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Website: [www.cta.nl](http://www.cta.nl)



### In this issue

*For all our ingenuity,  
we are fragile souls,*

*people. We spend thousands  
of years, from forefathers to  
offspring, building up the most  
intricate and carefully balanced  
systems. Then one day we go  
too far, we push too hard,  
and the whole system is  
in danger of collapse.*

*To livestock farmers in  
various countries, that may  
explain the devastation caused  
by some animal diseases and  
their possible transfer to humans.  
Other systems are not only  
resilient, but seem to get  
stronger by the day. To those  
driving the renaissance of  
traditional seed supply systems,  
the grassroots seem to be  
stronger than ever. We have two  
articles on resilience, or lack of it,  
plus a tribute to the resilience of  
farmers, wedded, as the reader's  
viewpoint says, to the farm.*

*This issue continues our system  
of dialogue with readers,  
and news of events, ideas  
and books. Pushing hard  
together. Stay with us.  
Write in, read on.*



Photo B. Faye

## Epizootics and animal health

# The high cost of cutting corners

**Animal diseases are powerful, fearful factors in our lives. Scorning boundaries, they jump from beast to beast, from wild to domesticated, and, rarely, from animal to man. A cause for great concern – especially where markets might be lost – but action requires resources and organisation.**

**T**he devastating ten-year march of one strain of foot-and-mouth disease (FMD) through Asia and southern Africa and finally into Europe in 2001 was hardly news for people throughout much of the world where such diseases are endemic. The flurry of activity in Europe highlighted the fact that such damage lurks just the other side of a thin, protective line. It also highlighted the acute need for more resources for protection and surveillance in developing countries.

The pictures, published worldwide, of the bonfires of slaughtered herds of sheep, cattle and goats in parts of Britain in early 2001 were nothing if not memorable. In its response to the outbreak of foot-and-

mouth disease, that nation seemed to pick obsessively over the entrails of its agricultural policies and engaged – although few would admit it – in a voodoo-like ritual of anguish about living in an unsafe world. Were the macabre flames of the pyres of millions of diseased animals the beacons of an agriculture that had seriously lost its way?

Meat consumption fell yet again, interest in vegetarianism soared, and tourism suffered. Elections were postponed and farmers wept in self-pity. Mind you, many seemed to cry all the way to the bank, well recompensed by the government. A few even moved their sick herds around from farm to farm, to boost the numbers for

when the government inspectors came to assess the damage. By early July 2001, there had been 1,800 cases reported in six months, and more than three million cattle, sheep, pigs and goats had been disposed of. Statistically speaking, it is little more than a mere scratch on the surface, but economically and emotionally the scar is long and deep.

These drastic measures were mirrored elsewhere in less-afflicted Europe, and life returned to normal. Within weeks, the disease was contained, and the prime objective of the exercise of slaughter and disposal – to be able to continue trading in meat – had been met.

### Have virus, will travel

The pan-Asia strain of the FMD virus which hit Britain had been on the move for more than ten years. According to reports in the *Veterinary Record*, it was first identified in India in 1990; it spread far in Eurasia. From Taiwan it journeyed to southern Africa, wreaking havoc. In South Africa alone, hundreds of thousands of animals



Photo D. Reed © Panos Pictures

Animals still jump over this fence in Botswana, erected to prevent wild animals spreading diseases

were infected and destroyed in early 2001: the country was declared disease-free on 11 April.

No stranger in any continent, FMD was last reported in North America in 1929. On the grassland pampas of South America it has of late hit as hard as in Britain, via a different strain. In early 2001, Uruguay suffered 1,300 cases and Argentina 1,200, vaccinating 49 million head of cattle in response. In sub-Saharan Africa, the recent strain was restricted to the south, but at the end of 2000, other outbreaks had been reported in 16 countries, from Senegal to Swaziland. No outbreaks had been reported recently in the Caribbean or Pacific.

There are, besides FMD, many other endemic livestock diseases. Among those causing great damage at present are anthrax in southern Africa, Rift Valley Fever in eastern Africa, swine fever in Spain, avian influenza in Asia and Newcastle disease in poultry in west Africa.

One factor in the spread of these and many other diseases is the extent to which

wild animals act as carriers. Better separation of herds from bush animals is an important element in prevention in many countries, just as vaccination offers sound protection.

### The stakes are high

The recent outbreaks of FMD in the North are estimated to have cost tens of billions of dollars, but thanks to subsidies and insurance, few people will suffer financially for long. In developing countries, it is different.

Peter Roeder of FAO's Animal Health Service repeatedly made the point early in 2001: "Wherever livestock is farmed, FMD constitutes a threat to people's livelihoods. The fight against epidemic diseases of humans and animals is far from over; indeed, for livestock diseases it has barely started in most parts of the world." With FMD, the threat to income is double-edged: if your herds are vaccinated against the disease, they will be seen as having it and be classed as unexportable. Better, though, poor and safe than poor and sorry?

Isn't it ironical that the Northern thrust of the FMD virus seems to have come from cost-cutting measures? Intensive animal rearing, cuts in veterinary services, lax import controls on meat products, and closures of local slaughterhouses leading to increasing transport of animals have all hung out the 'Welcome' sign to the disease.

### Do not lose your head

The real, deep public concern, however, is about a separate issue: the spread of disease from animal to humans, such as anthrax, tuberculosis and, lately, the potential spread of bovine spongiform encephalopathy (BSE), or "mad cow" disease. This is named from the way it attacks the nervous system and destroys part of the brain, causing the animal to stagger and shake.

BSE probably spread through the centuries-old practice of adding to cattle feed. Some of this MBM may have come from sheep meat and bone meal infected with the nervous condition scrapie. What probably sparked off BSE was the reduction, for cost reasons, of the cooking temperature for animal swill. The first 'mad cow' was identified in 1986; 180,000 cases have since been destroyed in Britain, and about 1,300 cases elsewhere in Europe.

The human form of BSE, new variant Creutzfeldt-Jakob disease, or nvCJD, induces loss of memory, and a collapse of the nervous system, more virulently than the normal CJD which occurs naturally in about one person in a million. The nvCJD has killed 80 people in Britain so far and two in France; the reasons for its transfer are not fully understood. Because of an incubation period of up to ten years, it is estimated that between 10,000 and 80,000

people in Britain could fall victim. Who really knows?

Have BSE and nvCJD spread to other countries? Maybe. With inadequate surveillance mechanisms, in a number of ACP and other developing countries in particular, it is tempting to speculate. In reality, no-one knows.

What is certain, according to a joint statement by the World Health Organisation, the FAO and the World Animal Health Organisation (OIE) in Paris in mid-June 2001, is that "materials *potentially infected* with BSE have been distributed throughout the world through trade in live cattle, certain cattle products and by-products." These organisations' 150 veterinarians, food safety experts and health officials called upon governments to consider banning the feeding of MBM to ruminants. They recommended additional resources to assist developing countries in assessing their potential exposure to BSE-infected materials and in managing the risk. They called for guidelines for self-help surveillance, and for consumers to avoid specified high-risk materials (like spinal cord, brain, eyes, tonsils and parts of the intestines from cattle, sheep and goats). They urged scientists to be proactive and to inform the public of any new risks, however unsettling.

### Getting hit the hardest

In the past, the agricultural systems of ACP and other developing countries have suffered disproportionately from the negative aspects of technical innovations and regulatory procedures. Now, two separate concerns – about the vulnerability of herds to diseases, and the transferability of animal disease to humans – are homing in on the livestock sector of these countries. Every step on the meat chain, in terms of visible surveillance, quality control and traceability, export promotion and marketing, is now more expensive, and harder to win.

Beyond the threat to trade, there is a perhaps uncontrollable, massive risk to livestock and human health alike. The bitter twist to this tale is that the neglect, some may say folly, of the rich has now raised the cost for the poor too.

See Links, page 10.

The current wave of animal disease has emphasised:

- that the risks of disease rise in line with intensification
- the real risks of false economies
- the need for sound surveillance of animal and human health
- the need for increased resources in this area, and for sound public information
- a serious drop in consumer confidence. World beef consumption is expected to fall by 3%, and by 15% in Europe, in the two-year period 2001-2002.

## Seed supply systems

# As you sow, so shall you reap

**Availability of good quality seeds for sowing makes or breaks food production worldwide. It is an age-old issue, for which in the course of time countless smart and cunning technical solutions have been developed. The Green Revolution is one such. Nonetheless, food shortages persist. Strengthening local seed supply systems is the trend which is gaining ground in the world of development, research and policymaking.**

**T**he production and distribution of uniform, high quality seed is big business. It is based on a complex jumble of knowledge, products, rules and services. Research organisations develop specific varieties of plants. Specialised industries produce fertilisers and pesticides, and process and treat the product. Other companies provide transport and storage, banks provide the investment and governments the required legal environment. In short, it is a highly specialised and capital intensive area of business, which depends on a large market of cash-rich farmers with large, uniformly planted estates.

For the vast majority of farmers in ACP countries this is not even remotely the reality. Most smallholder farming families are used to being responsible for the production, selection, storage and distribution or exchange of their own seeds. Taste, a guaranteed yield, adaptation to local climatic and soil conditions, resistance to pests and diseases are far more important criteria. Since these requirements are poorly attuned to the formal sector (both commercial and public), smallholder farming families are left to their own devices.

### Bridges of hybridisation

Yet, a breeze of change is sweeping across this situation. Researchers, donors and NGOs increasingly devote themselves to bridging the formal and informal seed supply systems. Surprisingly central in their argument is their emphasis that both sides can benefit: smallholder farms get access to new knowledge and improved seeds and the formal seed sector gets access to the local varieties, which can have valuable genetic properties, like good taste, long shelf life, resistance to drought, diseases and pests. These forms of hybridisation are beginning to take shape. International seed and crop research institutes shift their focus towards local food crops and begin to act as brokers between farmers and industry. In Malawi, local farm-

ers are selected for the multiplication of seeds for peanut plants. Farmers in Rwanda were invited to the pilot plots of a research station and explained to the researchers that new bean races should yield more to be sure, but that the beans also have to thrive on poor soils, underneath bananas and also have to survive torrential rains, which was considered more important. Furthermore seed research lodges itself more and more in farming communities in order to be in keeping with local wishes and realities. This has led to a broader scope in farming systems research and more participatory testing methods.

### Gender in choice

A great deal of creativity and a good sense for cultural relations in a community are essential tools for researchers warns Lisa Leimar Price, expert on gender, agriculture and biodiversity at Wageningen University and Research Centre in the Netherlands. Otherwise the voice of the women will not be heard. Women play a particularly important role in seed management and development. Besides pure agricultural tasks, it is the woman who selects seeds on taste, colour and cooking characteristics – if something cooks fast, that can be an important characteristic when fuelwood is scarce. Women also experiment a lot with new varieties in their homestead before – when proven successful – sowing it on their fields. In doing so they both influence, as well as conserve, local biodiversity. Diversity is also closely related to wealth. Poorer farming families select less according to 'luxurious' traits like taste and potential yield but prefer resistance to diseases and drought.

