource that can be used as a source of food and income without damaging the environment.

People living in or near tropical forests and woodlands are among the poorest in the world, often depending on shifting cultivation for their food, and local wood as their fuel source. Beekeeping offers the perfect activity for these communities.

A new book aims to provide an insight into the many ways in which



bees and beekeeping contribute to rural livelihoods, especially those of communities in or near forests, and how that contribution can be increased yet further. Issues explored include the physical resources and equipment needed for beekeeping, with discussions of the merits and relative costs of different types, as well as marketing and sources of support. A special chapter looks at the use of bees in apitherapy – medicine using bee products.

Bees and their role in forest livelihoods. A guide to the services provided by bees and the sustainable harvesting, processing and marketing of their products

By N Bradbear
FAO, 2009. 204 pp.
ISBN 978 9 251 06276 0
US\$36 • €24

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Windy matters

This pocket reference guide is small in size but is packed with information relating to wind energy and wind energy technologies. Subjects covered in the easy-to-use manual include wind resources, wind turbines, offshore and onshore power, international economic support schemes and incentives and environmental issues. The book is well illustrated and written in clear language.

Wind Energy Pocket Reference

By P H Jensen, N I Meyer,
N G Mortensen & F Øster
Earthscan, 2009. 88 pp.
ISBN 978 1 844 07539 3
GBP9.99 • €12

For Earthscan's address, see left

Fresher water

Rainwater harvesting has the capacity to make a significant improvement to human well-being and livelihoods without damaging the surrounding ecosystem. There are, however, constraints as well as advantages to this method of accessing freshwater. A new report examines the issue from all angles, describing the advantages and outlining some of the potential drawbacks.

Rainwater Harvesting: a Lifeline for Human Well-being

UNEP, 2009. 70 pp.
ISBN 978 9 280 73019 7
US\$30 • €20

For Earthprint's address, see opposite

Combating corruption

Illegal logging has devastating economic, ecological and social consequences and, more often than not, goes hand in hand with corruption in the forestry sector. This latter problem is aggravated by the fact that most forests are publicly owned, leaving plenty of scope for administrative malpractice. A report examines the reasons for these difficulties and ways of alleviating them. More effective law enforcement is essential. Other strategies include improved institutional frameworks and increased civil society involvement in policy shaping and evaluation.

Corruption in the forestry sector and illegal logging: The problem, its implications and approaches to combating it

By Tangmar Marmon
GTZ, 2009. 20 pp.

Downloadable free from:
<http://tinyurl.com/yaregdr>

□ **The cost of food**

Soaring food prices pushed another 115 million people into chronic hunger in 2007 and 2008, bringing the world total to nearly one billion hungry people. The first half of 2008 witnessed the highest food price levels in 30 years. This report explains why food prices rose to such a degree and predicts that though prices have since fallen, they are likely to remain high in future. Taking a more positive view, it also looks at the steps needed to ensure that high food prices become an opportunity for developing country farmers to help safeguard world food supplies at affordable prices.

The State of Agricultural Commodity Markets 2009. High food prices and the food crisis - experiences and lessons learned
FAO 2009. 64 pp.
ISBN 978 9 251 06280 7
US\$30 • €20

For Earthprint's address, see page 12

□ **Market influence**

The structure and dynamics of food markets and the threats and opportunities markets generate have a massive influence on people's access to food. Markets also play a critical role in averting or mitigating food shortages and hunger. This, the third volume of the UN World Food Programme's World Hunger Series, seeks to identify the sources of market failures in addressing hunger and malnutrition, and to highlight the ways in which they can be improved.

