SPORE

CTA

Information for agricultural development in ACP countries

No 75 JUNE 1998

Photo Benoit Antheaume, © Orstom

Land tenure: coping with change

Land tenure is becoming less secure in rural areas in ACP States. Competition for access to land and its resources is rising, under pressure from a variety of factors: migration from less-endowed parts of the Sahel, the growing thrust towards the opening up of new lands, successful policies for intensified agriculture, and the gradual inclusion of the countryside in the market place. More attention than ever is being paid to this insecurity, yet the issues seem to grow in number and in complexity, blurring hopes for a miracle solution. Modern traders find ways to use modern law to gain access to the permanent rights of customary law. The certainties of the policies of yesteryear – of giving land rights to all – are now in doubt, and are being replaced by a more modest pragmatism, which is perhaps more realistic. Wholesale private appropriation of land is no longer a viable option in ensuring equitable land tenure. In other words, the field is opening up to experimental approaches. Can new practices of decentralised and mediated management offer a genuine alternative?

Land tenure conflicts are on the rise again, sometimes resulting in violent clashes, as were recently witnessed in eastern Niger, between pastoralists and farmers, or around gum tree orchards in Chad. They are one extreme of the surge of new interest in tenure of land and land resources, and point to the imperfections of existing policies and the dangers of inaction, as much as to the emergence of new groups keen to gain a foothold in the market for land.

Some approaches which emphasise full 'ownership' rights have worked well, in an attempt to clarify land rights, and to encourage investment. Some parts of the market (urban land tenure, plantation areas) operate simply under the laws of supply and demand. Why, then, shouldn't privatisation schemes spread out into rural areas?

"Seductive maybe, but impractical" is how Professor Etienne Le Roy [1] describes the idea. It is indeed easier said than done, since considerable efforts are required for registering rural land tenure. "In sub-Saharan Africa, 2% of land is in the public domain. Add to that the areas which are correctly recorded – ranging from 0.2% of the national total in the Sahel to 3% in countries such as Côte d'Ivoire – and we have about 5% of a country's land which is properly registered. Not very much". The process of registering private land is hugely expensive as shown by the example of the Comoros. In this little nation of islands, having 650,000 inhabitants, the cost of a cadastral (land) survey and land registration would be twice the size of its national budget. Furthermore, one can be sure of serious resistance from the traditional authorities (land chiefs, in particular) who would be none too keen on weakening the foundations of their legitimacy.

Photo Bruno Locqtelli

"Heritage management" gives the responsibility for resource management back to the user. A new form of land tenure law can emerge which is based more on concensus, thus more effective

Conceptual doubts ...

The given 'truths' of cadastral experts have also been shaken to their doctrinal foundations by recent findings. At the end of 1994, the renowned Land Tenure Centre (LTC), based in the United States of America, published its conclusions drawn from dozens of cadastral case studies. The major finding is that owning a deed of property, or not, is not a key issue in decisions about investment in rural areas in Africa. Other factors (small number of businesses, weaknesses in the legal system) are also seen as brakes on private investment. This led one LTC leader, John Bruce, to call for a change of approach, and to no longer seek to replace customary law with the modern, but to go with its flow. This requires a change of attitude, of moving from the line of confrontation, to some form of 'co-habitation'.

This approach has already been tried in several places. In southern Mali, the Malian Textile Development Company (CMDT) has helped to intensify production in the cotton growing zone (through increasing productivity and cultivated areas) by working within the framework of customary law. This has been a real success story: the national cotton harvest rose from 96,000 tonnes in 1981 to 450,000 tonnes in 1997.

It is not a new approach either. An example from decades ago, mentioned by Catherine Coquery-Vidrovitch, talks of British settlers in Tanganyika (which was to become Tanzania) gambling on greater success for their policies of mechanisation, more mixed cropping and herd improvement if they worked within customary law, through traditional chiefdoms.[2]

Photo Bruno Locqtelli

Looking closer at today, and tomorrow, our vision of land tenure is being changed by the upsurge in environmental concerns, and the obligatory reference to "sustainable development" in developmental policies. Any reference to land tenure now has to take long-term management of natural resources, such as water and forests, into account.