A creative, participatory approach might just be the way forward to achieve locally valuable seed management systems. External technical knowledge and support can contribute in developing varieties which thrive under harsh conditions and thus keep famine out. This method can also very well result in a local living genebank, a special communal



Photo: J. Hanley © Panos Pictures

*Shall I store, or shall I sell? Local networks still dominate the seed trade.*



Photo: C. Parks © Still Pictures

plot, where farmers cultivate their selected varieties each year, with the explicit objective of conserving the available and valuable genetic variety in the community.

Of course there always will be the risk of a disaster or crop failure, forcing farmers to sell or consume their own seeds. For those instances, it is essential that the seeds concerned are also stored in genebanks elsewhere and made available to farmers. And there's the rub. This material usually goes only to the carefully selected seed multipliers.

Farmers, men and women, researchers, extension workers and development practitioners, are at a snail's gallop, bridging the gap between the informal and formal seed supply systems. There is no straightforward recipe. The enormous local genetic and cultural diversity, in particular, demands time-consuming, made-to-measure solutions.

### For further reading:

See also Links on page 10.



Summary report and recommendations of a CTA study visit, Zimbabwe. 1999. CTA, 2000. 33 pp. ISBN 92 9081 2222 CTA number 986. 5 credit points (see Spore 86, p11)

Farmers' seed production: New approaches and practices By C Almekinders & N P Louwaars, ITP, London, UK. 1999. ISBN: 1853 394 661 GBP 14.95 • € 24.95  
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Fax: + 44 20 7436 2013  
Email: itpubs@itpubs.org.uk



Photo S. Iskov © Still Pictures

## Regional trade

# What a way to go!

**Is regional trade really the stepping stone that many publicly claim it is for integrating a developing economy into the world market? Or is it a blessed alternative, as many southern politicians, rather more privately, actually believe? Some say that, as far as agriculture is concerned, it doesn't matter. Really?**

**S**elling to your neighbour has always been a good way to start a business, and buying in supplies from your neighbour a fine way to continue it. For decades, macro-economic theory has held that regional trade is a sound base from which to propel an economy into the world. As the article in *SPORE* 93 about regional trade in the Indian Ocean explained, the different parties in a regional trade agreement can learn and grow strong together before taking on the world. In a touching sort of way, there is the implicit comfort that, if all else fails, at least we have each other.

In life as in economics, however, you have neighbours and you have neighbours, and with some it may be that you have little more to share than your proximity. In terms of national economies, this can well be the case: the principal products of one country may have a better market elsewhere outside the region, or the lines of communication and transport may connect more satisfactorily outside the region than within it.

### Claimed benefits of RTAs

1. economies of scale, from the enlarged market over time. The goal of regional cooperation is to lower all trade barriers in order that each economy can fully pursue its comparative advantage. This will stimulate trade and draw in investment.
2. the political economy argument: a group of small countries may be able, in the international arena, to act as a large entity in articulating common interests, especially in multilateral negotiations.
3. the regional infant industry argument. Small developing countries bind together their economies, allowing substantial trade diversion, for the purpose of fostering industrialization. Some argue that the real benefit of integrating trade is spillover into areas in which unilateral action would be more costly than cooperative. These areas include infrastructure, education, and environmental projects.

*Adapted from the paper "The future direction of South-South Trade and Cooperation" by Barbara R. Kotschwar, Johns Hopkins School for Advanced International Studies*

There will, nonetheless, almost always be some advantages to developing the regional market. The principal one is that of economies of scale: by having access to more consumers than there are in the national market, the sales outlets for processed foods or manufactured goods become more viable. The point is, for those looking at regional trade from an agricultural perspective, that economies of scale only really become interesting with products that have had a lot of value added through processing. These may sometimes be extensively processed foods, but more usually they will be manufactured and semi-manufactured industrial items.

### The small agricultural base

The economies of most ACP countries are primarily agricultural only in the sense of the number of people involved. When we say that many ACP countries earn much of their living from the ground under their feet, it is not necessarily the top soil that we are talking about. Much of the time, for many national exchequers, agriculture takes second place to mining and the extraction of mineral wealth, in the form of precious ores and metals, and fossil fuels. In some, it even takes third place, behind the manufacturing sector. Of course, there are perhaps two dozen ACP States, notably in central Africa and the Caribbean and Pacific, where agriculture is also the major export earner, and the difficulties in expanding trade on that basis are well chronicled.

Overall, the trade of the African continent is dominated by mining products and manufacture, and their sales are principally outside Africa. In 1999, according to the World Trade Organisation, Africa exported goods – of all sorts – for a total of € 132 billion, half of which went to western Europe. Almost half of these overall exports, worth € 63 billion, were in the form of mining products, including petroleum. They therefore include the oil and other mineral revenues of the North Africa States, and Nigeria, Angola, Gabon and other sub-Saharan African producers. In second place were manufactured products, to the tune of € 40 billion. Of these, more than € 6.5 billion were sold to other African countries.

Agriculture accounts for exports valued at € 26 billion, most of them headed for Europe and Asia. Trade in food and other agricultural raw materials to other African countries was valued at € 3 billion. Of this, a significant share is explained by agricultural and allied food exports of the relative powerhouse of the South African economy which, in addition to its almost ubiquitous presence in sub-Saharan African breweries, now sells vast quantities of semi-processed and processed foods throughout the continent.

In sum, a mere 2.3% of all African exports in 1999 were agricultural exports to other African countries. That, in the cold light of statistics (which of necessity ignore any unrecorded transborder trading) is the figure on which to base future strategies for developing the agricultural component of regional trade. It is all the more surprising given the diverse and sometimes complementary agreements which have been established to promote regional trade (see box). However modest it may, the figure takes on added importance with the fact that the value of agricultural exports to outside the continent has dropped annually by several percentage points since 1996. Between 1998 and 1999 alone, the total export earnings from agricultural goods to western Europe fell by 13%. Within Africa however, the same earnings rose by 6%.

### Trade thrust not enough

Hope there may be that the quality and quantity of regional agricultural trade can grow, but such are the uncertainties that it is fair to ponder whether the favoured sequence of local – regional – global is a realistic one for all regions. One argument in favour of the staggered approach is that regional trade agreements help in the process of liberalising trade and the local economy, by gently and gradually exposing producers to competition before the harsher wind of globalisation blows in. In reality, that argument has not always worked. According to Christopher Stevens of the Institute of Development Studies at Sussex University in the UK, trade liberalisation has been a "minor factor in propelling successful regional trade agreements (RTAs),

## The principal RTAs comprising ACP States

 **Organization of Eastern Caribbean States (OECS):** Antigua and Barbuda, Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia and St. Vincent and the Grenadines

 **Caribbean Community (CARICOM):** Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago

 **South Pacific Applied Geosciences Community (SOPAC)**  
SOPAC member countries include: Cook Islands, Federated States of Micronesia, Fiji Islands, Guam, Kiribati, Marshall Islands, Nauru, New Zealand, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu

 **Economic and Monetary Community of Central Africa (CEMAC):** Cameroon, the Central African Republic, Chad, the Democratic Republic of Congo, Equatorial Guinea, Gabon, and São Tomé and Príncipe

 **Economic Community of the Great Lakes Countries (CEPGL):** Burundi, the Democratic Republic of the Congo, and Rwanda

 **Common Market for Eastern and Southern Africa (COMESA):** Angola, Burundi, Comoros, the Democratic Republic of the Congo, Djibouti, the Arab Republic of Egypt, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Namibia, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Tanzania, Zambia, and Zimbabwe

 **Economic Community of Central African States (ECCAS):** Angola, Burundi, Cameroon, the Central African Republic, Chad, the Democratic Republic of the Congo, the Republic of Congo, Equatorial Guinea, Gabon, Rwanda, and São Tomé and Príncipe

 **Economic Community of West African States (ECOWAS):** Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, the Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, and Togo

 **Mano River Union (MRU):** Guinea, Liberia and Sierra Leone

 **Southern African Development Community (SADC):** Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Swaziland, South Africa, Tanzania, Zambia, and Zimbabwe

 **West African Economic and Monetary Union (UEMOA):** Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo

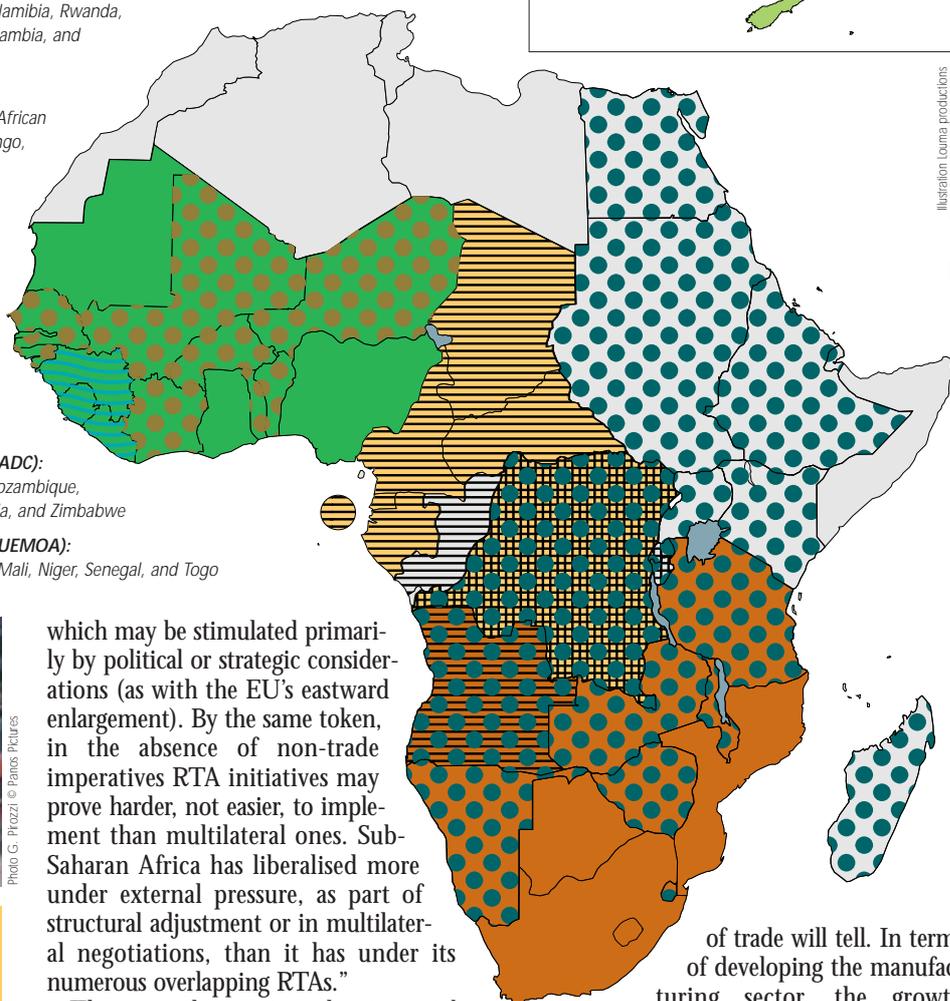
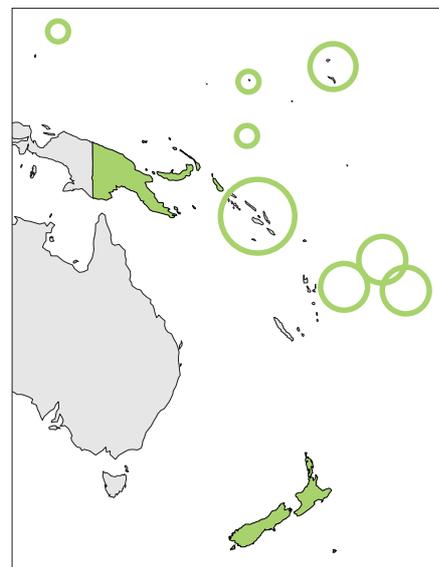
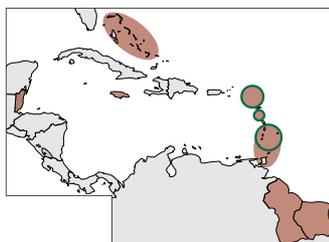