Hunger and Markets: World Hunger Series 2009
Earthscan, 2009. 190 pp.
ISBN 978 1 844 07838 7
US\$32 • €22

For Earthscan's address, see page 12

□ **Safer food**

The Codex Alimentarius — the world's most important food code and a benchmark for all sectors of the food industry — is now available on CD-ROM. It contains over 400 international standards, guidelines and codes of practice on food labelling and food hygiene, commodities and food safety assessment for food derived from biotechnology

Codex Alimentarius CD-ROM 2008. International Food Standards
FAO/WHO, 2009
ISBN 978 9 250 06108 5
US\$120 • €81

For Earthprint's address, see page 12

A juicy read



□ Do you have a question about making soft drinks or juices? The chances are it will be answered in this manual, which is dedicated to the growing beverage sector. Highly practical in its approach and suited to both large and very small-scale production, the book is written in a question and answer format, providing expert solutions to all types of queries that arise during the making and

marketing of soft drinks and fruit juices.

The book is arranged in nine main sections, answering common questions on issues relating to beverage ingredients, manufacturing, product quality, packaging, storage and distribution. A separate chapter is included on bottled water.

Soft drink and fruit juice problems solved

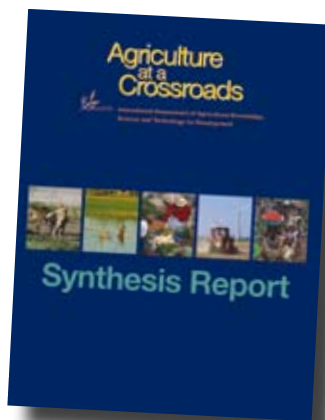
By P Ashurst & B Hargitt
Woodhead, 2009. 186 pp.
ISBN 978 1 845 69326 8
€155
Woodhead Publishing Limited
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Time for change

□ Modern agriculture will have to change radically if the world is to avoid social breakdown and environmental collapse, warns a major report from the International Assessment of Agricultural Science and Technology for Development (IAASTD). An initiative of the World Bank and FAO, IAASTD was launched in 2002 to examine the potential of Agricultural Knowledge, Science and Technology (AKST) for reducing hunger and poverty, improving rural livelihoods, and working towards sustainable development.

The seven-volume report, which has separate sections dealing with Africa, the Caribbean and the Pacific, maintains that liberalising agricultural trade has worked against the interests of most small farmers and rural communities in the poorest developing countries. Subsidy systems operated in some industrialised countries also come in for harsh criticism. Likewise, corporate, profit-oriented agriculture that exploits soil and water undermines the diversity that would promote resilience in the face of climate change. The report calls for more attention to be paid to agro-ecology strategies that combine productivity

with protecting natural resources. Options highlighted as potentially valuable ways of addressing the main constraints to food security include agricultural practices such as organic, biodynamic and conservation farming.

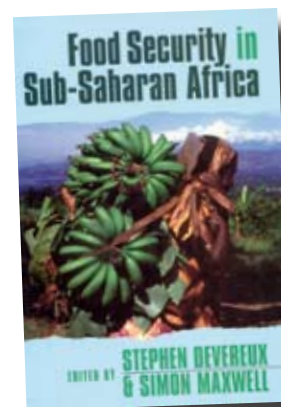


Agriculture at a Crossroads Synthesis Report

IAASTD, 2009. 106 pp.
ISBN 978 1 597 26550 8
US\$25 • €17
Island Press
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Print versions of regional volumes of report available individually. See <http://islandpress.org/iaastd>
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Fresh perspectives

□ Food insecurity is not simply a failure of agriculture to produce enough food at national level, but is instead a failure of livelihoods to guarantee access to sufficient food at household level. This finely drawn but important distinction marks the starting point for an innovative approach to assessing sub-Saharan Africa's persistent food insecurity and vulnerability to famine. Examining the issue from this perspective, the authors assert that Africa's problems stem from an inadequate understanding of the challenges it faces as much as from inadequate interventions by outside parties.



In an attempt to redress this imbalance they offer eleven sections on critical food security issues, which, they maintain are key to a clearer understanding — and an eventual solution — of Africa's desperate struggle with hunger and malnutrition. Chapters range from agricultural economics to nutrition, including issues such as food security and the environment, food aid and trade and food security information systems. Each of them reflects the premise that "food insecurity in Africa is a product of low agricultural production plus low incomes, not one or the other alone."