Finally, globalisation leads us to devote as much attention to ensuring a proper flow of resources (circulation of agricultural wealth) as to strict demarcation of land.

... and innovative practices

The complexity of the land tenure puzzle is already well-known, thanks to field research. Under 'customary' approaches, community ownership (through family and lineage) means that access to land and land resources is modulated by social position and alliances between lineages. Traditional authorities can also grant land use rights to 'strangers'. The case of subtle relationships between 'native' Ivoirians in Côte d'Ivoire and 'strangers' from Burkina Faso, Mali and Ghana was observed by Alain Karsenty, a socio-economist at CIRAD (International Centre for Agricultural Research): "Even when they have bought land, the migrants still have commitments to the native vendors – annual gifts, tithes (parts) of the harvest, or free labour. Nor can the migrants be sure that they will be able to pass on the land they bought to their descendants." There are many such complicated cases, but where there is a will to find solutions, there is a way. In just one village north of Lake Chad, for example, villagers made no fewer than 109 agreements on seasonal grazing with nomadic pastoralists in the region, covering routes, grazing grounds, and access to water. These agreements led to tensions between the two communities subsiding.

When local community organisations are still active – as is the case in Africa and in Melanesia – customary law often changes with the times. Paul Mathieu[3], a university specialist, tells of cases in Burkina Faso, where villagers in the department of Sapouy, south of Ouagadougou, have made arrangements which transcend the separate identities of lineages, neighbourhood or villages. Members of the native Nuni, migrants of the Mossi and Gourmantché, and Peulh pastoralists, have come together to make a pact about land use which gives all parties a fair share of access to the natural resources of the bush.

Elsewhere, new approaches have been made under the heading "land tenure forums" or "heritage management" (see box). They have one aspect in common: they all seek to bridge the gap between land tenure management and the actual functioning of African societies and production systems, without idealising rural communities, which sometimes maintain feudal relationships, and are not free from political or religious interference. Such approaches have the wind behind them, as reform and decentralisation take hold. The growth in 'local' elections means that power is now passing into the hands of authorities who are more in tune with local realities.

A hidden danger lurks in these innovative approaches: that of local isolationism. It can be avoided by making sure that (inter-) village agreements are approved by a more central regional authority, once their equitable nature has been assured. Locally-made deals can thus become defensible against outside parties, and a new form of land tenure law can emerge, which is based more on consensus – and, in consequence, is more effective. ●

For further information:

Menaces sur les terroirs, Courrier de la Planète, *number 34, Montpellier, May-June 1996.*

Enjeux au Sud autour de la terre, Grain de sel, *number 4, Paris, December 1996.*

La sécurisation foncière en Afrique. Pour une gestion viable des ressources renouvelables, *Etienne Le Roy, Alain Karsenty & Alain Bertrand, Karthala, Paris, 1996.*

Quelles politiques foncières pour l'Afrique noire rurale?, *Collection of essays, compiled by Philippe Lavigne Delville, Karthala, Paris, June 1998.*

Bibliographie et lexique du foncier, *Collection of essays, Karthala, Paris, June 1998.*

Information on cadastral reform and links to related Websites from the International Federation of Surveyors. Website: www.sli.unimelb.edu.au/fig7/intro.htm

"Briefing on Land Resources and Land Conflict" from the Royal Society, 6 Carlton House Terrace, London SW1A, UK. Website: www.poptel.org.uk/nuj/mike/re-pop.htm

Photo Elizabeth Toé

Direct action by farmers in Burkina Faso against top-down decisions on land tenure

Mobilising the scientific community

Decentralised land tenure management has been the topic of several international meetings in the last five years. It came to the fore during a conference of the Permanent Interstate Committee for Drought Control in the Sahel (CILSS) and the Club de Sahel held in Praia (Cape Verde) in 1994. In November 1996, the Gorée seminar held in Senegal in November 1996 on the theme of "Managing rural land tenure in West Africa" was especially notable for its emphasis on African expertise on the topic.