Illustration Louma productions  
Source: ITRD World Development Indicators, 2001



Photo G. Prozzi © Pianos Pictures

## Regional trade is a reality

The new ACP-EC Cotonou Agreement provides that in 2002 the EU and regional trade blocs in the ACP States (e.g. CARICOM in the Caribbean, SADC in Southern Africa, SOPAC in the Pacific) will enter into negotiations on Regional Economic Partnership Agreements. The new Agreements should be concluded by 2008 and will provide for free trade between the EU and the ACP regional trade blocs. The moves towards free trade would begin in 2008 and could take as long as a further 12 years.

The World Trade Organisation which, in theory, encourages open and free trade with neither preferential nor protective agreements between trading nations, does in fact allow regional trading agreements, on the understanding that they help participants to prepare for unrestricted trade.

which may be stimulated primarily by political or strategic considerations (as with the EU's eastward enlargement). By the same token, in the absence of non-trade imperatives RTA initiatives may prove harder, not easier, to implement than multilateral ones. Sub-Saharan Africa has liberalised more under external pressure, as part of structural adjustment or in multilateral negotiations, than it has under its numerous overlapping RTAs."

The same does not apply, it must be pointed out, in other ACP regions. In the Pacific, and to an even greater extent in the Caribbean, with its dynamic CARICOM, regional trade has succeeded in developing a wider market, in achieving the intended economies of scale, and in helping economies adjust to multilateral free trade. The woes of some sectors, such as the banana industry, in the context of globalisation have been mitigated to some extent by CARICOM efforts to facilitate their transition to niche marketing or alternative production.

Is the obvious preference of several ACP economies for regional trade, to ask the famous question, a building block or a stumbling block on the road into the world economy? Time, statistics and the balance

of trade will tell. In terms of developing the manufacturing sector, the growth potential is clear. Some argue that it is this growth, with associated improvements in living standards, which will then pull agricultural trade along. In terms of enabling the required growth in the agricultural sector, perhaps more is needed. In a world where sometimes artificial borders such as 'regions' are increasingly crossed not only by winds, birds and viruses but also by global trading opportunities and the attractions of electronic commerce, you need to stand on some rather firm ground to persist in that preference, and to protect it.

**Contact:** International Trade Centre UNCTAD/WTO  
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Website: [www.intracen.org](http://www.intracen.org)

Fungus on the move

■ For the first time bayoud, a devastating and much feared disease in palm trees caused by *Fusarium oxysporum albedinis*, has cropped up in Tagant in central Mauritania. The fungus has hitherto only occurred in its zones of origin in Morocco and Algeria, where it severely affects date palms. So far, it has destroyed two-thirds of the date palms in Morocco. A redeeming feature of the killer fungus is that different strains are being used successfully in the biological control of striga in cereals in West Africa.

World market prices hit coffee farmers

■ Prices for coffee have dropped dramatically from 0.95 \$US in September 2000 to 0.49 \$US/ lb in March 2001. According to the Association of Coffee Producing Countries (ACPC), excessive availability of low-grade material, production increases and high stocks are the main causes. Although in 2000, ACPC called on its members to retain 20% of their coffee exports for 2 years, prices kept falling and commodity export earnings for countries like Uganda might be halved.

Traditional medicine by modern means

■ Interested in traditional veterinary medicine? Visit the web-based database on the subject, facilitated by Prélude (Programme for Research and Link between Universities for Development), a network of researchers around the world. The database contains an extensive list of plants, their scientific as well as local names, geographic occurrence and the diseases they cure or ease. A separate database contains pictures of the plants.

Website: //pc4.sisc.ucl.ac.be/prelude/sommaire\_ang.html

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The ways of women

■ An international conference 'Governance, expertise and participation: territories and fragile, vulnerable communities. Gender knowledge and sustainable development, will be organised by the University of Cheikh Anta Diop, Prélude and ENDA-TM, in Dakar, Senegal, from 20 to 25 January 2002.

ENDA-TM, Syspro2  
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Not too dry, not too wet

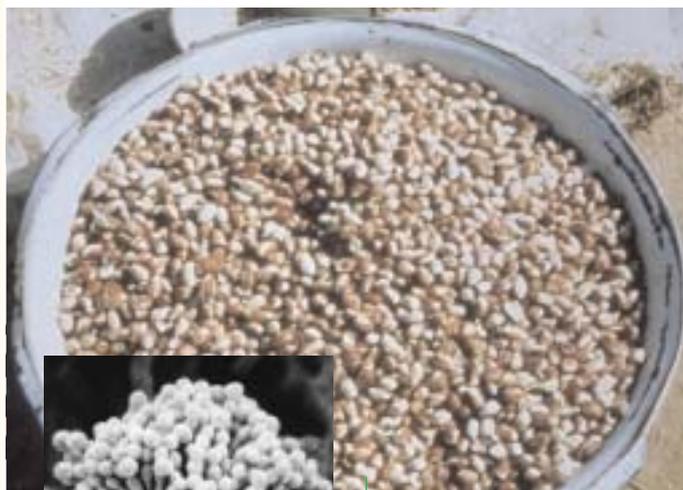


Photo Ph. Dimanche © CIRAD

*Aspergillus flavus* (magnified here 1,000 times) poses great health risks

■ Various media reports on high levels of aflatoxins in various foodstuffs have again fuelled the ongoing attention to these compounds which are known for causing cancer. They are produced by certain moulds, notably *Aspergillus flavus*, a fungus found in the soil. It thrives under hot, humid conditions and as a general rule attacks crops under drought stress such as groundnuts, maize, sorghum and chili peppers. It is also found in stored grains and even processed products like peanut butter or vegetable oils. Since

aflatoxins do not smell or have any taste, they are difficult to detect and are extremely harmful to poultry, humans, and to a lesser extent livestock.

In April 2001, high levels of aflatoxins were found in the peanut butter which a South African nutrition programme provided to schoolchildren. A recent study by Ragaa El Hadi Omer in Sudan has shown that poorly stored groundnuts in the country contain twenty times more aflatoxins than the levels permitted by the World Health Organisation (WHO). For those people who do not manufacture a certain enzyme – in Sudan, half the population – or who have had hepatitis, the aflatoxins are even more than fifteen times more

likely to lead to liver cancer. The problem is aggravated by the fact that most farmers process lower quality groundnuts into groundnut butter for home consumption.

In the early 1990s, as part of the trade bans which led to the collapse of much groundnut production in West Africa, many countries in Europe and elsewhere imposed strict permissible limits of aflatoxin levels. These ranged from zero detectable aflatoxin to around a standard of 10 parts per billion (micrograms per kilogram) for human consumption, of which 5 parts per billion may be the most dangerous type: aflatoxin B1. Various methods exist to detect the toxin in foods, but these are too expensive for smallholder farmers. Prevention measures offer a better solution, such as preventing drought stress in maize and sorghum, and considering irrigation during pollination. Preventing drought stress in pre-harvest groundnuts will prevent cracks in the shells which allow *Aspergillus* to enter. On the other hand, prevention of humid conditions in stored grains and groundnuts and avoidance of feeding bad quality grains and groundnuts to animals, especially poultry, is also recommended.

Mycotoxins in grain  
CTA, GASGA, 1997. 12 pp.  
CTA number 812. 5 credit points

Stevia – sweet opportunity

■ The Stevia (*Stevia rebaudiana*) plant is fast winning a place in the market for sugar-substitute sweeteners in North America, Europe and Japan. A native of Paraguay, it is grown traditionally in South Africa, Madagascar and China. Its medicinal values for diabetes, digestive aid and lowering blood pressure are also well-known.

A flurry of media coverage in early 2001 could mean an even brighter future for this stubby plant. Traditional producers are considering extending cultivation as a partial replacement for sugar-cane, and countries as far

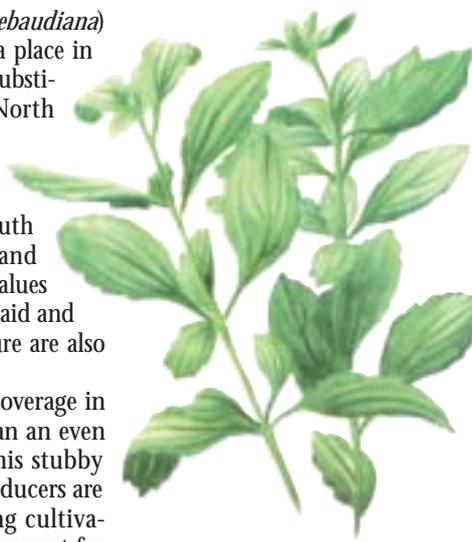


Illustration © GUAYAPI

as Canada, Mexico, Pakistan, Brazil and Iran are looking seriously at its potential. As well as growing as an annual in temperate climates, it grows prolifically as a perennial in warm marshy, highland areas, making it suitable for a good number of ACP countries.

Some importing countries only allow it as a 'dietary supplement', and not a 'food additive'. But a sweetener it is, and there is surely room enough to grab part of the market – as well as using it at home.

For an address list of growers, suppliers and processors, write to the editorial team of Spore at Médiateurs (see page 15)  
Website: www.rain-tree.com/stevia.htm

## All together now...

■ The World Wildlife Fund, a logging company and the donor community have joined forces to conserve the Minkébé reserve in Gabon. Established in 1998, it is renowned for its variety of habitats and for its elephants. The reserve covers 6,000 km<sup>2</sup> and is part of the Minkébé forest (32,000 km<sup>2</sup>). It forms a cornerstone in a transborder conservation initiative spanning Gabon, Cameroon and Congo.