Food Security in Sub-Saharan Africa

Edited by S Devereux & S Maxwell
ITDG Publishing, 2009. 368 pp.
ISBN 978 1 855 39523 9
€26.95
Practical Action Publishing
Bourton Hall
Bourton-on-Dunsmore
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Warwickshire CV23 9QZ
UK
Fax: +44 (0) 192 663 4502
publishingorders@practicalaction.org.uk
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Adding value to drylands

More than one third of the Earth's surface consists of drylands and one out of every five people of the world live in these areas, which are generally seriously degraded or prone to desertification. In general, farm productivity in countries with dryland conditions is low. Despite a recent upward trend in commodity prices, the past decade has also witnessed a steady decline in the dollar values of traditional agricultural export crops from dryland least developed countries (LDCs), highlighting the risk of relying on a narrow export product base for foreign exchange earnings. Breaking the dependency on traditional primary, unprocessed products and diversifying into higher-value or added-value exports will be of considerable importance for economic growth in the dryland LDCs. Value addition to produce from

dryland areas through agro-based industries, particularly small scale industrial initiatives targeting specific commodities and regions, also offers good scope.

The Dryland Commodity Atlas seeks to promote this trend by examining the commodities produced in these areas and looking at some of the issues affecting production, processing and marketing. A series of boxes offers case studies of producers who have already begun to make a better livelihood, such as a farmer who is irrigating his citrus groves on the banks of the River Niger and running a profitable business for the domestic market.

African Drylands Commodity Atlas

UNCCD, 2009. 82 pp.
ISBN 978 9 295 04338 1

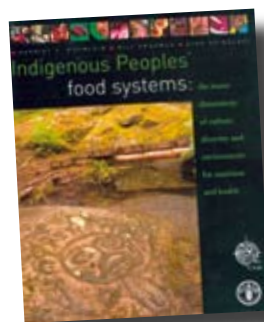
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Downloadable free from:
www.unccd.int/knowledge/docs/
Atlas%20web.pdf

Local food

Indigenous peoples' food systems are rich resources based on knowledge that has evolved over generations. However, these diets are becoming increasingly affected by the forces of globalisation, with less healthy imported food finding its way into eating habits. Through 12 very different case studies, this fascinating collection looks at how indigenous people themselves regard their food diversity, as well as the impacts of the environment on their food and the extent to which their food resources are critical for their nutrition and health.

An impressive array of food species is documented, with wide variations in the number of local varieties available. The Maasai of Kenya have 35 indigenous food species, including herbs, leafy vegetables and wild fruits in an arid, drought-prone zone, while the Pohnpei culture in the Federated



States of Micronesia has 381. In Mand, a hamlet on Pohnpei, *Utin Llap*, one of the 26 local varieties of bananas, contains huge amounts of beta-carotene. The Igbo people of Nigeria have 220 local food species and consume close to 100% of dietary energy from these resources. By contrast, the Maasai and Pohnpei have experienced considerable erosion of dietary energy, supplanting traditional species in the form of commercial – or donated – cornmeal or white refined rice. Mand's 500 villagers now face a series of diet-induced health problems. The percentage of adult dietary energy obtained from traditional food in this community is down to a worrying 27%.

Indigenous Peoples' food systems: the many dimensions of culture, diversity and environment for nutrition and health

By B Erasmus, H V Kuhnlein & D Spigelski
FAO, 2009. 350 pp.
ISBN 978 9 251 06071 1
US\$89 • €60

For Earthprint's address, see page 12

Fairer fishing

The EU's Directive on Illegal, Unreported and Unregulated (IUU) Fishing, due to be implemented from 2010 onwards, should help solve some of the most serious problems in this sector. But though measures to combat IUU fishing are welcome, developing countries are likely to have a hard time meeting the new requirements, warns a report which analyses the probable impact on ACP states. Poorer nations, which often suffer most from IUU, will require comprehensive technical and financial resources to implement this directive in an effective manner.

Fairer Fishing?