International institutions and decision makers have also shown their interest. Since 1996, an original cooperative programme has focused on the future of land tenure in Africa, aiming at a comparative analysis of different approaches. It coordinates the work of the French and British official agencies for development assistance, and relevant professionals, ranging from African studies specialists through experts of the International Institute for Environment and Development (IIED) in London to cadastral experts. Their early conclusions from the various approaches and experiences are now being documented (see bibliography). Philippe Lavigne Delville, a researcher at the French consultancy GRET, stresses one common feature: "Any logical intervention on land tenure requires making a political choice about which bodies should be allowed to manage resources. Whether they be statal or decentralised, they need a legal and legislative framework as much as they need cadastral mapping tools. It is not about going for the right 'starter' at the cost of the others. What is important is, within the terms of a political choice, to provide the different stakeholders with linkages."

New actors pour onto the stage

In many ACP States, the pressure of tourism is leading to hotel development and the establishment, or expansion, of 'nature reserves' for photo safaris and hunting. It causes land prices to rise. In Kenya alone, income from tourism reached US $450 million in 1996.

Speculation for agricultural land in peri-urban zones is being encouraged by urban growth. A Beninese consultant, Euloge Awede, reports "a land grab competition by top civil servants, politicians and military officers in the outskirts of Cotonou and Porto Novo".

Irrigation schemes also create new waves of interest – and give rise to redistribution of land along vote-catching lines. In Mauritania, tension grew when the rice-growing area of Gorgol, on the banks of the River Senegal, was opened up. The land was due to be divided into three parts: one for the owner, one for the company operating the site services (canals, dykes) and one for growers. The latter complained that "the agreement was not respected. The parcels of land that were supposed to be allocated to us went to traders and civil servants, mainly Moors originally from the north of the country."[1] The response of the official agency for allocation was that "the land belongs to all Mauritanians…. The key point is that it gets used." There is no doubt that the development of irrigated areas requires investment, but such a response would be more convincing if an active parallel market in re-selling and renting had not started up the day after the area was opened.

[1] see "Les privilégiés des terres irriguées" (Syfia, Bulletin mensuel 108, January 1998)

From "land tenure forums" to "heritage management"

In southern Senegal, anti-salination dams have allowed the re-development of the River Farankounda valley, one of the tributaries of the River Casamance. They have also led to renewed tension over land tenure, and to an original community initiative. Several local stakeholders (decentralised bodies, traditional authorities, farmers' groups and NGOs) came together to nip any tension in the bud. Any conflicting land claims were put forward in a land tenure forum composed of village delegates from the area, and were debated and deliberated upon. As the pattern of solutions emerged, tension fell. Ibra Ciré Ndiaye, a doctor in law who followed the initial phases of the movement, reports that it is "an experience with promise. On 24 September 1996, a land tenure forum was held in Madia Souané in central Casamance with more than 120 participants from 38 villages in the area."[1]

"Heritage management" has the same basic inspiration but is more ambitious, because it aims at changing national policies. According to one of its creators, Etienne Le Roy, "it aims at giving the responsibility for resource management back to the user-stakeholders and, after negotiation, following the same process with heritage management, investment in the land, and the demands of sustainable development."[2] This approach has been tried in Madagascar. In the second phase of the national Environmental Plan (1996-2000), provision is made for "heritage contracts" being made among natural resource conservationists, representatives of local communities, government and donor agencies. The first stage of work was in forest lands that were at risk, and in the fragile ecosystems of the 'Island Continent'. Later, the heritage approach will be extended to agricultural land and pastoral areas.

[1] see Journal of the French Association of Volunteers (AFVP) "Volontaires", number 21, 1997.

[2] contribution to a seminar in Aix-en-Provence (June 1996), reproduced in "Property rights and Environment" (published by Dalloz, Paris, 1997).