Commercial hunting and logging are now forbidden in the reserve. However, the agreement's success will also depend on additional measures to be taken outside the actual reserve. Almost the entire surrounding area is currently, or soon will be, used for logging activities. The Malaysian logging company Bordamur has a 150,000 ha concession, and a bad record on sustainable forest management. Newly constructed roads have opened up the forest, which was virtually uninhabited. Illegal hunting camps have mushroomed, with the involvement of Bordamur labourers, and game has been traded at the entrance of the concession. Fined and put under pressure, Bordamur signed a contract early this year with WWF, the

regional authorities and local communities. According to the contract, Bordamur will make an effort to keep out commercial hunters and traders. Neighbouring local communities have agreed to hunt only fifteen kilometres around their villages

and WWF started to control the gate to Bordamur's concession. The measures have proven to be successful: animal numbers are rising again. The Bordamur employees are angry, though, at losing an important part of their income.

## Farmers brush up indigenous crops

■ Cultivation of indigenous crops was neglected during the apartheid era in South Africa, but in June 2000, farmers from the Umbumbulu community delivered the first crates of amadumbes (*Colocasia esculenta*) to Pick 'n Pay, a South African retailer. Woolworths, another major retailer, has shown interest in selling indigenous vegetables, provided the growers meet organic and hygienic standards. To foster organic cultivation and marketing of native food crops, the South African universities of Natal and Zululand, the Dutch Agricultural University, the Mangosuthu Technikon, the private organic farm H2A Botanicals and the Farmers Support Group (a South

African NGO) have set up a joint research programme to further develop a practical information base. Research focuses on indigenous knowledge, crop cultivation and harvesting techniques. As a start, the project will concentrate on amadumbes, *Amaranthus spp.* (Imbuya, yugobolo), *Galinsoga parviflora* (Ushukeyana), *Bidens pilosa* (Uqadolo) and *Curcubita spp.* (Zulu pumpkins). The programme also helps black communities to deal adequately with corresponding certification and marketing procedures. As a result, the Umbumbulu community has already taken its first steps to acquire a small-holder group certification for growing organic crops.

## Sulphur boosts cashews

■ Tanzanian cashew output increased sharply from 63,000 tons in 1996-1997 to 121,207 tons in 1999-2000 according to the Tanzanian Ministry of Agriculture and Food Security. Cashew nut is the country's fourth most valuable export crop. The government has played a major role in this achievement by promoting the use of pesticides. The use of sulphur dust has almost doubled, to 7,800 tons in last season. Experts warn that prolonged use increases soil acidity and consequently threatens other crops.

## A mountain of information

■ The Website, for the Year of the Mountain (2002) is online and expanding fast. Available in French, English and Spanish it has sections on the world's mountain ranges, upcoming events, publications, news and key themes including gender, water, soil degradation, forests, agriculture food security, and biodiversity.

Website: [www.mountains2002.org](http://www.mountains2002.org)

## Safety convention for agricultural workers

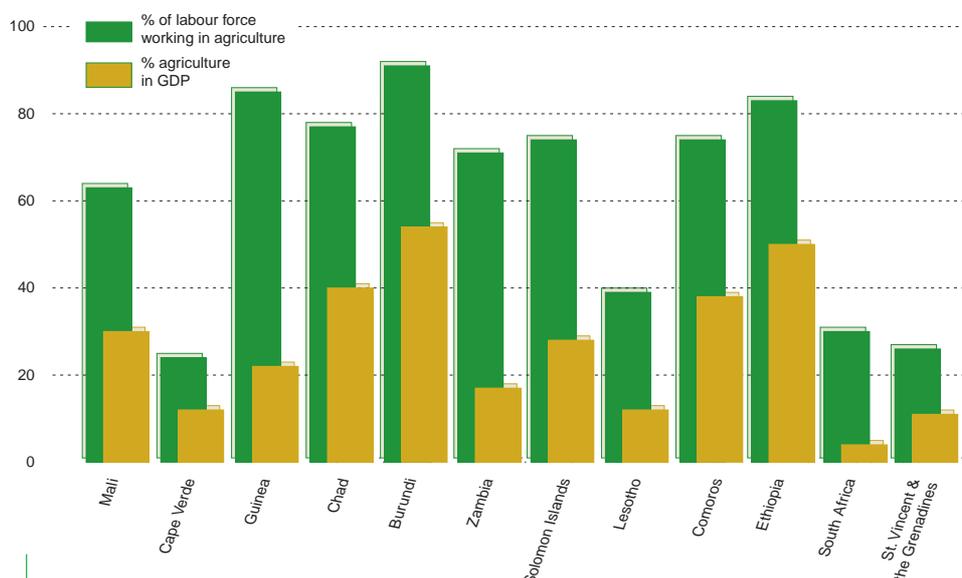
A new international convention of labour standards on Health and Safety in Agriculture (see *Spore 91*) was adopted by an overwhelming majority by the General Conference of the International Labour Organisation in late June.

The convention will come into effect as soon as it is ratified by two member states of the ILO. It will still be required for a Member State to ratify it before it can be properly applied in that State.

## Ups and downs for bananas

■ Banana exports from the Windward Islands declined by 4,000 tonnes over the first quarter of 2001: 12,358 tonnes were exported compared with 17,876 tonnes for the first quarter of 2000. The decline can be largely attributed to St Lucia, whose banana exports were at their lowest level in 20 years. Dominica and St Vincent and the Grenadines increased their yields in the same period. According to WIBDECO (Windward Islands Banana Development Exporting Company), the major reason for the decline in St. Lucia was the poor quality of fertiliser being used and leaf spot infestation, which had got out of control.

## Agricultural employment and ACP economies in 2000



Although agriculture is the major occupation and employer of most ACP countries, its contribution to the gross domestic product (the value of everything produced within a country) can be small, as the figures above show. In part, this is because the value of the products of subsistence farming are usually not considered.

Search and find

■ A new search engine specifically for agricultural topics worldwide, *Web-agri*, has been available since February. The search engine, in French and English, is rapidly expanding and counted 500,000 Web pages in May 2001. Check it out and see if you can find what you are looking for!

Website: [www.web-agri.com](http://www.web-agri.com)

If you are looking for news related to agriculture or the environment, specifically in Africa, surf to the site of *Newafrica*, which gives you the latest news from the continent.

Website: [www.newafrica.com](http://www.newafrica.com)

Surf in New SA and beyond

■ Africa is still the fastest growing area for Internet usage. Figures released in June 2001 in *The African Internet*, an industry intelligence service, show that sub-Saharan Africa services have now soared to above 1,050,000 subscribers (with 300,000 outside South Africa). With each subscription shared on average by 5 people, online users now total around 5 million. Every country has direct Internet links and the fast-growing countries include Mozambique, Nigeria, Senegal, Tanzania and Zimbabwe.

How tastes change

■ Deprived of their staple cereal teff (*Eragrostis tef*), the ten thousand Ethiopian refugees in Kenya have started to use rice as a substitute for making their beloved flat bread, injera, which is used as a scoop for eating stews. Teff-based injera is brown and slightly sour; reports say that the rice version is lighter in colour and sweeter, and is now preferred to the teff one.

Termite soil: good for you

■ Here's another way to clear your field and get rid of old, deserted termite hills (the ones with holes – the closed ones are still alive and working). As well as indicating the firmness of soil for building and being an impermeable liner for dams and ponds, the dust is an alternative to soap, reports Professor Anil G. Gupta from Ahmedabad, India, through the Centre for Alternative Agricultural Media.

The fine texture removes all types of dirt from the skin, doesn't destroy its natural oils and works well as a moisturiser. Unlike soap, it doesn't pollute the grey water. A small pellet of soil is enough for one bathing. Make a paste of it with water, apply directly to the skin and wash off normally.

# Villagers protect Ghanaian wetlands



If unprotected, mangroves will be converted to rice fields and shrimp farms

Photo G. Prothier © CIRAD

■ In order to protect the mangrove forest in the Sakumono Lagoon the Ghanaian Wildlife Society, an NGO, has developed concerted plans and activities with local communities. In exchange for improvements in their village's infrastructure and support for their salt extraction, villagers have agreed to stop hunting rare birds. The Wildlife Society considers it crucial to combine nature conservation with profitable rural livelihood strategies for

the local community. Without this, the community may react with hostility to any conservation effort imposed from outside and continue to deplete finite natural resources of fish, shrimps, game and wood.

The NGO has developed its approach as part of the Amanzuri project which is funded by the Dutch government in the Amanzuri region covering Ghana's largest mangrove system. In this area villagers were willing to stop

hunting and to co-operate in conservation activities provided their access to the sea in the dry season was improved. In addition, eco-tourism activities are being developed.

➤ Ghana Wildlife Society  
PO Box 13252  
Accra, Ghana  
Fax: + 233 21 66 35 00  
Email: [wildsoc@ighmail.com](mailto:wildsoc@ighmail.com)  
Email: [goboakye@wildlifesociety.org.gh](mailto:goboakye@wildlifesociety.org.gh)

## Look, no wires!

■ The potential of wireless technology is exciting a lot of interest these days. "Think Wireless ... A virtual miracle has appeared in the form of the handheld mobile cellular phone, and low-cost satellite links" we wrote in *Spore 92* (see: "I connect, therefore I am").

"Wireless: A helpline for agricultural development?" was the theme of the annual consultative expert meeting of the CTA Observatory on ICTs – information and communication technologies - for Agricultural Development in ACP countries ([www.agricta.org/observatory](http://www.agricta.org/observatory)), held at CTA headquarters from 30 May to 1 June 2001.

A roster of expert speakers shared experiences and perspectives on the new affordable applications which are emerging from a new generation of high-tech, small-scale and simple to use systems for two-way access to the Internet via satellite which are now entering the market. Tempting they are to an institution with a sturdy cash flow, or with the potential to share the service with several users, but, the Observatory observed, they are not *the* universal solution. Regulations, infrastructure, maintenance and the technical maturity of operators all have to be considered.

The meeting also looked at the impact of high speed Internet access on relationships between CTA and its partners. They noted that training and new procedures would be necessary to prepare partners for their emerging roles not only as facilitators and brokers, but also in providing local information.