The Impact on Developing Countries of the European Community Regulation on Illegal, Unreported and Unregulated Fisheries

By K Mfodwo, B Milligan, M A Palma & M Tsamenyi
Commonwealth Publications, 2009.
176 pp.
ISBN 978 0 850 92899 0
GBP20 • €24

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www.thecommonwealth.org

Vets on-line

VetMed Resource, the online veterinary information service hosted by CABI, has had a makeover. The content, including over 1.3 million records covering veterinary and animal health research from 1972 to the present, is now easier to search. The resource is aimed at veterinarians and people involved with animal health and livestock. It contains almost 850 datasheets covering diseases and pathogens affecting animals.

www.cabi.org/vetmedresource

Tropical crops

A useful book that does just what the title says – gives readers essential information on horticulture in tropical zones. It discusses plant physiology, production and postharvest systems, environmental adaptation techniques and marketing strategies. Chapters cover the production of vegetables, fruit and ornamental crops, with valuable tips on how to improve both the quantity and quality of specific crops in a tropical setting.

Principles of Tropical Horticulture

By D J Midmore
CABI, 2009. 300 pp.
ISBN 978 1 845 93515 3
€55

For CABI's address, see page 12

Posters for farmers



Colourful posters that teach farmers skills to improve sustainable production are available on a huge range of topics, from organic farming to making natural pesticides. The posters are clear and easy to understand and have been developed in co-ordination with extension workers from NGOs to find out what practices work best. All of them have been tested with farmers to see how they could be

improved. Although they have been designed with Uganda in mind, many of them are relevant to other ACP countries.

A set of nine posters on sustainable agriculture is available for €6 (plus P&P).

Sam Rich
PO Box 27778
Kampala, Uganda
To view posters, visit:
www.fourthway.co.uk
sam@fourthway.co.uk

A stronger voice for agriculture

□ In many ACP regions, agriculture fails to get the coverage it deserves. By contrast, the media does not always have an easy time gaining access to news from the rural sector. This year's CTA annual seminar, held in Brussels from 12 to 16 October 2009, sought to bridge the divide by strengthening communication links between the media and agriculture. More than 150 experts drawn from both sides attended the week-long event, entitled *The Role of the Media in the Agricultural and Rural Development of ACP Countries*.

The 14th Brussels Development Briefing, held on day one of 'CTA Week in Brussels', also examined the role of *Media in Rural Development*.

Although information is now recognised as crucial for implementing agricultural programmes, the media often gives little in-depth attention to crucial issues such as food security and water management, the CTA seminar heard. In turn, the media faces numerous

challenges, including poor infrastructure, low salaries, lack of equipment and inadequate training for journalists in agricultural issues.

Caribbean media consultant Kris Rampersad proposed that agriculture should develop its own links with the media. "Empowering the agriculture sector to utilise the wide array of media tools and opportunities is key to attracting media attention to agriculture", she said.

A wide range of media – blogs, tweets, e-discussions and daily newsletters – was used before, during and after the seminar, to get the views of as many people as possible on the discussion topics.

Participants noted the rapid development of the Internet and cell phones, which has provided the media with many new opportunities. Maureen Agena described how Wougnet, Uganda uses the website to hold discussions forums, *Twitter* to diffuse real-time information, *Flickr* to distribute photographs and *YouTube*

to publish videos. Margaret Nana Kingamkono of the African Farm Radio Research Initiative in Tanzania talked about the valuable contribution made by ICTs to rural radio stations.

On the final day, the four working groups – radio, TV and video, print media and media and rural communities – presented their recommendations, all stressing the need for capacity building. The Brussels Declaration, issued at the close of the seminar, called on the media to devote more space to ACP agriculture and to give a greater voice to farmers. It also urged agricultural operators to make more efforts to share their experiences, and researchers to convey clear information, in a language which could be easily understood. Also featured during the week was the announcement of the winners of CTA's first ever Journalism and Community Media Awards during the Centre's 25th Anniversary celebrations, with first prizes going to Malawi and Cameroon.