Full report: [www.agricta.org/observatory](http://www.agricta.org/observatory)

## Get your private garbage collector

■ A few issues ago (More with worms, see *Spore 90*, page 9) we carried an article on raising worms. One can, besides feeding them to animals, also use them for compost making. Also, one can get rid of 3 kilos of garbage weekly. Take a shallow plastic or wooden box (30 cm high by 60cm wide and 1 m long) with a dark lid or cover of black plastic to keep the bin dark and prevent the worms from drying out. Drill 20 holes (1 cm in diameter) in the top, sides and bottom to ensure good air circulation, which also keeps your bin odourless. Place the bin on bricks or blocks to encourage airflow. Put the box near the kitchen, on a porch, in a basement or shed. Worms thrive best between 13 and 27 °C. Tear newspapers into thin strips and layer them until the bin is two-thirds full. Sprinkle water to dampen the bedding. Spread two handfuls of soil over the



Illustration B. Hetscom © Organic Gardener

bedding. Get half a kilo of worms (red-worms are best: *Eugenia fetid* or try *Lubricus rubella*). Bury food scraps under the bedding. Avoid meat and greasy foods. After two or three months, you can start adding new bedding and food waste to one side of the bin. Within a few days, the worms will move to that side with fresh material and you can start to remove and use the compost from the other side.

➤ Adapted from Organic Gardening, May 2001.  
Rodale Press, 33 E Minor Street,  
Emmaus, PA 18098, USA  
Website: [www.organicgardening.com](http://www.organicgardening.com)  
Website: [www.wormwoman.com](http://www.wormwoman.com)

## Protocol jungle hampers organic exports

■ Organic farming in ACP countries is reportedly spreading fast. It fits well into farmers' low input strategies and renders extra income if it can be sold as organic produce. If indeed, because, for exports to countries of the European Union, official certification is required. This prerequisite is often too expensive for individual farmers. Smallholder group certification could be an alternative, provided that participants install adequate internal control systems. This means that farmer groups do a large part of the inspection themselves, and an external certification body evaluates this internal system.

These organisations, however, use different criteria to assess performances, as do individual importing countries. It was to foster mutual recognition of procedures that a workshop was organised under the auspices of the International Federation of

Organic Agriculture Movements and the Fair Trade Labelling Organisations during the Biofach 2001 in March 2001 in Nuremberg, Germany. Certification bodies, importers, government authorities and farmers' associations underscored the need for more clarity and uniformity and committed themselves to arrive at uniform definitions and procedures.

Boudewijn van den Elzaker, president of the International Organic Accreditation Services Inc. (IOAS), welcomes the result but stresses that it will take time for African produce to effectively enter the European market. African governments first have to draw up national standards. Once put in place, governmental organisations have to be able to control compliance to these standards, an important European condition. In addition, national platforms with important stake-

holders - farmers, certification bodies, retailers - should be set up that trace and tackle bottlenecks in the entire sector. Some people could try to work as a local inspector of an established international certification body and eventually start an independent accredited new one. Egypt is currently the only African country with local 'certifiers' accredited by IOAS. In the end, every country and exporter has to overcome European regulations and procedures.

"In brief," Van den Elzaker warns, "becoming a standing exporter in organic products is a troublesome process that will take at least 10 years. A uniform protocol on smallholder group certification would facilitate it for sure."

✉ IFOAM Head Office  
c/o Ökozentrum Imsbach  
D-66636 Tholey-Theley  
Germany  
Fax: +49 68 53 919 899

## Qualities of rice in Africa

■ The yield of African rice *Oryza Glaberrima* may be lower than Asian varieties, which might explain why breeders seem to have neglected it. It has more than just its preferred taste going for it. One unexplored quality to have caught the eye of the rice genetics group of the IRD laboratory in Montpellier, France, is a built-in resistance against a nematode (*Heterodora sacchari*). This causes considerable losses in the Asian *Oryza sativa* in African fields. The group is working on crossing the two species.

✉ IRD  
BP 5045  
34032 Montpellier Cédex  
France  
Email: mathias.lorieux@mpl.ird.fr

## Grain Storage, Post-Harvest and IC

■ A completely revamped course on Information and Communication (IT skills, presentations) has been added on to NRI's PGDip courses on Grain Storage Management and Post Harvest Horticulture (both from 11 March to 28th June 2002). Students aiming for a Master's degree will continue throughout July, followed by individual projects at NRI or home.

✉ NRI Training Officer,  
Chatham Maritime, Kent ME4 4TB,  
UK  
Fax: +44 1634 883386  
Email: nri-training@gre.ac.uk  
Website: www.nri.org/training

## Now the IGOs get together

■ Organising a revival in West Africa's agricultural fortunes is the shared agenda of more than twelve inter-governmental organisations (IGO) in the region. Their April 2001 meeting in Dakar, Senegal, also attended by CTA, concluded that for agriculture to be more productive, competitive and still respectful of its ecology, and to maximise exports and reconquer the region's markets, will take more concentration on research, capacity building and information sharing.

## Solution!

■ The magic potion to keep animals away from small trees, as explained by the Food and Fertiliser Technology Centre in *Spore 83*, is indeed effective. Women running a tree nursery in northern Benin use the method successfully, dissolving fresh goat and sheep excrement in water and sprinkling this potion on the trees once a week. Adding crushed neem seeds keeps harmful insects away.

Email: jean-yves.clavreul@wanadoo.fr

## Plantain: plant more, pick more

■ "Such an intensive production system is the way of the future if our countries are to meet the ever-increasing demand of the urban middle class for plantain." That is a major conclusion of a study visit by eight farmers, extension officers and scientists from west and central Africa to the Caribbean's Dominican Republic and Costa Rica in Central America in April 2001, organised by INIBAP and CTA.

Their task was to study and transfer back home intensive production systems which have yields several times higher than the average 5 t per hectare produced by their traditional methods. The methods are drastic, relying on mono-cropping with high density rows planted at between 2,500 and 4,000 per hectare, aligned for maximum solar radiation and minimal wind. These require well-timed irrigation, weed-control and applications of fertilisers, fungicides and pesticides, though the reduced incidence of black Sigatoka leaf disease in this system means less fungicides. Most drastic of all: plants are



We'd sell more if we grew more

planted anew each year. A ratoon crop (from the sprouting shoot) is not recommended: the second harvest is delayed and the yield is less than half the first.

The visitors concluded that the system is transferable, but it is more for resource-rich farmers, groups and coops than for smallholders, and requires finance for inputs,

transport and marketing. Is there an alternative though? Surging demand beckons with more revenue, and land pressures make intense methods essential. Yet, as our friends at Cameroon's wisdom Website of proverbs ([www.wagne.net](http://www.wagne.net)) remind us: "Never make a promise in a meeting with a bunch of bananas which is still on the tree."

# The rich diversity of seed supply

Four out of every five seeds acquired by farmers in ACP countries come through traditional seed supply systems. The last ten years has seen a renaissance in these networks, with many different methods. They are all networks, and our advice is to contact one; you will soon find many more, on the old 'via-via' principle.

Perhaps the most renowned is the **Livingstone Food Security Project (LFSP)** which has built up a vast set of networks around drought-resistant millet and sorghum. From 330 participants in 1994, it had grown to almost 40,000 by March 2001. **LFSP c/o CARE, PO Box 60256, Livingstone, Zambia. Fax: +260 3 320687; Email: [cliving@zamnet.zm](mailto:cliving@zamnet.zm); Website: [www.care.org/programs](http://www.care.org/programs)**



LFSP won a place in the global Website of the Encyclopedia of Sustainability, where a profile gives many ideas for replicating or adopting their approach in other situations: [www.bothends.org](http://www.bothends.org)

The **National Centre for Tree Seeds (Centre National de Semences Forestières, 01 BP 2682, Ougadougou, Burkina Faso; Fax: +226 30 12 32)** has much information about fruit and fodder trees, but the richest collection, covering the world, is in the Tree Seed Suppliers Database operated by the



**International Centre for Agroforestry: ICRAF, PO Box 30677, Nairobi, Kenya. Fax: +254 2 521001; Email: [icraf@cgiar.org](mailto:icraf@cgiar.org); Website: [www.icraf.cgiar.org/treesd](http://www.icraf.cgiar.org/treesd)**. This is also available in printed form from ICRAF.

Actual seed supplies and support from places outside ACP countries come in all shapes and sizes: the **Jardin Tropical** network tirelessly promotes gardening by supplying seeds, and arguing for the inclusion of gardening in food security strategies. **JTS, ZA des Fousseaux, Avenue des Carreaux, 49480 Saint-Sylvain-d'Anjou,**

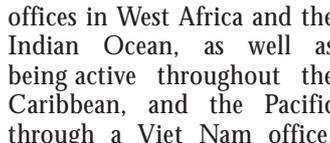
**France; Fax: +33 2 4176 5770; Email: [jme.cordier@wanadoo.fr](mailto:jme.cordier@wanadoo.fr); Website: [www.jts-semences.com](http://www.jts-semences.com)**



The **Seeds for Africa** network provides small financial grants for local seed purchases, with an emphasis on school gardens. **SFA, PO Box 581, Canterbury, Kent CT2 7SW, England, and PO Box 60837, Nairobi, Kenya; Fax: +44 1227 823426; Email: [info@seedsforafrica.org](mailto:info@seedsforafrica.org); Website: [www.seedsforafrica.org](http://www.seedsforafrica.org)**

Most notable of all is the **ECHO seed network**, which provides free trial packets of seeds not to individual farmers but to qualifying agricultural and educational institutions and extension agencies in ACP and other developing countries. Its catalogue is a goldmine for the seed searcher; it even features a long list of its own and recommended suppliers worldwide. Clever! **ECHO, 17391 Durrance Road, North Fort Myers, FL 33917-2239, USA; Fax: 1 941 543 5317; Email: [echo@echonet.org](mailto:echo@echonet.org); Website: [www.echonet.org](http://www.echonet.org)**

Commercial sources, of which there are literally thousands, are headed by the **Technisem** network with regional operations throughout most of Africa covered from



offices in West Africa and the Indian Ocean, as well as being active throughout the Caribbean, and the Pacific through a Viet Nam office. **Technisem, 7 rue de Garigliano, ZAC des Gatines, 91601 Savigny sur Orge, France; Fax: +33 1 6996 8601; Email: [technisem@technisem.com](mailto:technisem@technisem.com); Website: [www.technisem.com](http://www.technisem.com)** A full list of suppliers is available through the **International Seed Trade Federation: FIS, Chemin du Reposoir 1, 1260 Nyon, Switzerland. Fax: 41 22 365 4421;**

**email: [fis@worldseed.org](mailto:fis@worldseed.org); Website: [www.worldseed.org](http://www.worldseed.org)**

And once you have swapped, bartered or bought your seeds, how will you keep them? Some sound tips with a dose of scientific wisdom are to be found in the massive paper edition of the **Seed Storage Behaviour Compendium** of the **International Plant and Genetic Resources**

**Institute**, which is also in an electronic database - the **Electronic Seed Storage Behaviour (ESSB) Compendium**. **IPGRI, Via dei Tre Denari 472/a, 00057 Maccarese (Fiumicino) Rome, Italy; Fax: +39 06 61 97 96 61 Email: [ipgri@cgiar.org](mailto:ipgri@cgiar.org); Website: [www.ipgri.org/themes/exsitu/seed\\_setup.htm](http://www.ipgri.org/themes/exsitu/seed_setup.htm)** Note, by the way, IPGRI's new address.

**ECHO Resources for Tropical Agriculture**

Here is how we help you in agriculture development:

- Publications useful for those in agriculture development:** We publish a quarterly bulletin, ECHO Development Notes, technical notes, and books about agriculture development. You can also purchase over 380 titles published by others.
- Seed of useful food, forage and medicinal plants:** Seed of useful food, forage and medicinal plants is available in small trial packets for experimenters by developed nations and Africa.
- Answers to questions about agriculture & horticulture practices:** Horticulturists and others in development can contact with experts relative tropical agriculture and food related appropriate technologies. Please note that Web Service is only for those working in developing nations.
- Links to useful websites:** You won't believe the extent of our favorite sites!
- Conferences by ECHO for agricultural extension:** ECHO is working in agricultural development, DON'T MISS our annual conference: Executive, practical speakers, workshops, and networking. (Current in US and Haiti).
- Conferences by other organizations:** Here's some we thought you might want to check out.
- Search English/Latin Database:** A popular feature on our site. This database lists many conference papers in 3 languages.

## Surveillance of animal diseases

The **FAO** is by far the most sensitive and comprehensive source of guidance, their **Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES)** the major contact. Their best 'one-stop' resource is the **Manual on Livestock Disease Surveillance and Information Systems**, describing the setting up and operation of a "low cost" surveillance system.

The measures announced in June 2001 by the World Organisation for Animal Health (OIE) and the World Health Organization (WHO), with **FAO**, to assist countries surveillance systems will be available in French and English in print and on their Websites, [www.oie.int](http://www.oie.int) and [www.who.int](http://www.who.int). The specialised and bi-lingual **WHO Weekly Epidemiological Record** on [www.who.int/wer](http://www.who.int/wer) gives rapid, accurate information on cases and outbreaks of diseases.



Manual on Livestock Disease Surveillance and Information Systems. **FAO, 1999. FAO Animal Health Manuals number 8. 78 pp. ISBN 9251043310 US\$ 14 • € 16.60**

Manual on bovine spongiform encephalopathy, **FAO, 2001. 60pp. ISBN 925104144X. US\$ 11 • € 12.10**

Prevention and control of transboundary animal diseases, **FAO, 2001. 121pp. ISBN 925104144X. US\$ 16 • € 17.50**

Sales and marketing Group, **FAO, Viale delle Terme di Caracalla, 00100 Roma, Italy; Fax: +39 06 5705 3360; Email: [Publications-sales@fao.org](mailto:Publications-sales@fao.org)**

FAO EMPRES, Animal Health Service, **Viale delle Terme di Caracalla, 00100 Rome, Italy; fax: +39.06.570.53023; email: [empres-livestock@fao.org](mailto:empres-livestock@fao.org); Website: [www.fao.org/waicent/faoinfo/agricult/aga/agah/empres](http://www.fao.org/waicent/faoinfo/agricult/aga/agah/empres)**

OIE, **12 rue de Prony, 75017 Paris, France; Fax: +33 1 4267 0987**

WHO, **20 Avenue Appia, CH-1211 Geneva 27, Switzerland; Fax: +4122 791 48 57**

# Publications

## Towards financial security



■ Looking for a serious funding strategy? This book goes to places that other guides never reach, and never even think about.

This is not (just) a book about how to treat your donors, or how to beat the drum of partnership so that others will march to your tempo. Nor does it stop at examining opportunities for funding from the public and corporate sectors.

How about mobilising donations and legacies, in part through the Internet, and search-

ing out the philanthropic funds in even the poorest country? Or how about a 'debt-swap' which converts a government's debt in hard currency into local funds? Complex, but worth the effort.

This handbook raises the level of common sense about funding. Packed with case studies, it draws on earlier funding guides by the author. Now, they make more sense than ever.

Towards Financial Self-Reliance. A Handbook on Resource Mobilization for Civil Society Organizations in the South.

by R Holloway. Earthscan, with CIVICUS World Alliance for Citizen Participation and Aga Khan Foundation, 2001. 236 pp.

ISBN 1 85383 773 3  
GBP 3.95 • € 6.60 For readers in Africa, Latin America and Caribbean, and Asia/Pacific. Elsewhere:  
GBP 14.95 • € 24.95

Earthscan  
120 Pentonville Road  
London N1 9JN, UK  
Fax: + 44 20 7278 1142  
Email: earthinfo@earthscan.co.uk

## Anti-virus kit



■ Virus infections in crops may rapidly attain epidemic proportions and cause huge losses for farmers. Therefore a clear understanding of viruses, their role in nature and agriculture and the possibilities to control them is crucial. *Plant Viruses, Unique and Intriguing Pathogens* provides plant virologists with ample information. Instead of looking at viruses as an intriguing tool of molecular biological research, the author concentrates on pathogenic relationships with plants and crops. The analysis builds upon a concise review of what viruses actually are, their classification, and available detection techniques. After elaborating on the virus as a contagious agent and on its ecology, the author concludes with an account of measures to be taken by growers to control virus diseases. As viruses are intimately associated with the host's metabolism, effective direct control hardly exists. Hence mainly indirect measures are dealt with, such as cultural hygiene by the grower, removal of sources of infection, prevention by spread of vectors and improvements of resistance of crops.

An authoritative and primary source of information in the field of plant virology and pathology.

Plant Viruses, Unique and Intriguing Pathogens – Textbook of Plant Virology

By L Bos, Backhuys Publishers, Leiden. 1999. 358 pp.  
ISBN 90 5782 012 9  
NLG 150 • € 68.05  
Backhuys Publishers  
PO Box 321  
2300 AH Leiden, The Netherlands  
Fax: +31 71 51 71 856  
Email: info@backhuys.com

## Voices from Africa



■ If you never had any doubts about the usefulness of information and communication technologies (ICTs) for local development, the latest issue of the series *Voices from Africa, No. 9* might be the right book for you! It contains a dozen practical experiences with ICTs in Africa, presented by development practitioners. The essays give a good overview of the possibilities and shortcomings of the Internet in and for Africa. One example advocates ICTs as a chance to be seized by women, especially in regions where English is not a

common language. Many African women regard ICTs as something futuristic rather than a useful tool that is already available. Another essay describes the possibilities ICTs can offer in combating poverty in Zambia. It relates how an umbrella NGO organises its internal communication, its contacts with member organisations and field offices and the provision of educational material and commodity information to the rural areas.

ICT development in Africa still has a long way to go, but the experiences described and the publication will help to advance the cause.

Information and Communication Technologies  
Series: *Voices from Africa, no. 9.*  
By the UN Non-Governmental Liaison Service (NGLS) United Nations, Geneva, 2000. 119 pp.  
Free of charge  
NGLS

Palais des Nations  
1211- Geneva 10, Switzerland  
Fax: +41 22 917 00 49  
Email: nglis@unctad.org  
Website: www.unsystem.org/ngls

## Two-thirds still hungry



An interesting set of papers addressing the question why two-thirds of the people in ACP countries still are vulnerable to food insecurity. The collection – in English and French – deals with the identification of vulnerable groups, food pricing, food and nutrition interventions, the role of women and institutional capacity of ACP countries.

Food insecurity in ACP countries.

Policy and programme interventions affecting vulnerable groups

*Proceedings of a CTA seminar, Leuven, Belgium, 26 – 30 October 1998, CTA, 2000. 358 pp.*  
ISBN 92 9081 2400  
CTA number 1029.

40 credit points

## Local veterinary knowledge

■ Proceedings of the first conference on ethnoveterinary practices for West and Central Africa, held 14 – 18 August in Kaduna, Nigeria. It documents the local knowledge systems and technologies on the use of plant and animal genetic resources of pastoral and livestock producing communities in Africa. Practices range from medicinal plants to the use of plants to improve, for instance, shelf-life, taste or palatability of animal produce.

Ethnoveterinary practices research and development

Edited by J O Gefu, P A Abdu & C B Alawa, National Animal Production Research Institute, Ahmadu Bello University, Nigeria. 2000. 166 pp.

ISBN 978 2364 26 8  
US\$15 • € 17.80

J O Gefu  
National Animal Production Research Institute  
Ahmadu Bello University  
PMB 1096  
Zaria,  
Nigeria  
Fax: +234 69 550 022  
Email: jgefufu@yahoo.com

## Food processing enterprises (to be continued)

■ Part of the series of regional studies on small food processing enterprises, published by CTA, this one focuses on Benin and Senegal (only available in French). Main conclusion: education and extension at local level, there is much room for improvement!



Promotion des petites entreprises agroalimentaires en Afrique. Échanges de savoir-faire, systèmes d'apprentissage et institutions locales (Benin, Sénégal)

By J-J Magloire Bazabana & J Muchnik, CTA, Wageningen, 2001. 140 pp.  
CTA number 1030.  
10 credit points

## What's in a neem...

■ Proceedings of a conference dedicated to neem production and derived products in western Africa, held in October 1999 in Accra, Ghana. The papers address neem from different angles, such as the prospects for its production and how neem can be used as pesticide, skin cream and shampoo. Or combine and make a shampoo against lice.

Efficacy and Commercialization of Neem Products

Edited by A K Brimah, WOELI Publishing services with Goethe Institute, Accra, Ghana, 2000. 78 pp. ISBN 9964978715 GBP 10.95 • € 18.30 African Books Collective 27 Park End Street Oxford OX1 1HU, UK Fax: +44 1865 793 298 Email: orders@ africanbookscollective.com

## For the real coffee guzzler

■ A specialised book on recent developments in the world of coffee, it not only addresses evident topics like cultivation, production and processing, it starts off with discussing the compounds that determine the flavour and taste of coffee. It also contains a chapter on the physiological effects of coffee.

Coffee: Recent Developments Edited by RJ Clarke & OG Vitzthum, World Agriculture Series, Blackwell Science, 2001. 272 pp. ISBN 0 632 05553 7 GBP 85 • € 142 Blackwell Science Osney Mead Oxford OX2 0EL, UK Fax: +44 1865 721 205 Website: www.blackwell-science.com

## Deforestation in Africa

■ A collection of chapters, grouped according to continent, on deforestation in its broadest sense. The part on Africa has a general chapter on the ambiguous effects of policy reforms on sustainable agricultural intensification in Africa. Specific chapters address cases in the miombo woodlands of northern Zambia, Deforestation in southwest Ethiopia and a comparative study on cocoa in Côte d'Ivoire and Sulawesi.