<http://tinyurl.com/ybf9ubv>

Agrodok comes of age

□ Agrodok, the practical manual series co-published by CTA and the Agromisa Foundation, is going from strength to strength. Orders from readers grew by more than 11% during the first 8 months of this year alone, and eight Agrodok titles feature in the Top 20 books requested from CTA's catalogue. Is this trend likely to continue, or is it just a short-lived success? This question was discussed recently by authors, co-publishers and partners during a workshop held in Wageningen on 29 and 30 October. The general consensus could be summed up as follows: "This success has something of the prodigal child about it. But the real difficulty for a prodigal child is the passage into adulthood." Workshop participants made various suggestions for improvements, with recommendations for content and format, editing, layout, the co-publishing process and diversification. The Agrodoks are growing up.

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CTA offers database support

□ CTA is offering to help ACP institutions acquire a valuable agricultural database to support their work and research. *The Essential Electronic Agricultural Library* (TEEAL) Database is a full-text digital library of 149 agricultural journals. Journal coverage starts in the 1990s and is updated annually. TEEAL has information on a wide range of subjects including aquaculture, crop and soil science, natural resource management, livestock production, plant protection and sustainable agriculture. The database is offline and can be shared on a local area network (LAN) or used on a stand-alone PC. It features an easy-to-use interface that allows a user to quickly search for, save and print citations. Instant access is also available to the full text of every article in the collection.

CTA is willing to assist with the initial investment of journals published between 1993 and 2009 worth US\$5,000 (€3,365) to improve library resources for universities and research institutions in 61 low-income ACP countries. Annual updates are available a year after the date of publication. ACP universities and research institutions selected for ACP support must agree to sign TEEAL's User License Agreement Form and pay for annual updates from 2010 onwards. The 2010 update will cost US\$525 (€353). CTA is also accepting applications from eligible ACP universities and research institutions that would like support to upgrade from the original CD-ROM version of the database to the LAN version.

If you would like to participate, please contact Mrs Vivienne Oguya (oguya@cta.int)

How to obtain publications

CTA publications mentioned in *Spore* are marked by the green leaf symbol, and these are available free-of-charge to subscribers to CTA's Publications Distribution Service (PDS). Other readers can buy these titles from CTA's commercial distributor.

Only agricultural and rural development organisations and individuals resident in ACP countries can apply for PDS subscriptions. Each PDS subscriber is assigned a certain number of credit points annually for purchasing publications on CTA's list. The list of CTA publications can be consulted on CTA's electronic catalogue: www.cta.int

All other publications, indicated by a square, are available from the publishers listed, or through commercial booksellers.

Commercial distributor

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Geographical indications



Quality pays

Geographical indications (GI) can help producers cash in on the unique features of their product and protect themselves against unfair competition. But GI branding relies on careful monitoring to ensure quality and strict policing to deter impostors.

Lawyer **Kerri-Gaye Rushton** is a trained Supreme Court mediator who is part of a team committed to her native Jamaica's drive to protect its famous Blue Mountain Coffee brandname. She is the director of the Coffee Industry Board and a member of the Ministry of Agriculture and Fisheries HIV/AIDS Steering Committee and Cocoa Restructuring Committee.

By any standards, I would say that Jamaica Blue Mountain Coffee is pretty special. It has been world famous for over 300 years and was well known in the coffee shops of England from as early as the late 18th century. The coffee grown in the Blue Mountain regions of Jamaica also became renowned in the European coffee houses and, to this day, it is highly sought after by connoisseurs all over the world. Unfortunately a consequence of this success is continued infringement. One of our biggest challenges is the continuous efforts we have to make to prevent the misrepresentation of the Jamaica Blue Mountain® name.

According to Jamaican law, Blue Mountain coffee is produced within a clearly specified geographical zone. The misty cover and unique micro-climate, together with the soil type, the Coffee Arabica typica variety, as well as the culture of strong regulation – these factors contribute to the fantastic flavour of Jamaican coffee. But no one can fully isolate all the factors and their relative weight in this process.

certain characteristics due to the place of origin. GI is a highly beneficial approach because it involves community ownership. It is not one big producer who owns the trademark. The community which grows the product owns it, so there is a vested interest in protecting it. Because of this, there is also peer monitoring and control. Everyone wants the product to live up to its reputation. When the whole area does well, people want to stay there, and that in turn helps reduce the rural-urban drift. I think there is a great deal of potential here to help other developing countries add value to their products and protect their brandname. As poorer countries, we do not have volume so we have to focus on quality.