Agricultural Technologies and Tropical Deforestation Edited by A Angelsen & D Kaimowitz. CAB International, 2001. 440 pp. ISBN: 0851994512 GBP 35 • € 41.55 CAB International Wallingford, Oxfordshire, OX10 8DE, UK Fax: +44 1491 833508 Email: cabi@cabi.org

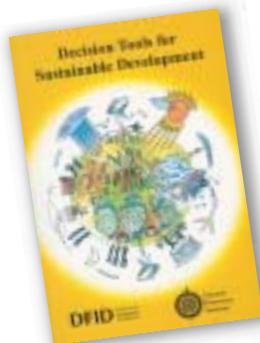
## Cocoa growing in the tropics



■ This illustrated almanac in poster format provides month by month information on how to grow, produce, process and take care of your cocoa crop. It is of relevance to cocoa growers in Ghana, Nigeria and Cameroon. Distributed in Nigeria by:

Farming World Service.  
PO Box 294, Ikom, Cross River State, Nigeria  
Naira 250 for ACP orders; Naira 400 for others (incl. p+p)  
Email: farmingworld2000@yahoo.com  
For PDS subscribers in Ghana and Cameroon only:  
CTA Number 1024.  
5 credit points

## And, finally, take your decision



■ It was all so simple when all we knew stopped at the horizon. We knew when the rains would come, where the winds would blow from, when to plant and when to harvest. Now, now that we know that we are affected by – and that we affect – factors and communities beyond our vision we have to share our decisions with so many other 'stakeholders'. We may feel that we should grow more maize for resale, but if invisible market forces are deciding that even more maize should be grown in another region but not in ours, we should know about it so that we can take the right decision and perhaps produce another more profitable crop. Maybe the government, or an international body, wants to reforest the

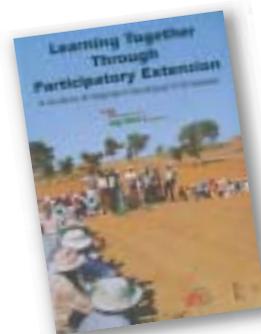
region we live in, to create more forests to absorb carbon dioxide gases from the atmosphere, as part of a worldwide plan of action. If so, we should know, and those who want to decide should know where we stand.

All in all, decision-making has become more complex, involving more people, more topics and perhaps more contradictions which need to be resolved. This book, financed by the British development agency DFID, is a rich and dense collection of descriptions of decision-making tools such as risk management, environmental information systems and participatory research. It also describes their applications, their impact and their level of use. Intended primarily for research managers, government policy-makers and NGO staff, it should help them take sounder and more sensitive decisions about natural resource management.

Decision Tools for Sustainable Development.  
By I F Grant and C Sears.  
Natural Resources Institute. 1999.  
281 pp. ISBN 0 85954 500 8  
Order number ECN12  
GBP 18 • € 30.05  
NRI Catalogue Services  
CAB International, Wallingford,  
Oxon OX10 8DE, UK

## Participation in practice

■ How can rural communities, instead of donor driven agencies, be encouraged to become the prime movers in improving their economic and social well-being? PEA (Participatory Extension Approach) could be a useful tool. PEA has emerged from a community development process in Zimbabwe and moves away from top-down extension models. Rather than being mere agents for technologies imposed from outside, the methodology helps extension workers to become catalysts that will help communities to achieve the goals that they have defined for themselves. The PEA learning cycle is flexible and offers a wide variety of methodologies and tools such as farmer to farmer extension, farmer field schools, community meetings, and farm trials. A schematic operational framework is included in the booklet that could serve as a checklist during the process. Finally the booklet is complemented by a training video intended to be used as a training tool for extension workers.



Learning Together Through Participatory Extension  
A guide to an approach developed in Zimbabwe  
J Hagmann, E Chuma, K Murwira & M Connolly, Agritex-GTZ-IT Zimbabwe, 2000. 59 pp.  
Free of charge, order No: A-021-E  
Universum Verlagsanstalt D-65175 Wiesbaden Germany  
Fax: +49 611 903 05 56  
Email: horst-dieter.herda@universum.de

Complementary to this guidebook, a video and a trainers' manual on 'learning together through participatory extension' can be ordered against payment from:  
Media for Development Trust  
PO Box 6755  
Harare  
Zimbabwe  
Fax: + 263 4 729 066  
Email: mfd@mango.zw

## Pick it up as you go along



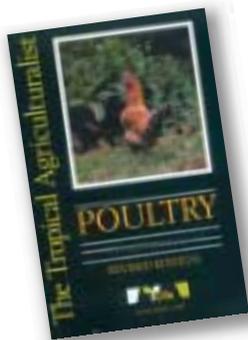
■ An interesting book for those involved in integrated pest management with smallholder farmers in general and in Malawi more specifically. The people working in the Farming Systems Integrated Pest Management Project have laid down

not only the rationale and results of their commitment: the whole process from inception to implementation and accompanying experiences have been described, making it an ideal learning guide for similar programmes, who want to learn from others, avoid pitfalls and do not want to re-invent every wheel on the cart.

Learning and Livelihoods.

The experience of the FSIPM project in southern Malawi  
By A Orr, B Mwale et al, *Natural Resources Institute & Government of Malawi*, 2000. 58 pp.  
ISBN 0 85954 524 5  
GBP 10 • € 16.70  
NRI Catalogue Services  
CAB International  
Wallingford  
Oxon OX10 8DE, United Kingdom  
Fax: +44 1491 82 92 92  
Email: nri@cabi.org

## The-chicken-and-egg dilemma



📖 If you see someone holding an egg to their eyelid, don't think that person is performing an unknown ritual of some kind. He or she might simply have read *Poultry*, the latest revised edition in the Tropical Agriculturalist series.

In this issue the above-mentioned trick is described. Fertile eggs are slightly warmer than unfertile ones. The eyelid, being a very sensitive part of the skin, is a good tool to check this out. *Poultry* is a concise and comprehensive guide on hatching, raising, keeping and marketing eggs and poultry. Besides that, it carries chapters dealing with diseases and disease prevention and maintaining hygienic standards in poultry production. A must read for anyone involved in poultry production.

Poultry

By A J Smith, *The Tropical Agriculturalist Series*, Macmillan-CTA co-publication, second edition, 2001. 246 pp. ISBN 0 333 79149 5  
CTA number 244. 10 credit points

## Africa's need for soil management

■ As the desert encroaches, population numbers rise and yields fall, appropriate use of the remaining agricultural land in sub-Saharan Africa should be prioritised by policy makers. That is the key message of the author as he builds upon a technical study of factors entwined with soil productivity. Integrated fertiliser management – including a keen use of organic and mineral fertiliser –, an appropriate soil management strategy and effective water management are key elements when dealing with harsh and erratic climatic conditions. Finally, he calls for a range of institutional measures: active environmental pressure groups in every country to monitor activities related to environment, and effective international linkages among research institutions.

Sustainable Agriculture in Sub Saharan Africa. The role of soil productivity

By A J Rayar, 2000.  
ISBN 81 7525 181 6  
\$US 35 • € 41.55  
A J Rayar  
Head of Division Agricultural Engineering  
Higher Institute of Agriculture & Livestock  
BP 3971, Rubilizi  
Kigali, Rwanda  
Email: aj\_rayar@yahoo.com



## Put conservation into practice

■ How can rare species and their habitats be conserved and protected? The conservation handbook provides ample theoretical and practical information and elaborates on crucial factors like biodiversity assessment, monitoring, habitat management and integrating development and conservation. Successful conservation projects from all over the world serve as encouraging illustrations.

The Conservation Handbook:

Research, Management and Policy  
By WJ Sutherland, *Blackwell Science*, UK. 2000. 296 pp.  
ISBN 0632053445  
GBP 24.99 • € 41.70  
Blackwell Science  
Osney Mead  
Oxford OX2 0EL, UK  
Fax: +44 1865 721 205  
Website:  
www.blackwell-science.com

## The handbook for hay-making

■ We should all make hay when the sun shines - literally. A good handbook to guide us, outlining what favourable opportunities are, when and where they occur and what should be done. The first chapters discuss various methods of haymaking, different crops suitable for hay and the uses of hay. The second part of the book presents 13 case studies on hay and straw from around the world.

Hay and straw conservation. For small-scale farming and pastoral conditions

FAO Plant Production and Protection Series, # 29, 2000.  
318 pp. ISBN 9251044589  
US\$ 26 • € 30.85  
FAO Sales and Marketing Group  
Viale delle Terme di Caracalla  
00100 Rome  
Italy  
Fax: +39 06 57 05 33 60  
Email: publications-sales@fao.org

## The Zambezi Basin

■ A standard work, unique for its trans-boundary approach, covering parts of eight countries in South Africa, who have to share the resources united around the Zambezi river. In thirteen chapters it discusses the social and physical geography, the social and environmental aspects and finally scenarios and outlooks. A job well done.

State of the Environment in the

Zambezi Basin 2000  
By Munyaradzi Chenje, *Southern African Research and Documentation Centre*  
GBP 23.95 • € 40  
African Books Collective  
27 Park End Street  
Oxford OX1 1HU, UK  
Fax: +44 1865 793 298  
Email:  
orders@africanbookscollective.com

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uals resident in ACP countries may also apply.

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# Mailbox

Our question in *Spore* 91 about "How do you use *Spore*?" has brought in many examples. Have you told us how you use *Spore*? Write in and tell us – our addresses are in the green box. Or write in with your questions, answers, recipes, projects...



## 55 readers for one copy

At the veterinary centre at Debre Marcos in Ethiopia, a lot of people use **Teshome Muluye's** copy of *Spore*. "We circulate *Spore* in our office, and visitors come to our office to read it. About 15 veterinary workers, more than 20 agricultural field workers, and about 20 other people will read each issue".

## Problem solving on the Internet?

A faithful reader, **Jean Revol** of Technodoc in Montelimar, France, is "really surprised that there is no discussion list (e-group) of Internet users about the technical problems of development. *Spore* publishes all sorts of Internet addresses where people are not keen on going to, while all that is needed is a simple list where a person could explain their problem.

You would find that sound and proper replies would come in for at least half the questions, without it costing any penny to buy in expertise. Of course it would need to be moderated, and run in various languages (French, English, Portuguese, Spanish...) and, ideally, translated."

*CTA runs a bi-lingual and moderated list about agriculture and technology. We invite Monsieur Revol, and other interested readers, to join it by sending an email to [lyris@lyris.bellanet.org](mailto:lyris@lyris.bellanet.org) with no subject and as text: *subscribe afagrict-1 <your name>*. We use this discussion list as a source for articles in *Spore*.*

## Move over, men!

**Navy Simukonda**, Acting Director of the Transkei Land Service Organisation (TRALSO) in Umtata, Eastern Cape, in South Africa has passed on to us the success story of the Masi-bambane Women's Project in Mpindweni near Umtata.

"The project started in 1996 around a land claim case, facilitated by TRALSO. The women involved set up income-generating activities including baking, sewing and a community food garden. In 1998 they received training in baking, vegetable production and piggery management – and some funds from the Netherlands Embassy. A community food garden was set up on a new site of 2.5 ha of land, with a building. Unfortunately, the garden's fence was broken down and cattle were allowed into the garden to graze all the produce the women had been growing.

The culprits were men of high standing in the community who felt threatened by the women's success. They claimed the women should not have the land since no men were involved, and anyway it was meant for their cattle.

Gradually after negotiation meetings, the community accepted that women as well deserve their own recognition in development activities. Now the project operates on the new site, and there are no more threats from the men. Because of the success of the project, there are ten other women's small-scale self-help development projects under the Masizakhe Mpindweni Forum, a Xhosa word for "trying to help and build ourselves". The men are completely silenced, and they were all invited to the launch celebration day of the Masizakhe Forum.



Masibambane Women's Project members with Ms Y van Eeoud of the Netherlands Embassy, and Mr Simukonda

## Start-up with ostriches

From Tukuyu, Tanzania, **Patrick Andrew Masuba** sends a query. "I want to begin keeping ostriches as a small farmer. Before embarking on this, I am looking for information on ostrich producers in South Africa, Zimbabwe, Namibia, Kenya, Botswana, Holland, England, Israel, Australia and Zambia. Please help me."

*We have sent Mr Masuba a list of the ostrich producer associations of these countries, and have written to them asking them to contact him. we are planning an article about rearing ostriches in *Spore*?*

## A condiment that 'calls'

**Ahmed Idris Hassen**, from the Department of Biology at Alemaya University in Ethiopia, reminds us that "in many African countries, most staple foods and condiments are the results of microbial fermentations, and Ethiopia is no exception. In the southern part of the country, datta is much loved. It is an attractive green gruel made of a mixture of freshly prepared vegetables. Mix 200 g green pepper, 50 g peeled and

washed ginger, 50 g peeled and washed garlic, and at least 25g rue leaf (*Ruta chalepensis*). Grind it in a manual stone mill, adding water to make a paste. Place it in a screw-cap bottle and set aside for fermentation. Within a few hours, its aroma will call even a passer-by from a distance. Mix a small amount of butter with the datta and serve it with bread, raw meat or injera, the traditional Ethiopian pancake."

## Safe from cotton pests!

"We appreciated reading the article on *Safety is the hardest word*" writes the **Director of the Association of Planters and Growers of Togo (APE-TO)** from Atakpamé in Togo. "The next one, on hydroponics, was very interesting, but the one which really helped us was the book review about cotton pests [this was a book with photos of pests, only in the French edition – Ed.] It made us realise that cotton should really be better protected. We enlarged the article with the pictures of pests and made more than a hundred photocopies, distributing them straightaway to members of the co-op. Then we ordered the book."

## CTA Advisory Committee Balancing old and new, delicately

The architects of the large meeting room at the CTA headquarters got it right with the design of its castle-like walls with high slit-like windows; the light cascades in, sometimes blindingly, a constant reminder of the world outside. Small wonder then that topical issues such as poverty alleviation, environmental sustainability, gender strategies and the AIDS epidemic were amongst the considerations of the 16<sup>th</sup> meeting of the CTA Advisory Committee held from 5 to 8 June 2001 in Wageningen.

The Advisory Committee is appointed by the ACP-EU Committee of Ambassadors to provide the Centre with advice on fulfilling its mandate. Composed of specialists from a total of thirty ACP and EU States, the Committee elects its officers from its own members, ensuring a parity of ACP and EU representation by rotating posts. The June meeting elected Mr J Flanagan (Eire) as its chairperson in succession to Ms T Ngomane (South Africa), and Mr J-P Toihen (Benin) as vice chair. Two members were elected to the Restricted Group: Mrs H Boulkou (Greece) and Mr W Gibson (Trinidad and Tobago.) This group acts on behalf of the full Advisory Committee in between the annual meetings.

The major tasks for the Advisory Committee were to comment on the Strategic Plan which had been developed following the Cotonou Agreement of June 2000, and its translation into a draft programme of activities, starting in 2002. CTA proposed that it should work through three operational programmes, with support from planning and corporate services. The first programme would be known as the Infor-

mation Products and Services Programme (IPSP) which pulls together the production and dissemination of information by CTA in printed and electronic form. The Communication Channels and Services programme would focus principally on promoting the use of electronic communication at the service of agriculture and rural development: radio, TV, Internet and electronic networks. The ICM Skills and Systems Programme would concentrate on providing training and integrated support to local and national organisations in ACP States on information and communication management.

### A provider and an enabler

The task of CTA, Mr Flanagan told *Spore*, is to make available information and to help those who need it to use it. The problem, he said, is not the lack of information, since there is already much information in existence which is very useful for, for example, policy making or targeting the rural poor or achieving food security. The problem is that it is under-utilised, and the challenge is to make it known and make it available.

With the increasing inclusion of information and communication technologies in agricultural information, it is important to strike a delicate balance between the new technologies (read: online, computer-linked) and their management on the one hand, and the 'old' technologies of books and CD-ROMs. "We have to be at the forefront of the new, and we cannot abandon the old" he emphasised, referring to the Centre's continuing role as a provider of information, and an enabler of information

management." Both old and new have their place in CTA's future thrusts, he made clear, as do the more established approaches practised by CTA of encouraging the exchange of information: study visits and seminars to name but two.

For the Centre, the challenge is to adapt its obvious skills in networking to the context where ICTs are more important, and to assist its partners in tailor-making those ICTs, or customising them, and helping partners in the selection, management and communication of information and data. Similarly, the growing presence of NGOs and civil society organisations on the development stage requires that CTA will have to evolve its policies to meet their needs in a different way.

Challenges galore, and a modern and clearly evolutionary approach to continuing to be of service; those are the bright lights which can back shine out of that meeting room to the world beyond.



*Spore* is a bi-monthly publication providing information on agricultural development for ACP countries. *Spore* is available free-of-charge to relevant organisations and individuals in ACP and EU countries. Subscriptions may also be purchased from *Triops* (see page 13).  
 Publisher: Technical Centre for Agricultural and Rural Cooperation (CTA) – ACP-EC Cotonou Agreement  
 CTA: Postbus 380, 6700 AJ Wageningen, The Netherlands  
 Tel: +31 317 467100  
 Fax: +31 317 460067  
 Email: cta@cta.nl  
 Website: www.cta.nl  
 Email for readers' letters: spore@cta.nl

**Compiler:** *Spore* is compiled by a consortium formed by Louma productions and Mediateurs  
 Louma productions, 3 rue Neuve, 34150 Aniane, France  
 Fax: +33 467 570 180  
 Email: louma@louma.fr  
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**Layout:** Louma productions  
**Printer:** Imprimerie Publiquep, France  
 © CTA 2001  
 ISSN 1011-0054

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## Literacy opens up the universe

■ The 'Universe' information centre of Akassato (BP 159, Ab-Calavi, Benin), reports its manager **Jacques Sovi**, is keen for contacts with other centres, and agencies which could assist in filling and organising its growing collection, which includes many CTA publications.





Andrew Saba Gana is a rice breeder in the rice research programme of the National Cereals Research Institute in Nigeria. His research activities bring him in contact with farmers across various agro-ecological zones of his country.

## Small farmers

# Let's praise the courage of the peasant farmer

**Farming is a risky venture, a very risky venture indeed. Unlike almost any other business enterprise, the inputs required for production are subject to natural factors, out of the control of the person in charge of the means of production.**

**T**he success of the harvest, for example, depends on the inter-play of climatic factors of rainfall and solar radiation and favourable weather conditions. It is this inter-active combination of climate, adequate inputs and added managerial skills that makes the difference between one farm and another.

Over the years, experience has shown that farmers can have to deal with multiple extreme problems in the course of the same cropping season. In Nigeria, rain-fed lowland rice farmers can experience droughts and floods in the same field in the same year. These two factors can result in 80% to 100% crop loss, and on top of these can come outbreaks of pest and disease. One fatal case was in Eastern Nigeria in 1988 when an outbreak of African Rice Gallmidge was reported, destroying about 80% of all rice fields.

### So much trouble

Other recurrent problems can be the destruction of farmland by Fulani cattle, which is a frequent occurrence especially in Northern Nigeria. There many farmers have lost their lives in fracas that have taken place when they were protecting their farms from Fulani cattle

*“ Wedded to their farms,  
literally ‘til death do us part’ ”*

rears who are usually armed. Indiscriminate bush burning is also widespread, often destroying farm lands and farm stored products in the process.

What interests me is how the peasant farmers, who constitute about 70% of the occupational population of Nigeria, have been able to sail through these problems and still remain wedded to their farms, literally ‘til death do us part’.

I have watched with keen interest how some wealthy men, such as retired military men and influential rich men including village chiefs, have packed up their bags and gone from the farm after just two to three years of cultivation. They have brought in and used heavy-duty equipment for land clearing and other farm operations, and the effects are easy to see. As you move along the roads, it is plain to the eye how their lands have been exposed to erosion. The remains of the structures build either as sheds or for storage purposes can be seen left in abandon in the bushes. One wonders if such buildings have not in fact been built for wild animals! Well, that might be a favour coming from above for the wild animals to enjoy what their domestic counterparts cannot enjoy.

There was a time when there was an upsurge in these types of farmers in Nigeria. They probably just thought that when you plough money into the soil you just watch the harvest come, and reap millions, but Alas! most of them were disappointed. They failed to recognise that farming by itself needs hard work, taking risks, determination and involvement.

Peasant farmers, on the other hand, are faithfully wedded to their farms come rain, come shine. Their courage in con-

tinuing in the face of their numerous problems is worth rewarding. The lack of rain in one year cannot deter them from continuing the next year, which is why often times you hear of rain makers. These are the people who are involved in praying for rain, especially when the planting season is being delayed. In some parts of Northern Nigeria, crops like rice are raised in nurs-

eries for a month or so in anticipation of rain. Sometimes water is fetched from far away streams or almost dried-out ponds. Farmers there cultivate short season crops like millet and cowpeas. When one looks at the variety of food products in the markets and discover that most of these are produced by peasant hands with their hoes and cutlasses, one can have nothing but praise for their efforts.

It is these farmers who change gear from producing only for consumption when they want to create surpluses and be able to send their children to higher school. This has become more competitive than ever before. They also want to have motor vehicles for conveying their products to their homes and markets, but these too demand resources.

### Wanting more it is these farmers...

A new lease of life is being brought to these farmers by the present rural electrification programme which has been embarked upon by the present government of Nigeria. The farmers will soon want to acquire household accessories like television sets and video machines. All of these desires will feed the expansion of their farmlands, but this will be hampered by the fragmentation of their lands due to the land tenure. Yet another challenge to overcome!

We need to give a lot of encouragement to these categories of small farmers for their immense contribution to global food production. Providing them with small-scale infrastructures and subsidies of their farm inputs would help a lot, but at the end of the day, their future is in their hands, and in the hands of factors we cannot control.

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