In the past, several countries have attempted to copy our success by claiming that they have blue mountains or by maintaining that they have planted the variety of coffee that we plant. Some companies and indeed countries have tried to register their own Blue Mountain coffee brandname. These attempts are blocked by our trademark lawyers or are rejected when the company attempts to register the brand. We are currently planning to defend the brand against one such sovereign pirate and the whole world will be aware of the case very shortly.

Rural development

Here in Jamaica, the type of producer and farmer varies greatly. Some plant coffee exclusively and have maybe 100 acres (40 ha). Some plant half an acre (0.2 ha). What is common is the quality of the product. With GI, there is a sense of community – we are all in this together and we monitor each other.

I see with my own eyes that everyone wants to ensure that the product maintains its superior position in the international marketplace. While GI designation emboldens the brand value, another obvious spin-off is sustained rural development. People will stay in the area because they are producing a quality product which has value and which can earn them a decent income. Then there is agro-tourism. If you come to Jamaica, you can actually get a tour of the Blue Mountain area and visit a coffee estate. And that generates income for local people.

The more I work on this issue, the more I realise that brand protection starts at home. A quality culture is critical for the maintenance of high value. Legal services and timely enforcement are other crucial aspects. Brand protection is a valuable approach that benefits producers and consumers alike. But if it is to work properly, it must be supported by both the government and the private sector.

E-mail: kgrushton@yahoo.co.uk

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

Brand protection starts at home

The rules are strict, and in my view, that is just how it should be. Coffee grown within this region is hand-picked by skilled reapers when the cherries are mature and delivered to wet mills within 48 h, where they are pulped and sent to finishing works for drying, curing and sorting. The coffee has to be certified by the Coffee industry Board (CIB) of Jamaica before it can be sold as Jamaica Blue Mountain Coffee or Jamaica High Mountain Coffee.

Community ownership

We have a two-fold approach to the protection of our brand. We register the trademark in 22 countries, and locally we protect our brand by being brutal about quality. We employ intellectual property lawyers and have brought to court many counterfeiters who have sought to misrepresent our brand. The market within Jamaica is consistently monitored by the CIB and any breaches are dealt with swiftly.

We are currently strengthening our arsenal of brand protection by acquiring geographical indications (GI) status. Such a designation would enhance our reputation worldwide. A GI mark tells the consumer that a product is produced in a certain location and has

Spore is the bi-monthly magazine of the Technical Centre for Agricultural and Rural Cooperation (CTA). CTA operates under the Cotonou Agreement between the countries of the Africa, Caribbean and Pacific (ACP) group and the European Union and is financed by the EU. © CTA 2009 – ISSN 1011-0054
Publisher: CTA • Postbus 380 • 6700 AJ Wageningen, The Netherlands • Tel: +31 317 467 100 • Fax: +31 317 460 067 • Email: cta@cta.int • Website: www.cta.int
Editorial staff: Executive editor: Marie-Agnès Leplaideur • Editor of French version: Denise Williams • Syfia International, 20 rue du Carré-du-Roi, 34000 Montpellier, France • Editor of English version: Clare Pedrick • Via dello Spagna 18, 06049 Spoleto (PG), Italy • Contributors to this edition included: N Ackbarally, E Akakpo-Ahiany, S Babilola, B Bafani, J Bodichon, L de Araújo, I Esipisu, F Essomba, P Kankonde, A Khalif, A Labey, F Le Meur, D Manley, C Nforngang, N Okeya, F Patard, E de Solère Stintzy, D. Tabureguci, E. Tapakau, A Taitt, T Tucker, A-B Twizeyimana, B Zulu, F. Zvomuya with the editorial support of CTA. **Layout and design:** Intactile DESIGN, France • **Printer:** Pure Impression, France