[1] Director of the Anthropological Law Laboratory at the Sorbonne, University of Paris.

[2] see "Who owns land in Africa", Spore 48, December 1993

[3] Professor at the Agricultural Faculties of Gembloux, Belgium

Farm mechanisation: balanced approaches

Photo Periscoop

The image of the broken-down tractor is one of the stereotypes of over-hasty development strategies. Sceptical reports about the failure of agricultural projects to meet ambitious targets are often accompanied by photos of rusting, inappropriate farm equipment dating from the 1960s and 1970s. In the same way, pictures of inappropriate and unused windmills, or second-hand computers, are scattered across the pages of sceptical reports of development mistakes in the 1980s and 1990s. And yet a good craftsperson does not blame his or her tools, and if agricultural mechanisation has not lived up to its promises, the reasons lie not in the technologies, but in the decisions about how they are used – and by whom. We take a look at strategies for real empowerment, for using human and animal muscle power and mechanical energy in ways that are better than ever for raising food production.

Farmers mechanise to produce more for the same amount of labour, and to reduce drudgery, according to a recent study report undertaken for CTA and the Food and Agriculture Organization (FAO). Not that mechanisation should be confused with motorisation and tractorisation – these are just two options, representing a small share of agricultural work in most ACP States. Indeed, some of the most successful attempts at mechanisation have used animal power – estimated to perform up to 20% of farming operations. Most agricultural work (perhaps 80%) still depends entirely on human labour.

The process of agricultural mechanisation, the report says, has to take three important contexts into account: the economic, environmental and social. Obviously, no farmer is going to invest in mechanisation without the outlook of increased income and profit: the lack of certainty here has often led to the demise of supporting services, such as tractor hire, suppliers and local maintenance and repair enterprises.

The best machine is no machine ?

Soil conservation and soil fertility come before mechanisation. No mechanical implement can create a stable soil structure - mechanised soil tillage can only destroy it. A different concept of soil tillage is needed, with special knowledge of the effect of each implement on the soil. A stable and optimal soil structure for plant growth as well as for water infiltration and erosion control can only be achieved by living biological processes such as creating humus.

The best form of mechanised soil tillage is none at all, but this is not applicable in all cases. Agriculture is always an artificial intervention in natural processes. Even under zero tillage concepts, some sort of tillage is done through traffic (movement on the soil) for planting, pest control and harvest. Traffic causes compaction and is as such one form of tillage.

The five basic operations in tillage are turning, mixing, loosening, pulverising and compacting. Soil structure is also directly effected by mechanised operations in weed control; in shaping of surfaces (ridging, levelling) and in harvesting crops like cassava and groundnuts.

The document 'from soil conservation to conservation agriculture' available from FAO-AGSE describes how to blend zero tillage practices with mechanised farming.

Photo Alain Rival

Is productivity per hectare increasing?

Mechanisation is not a guarantee for improved productivity. In many cases, such as in the Segou and Atacora regions of Mali, where animal traction has become part of the landscape in the last three decades, it has led to increased production but only by making it possible for mechanised farmers to increase the land they can cultivate. This in turn depends on their ability to acquire or have access to more land, a topic discussed in the previous article. In the Mali projects, some farmers obtained 50% more land, and increased production accordingly – although there are many reports of yield per hectare actually falling after mechanisation.

Such short-term gains in income and food security, which are not full blessings for all farmers, put longer-term development at risk, by damaging the local environmental system. In such circumstances, agricultural mechanisation brings fallow land back into use more quickly and, at the same time, reduces the area of land lying fallow. It hinders the natural regeneration of trees and bushes, impoverishes the stock of organic matter in the soil, and it can lead to erosion. It can also assist conservation, the report emphasises, by making the work of building bunds and terraces easier to undertake. Despite these advantages, there is a widespread belief that it could lead to a vicious circle of extensification into more and more vulnerable ecosystems, and to land degradation.

The social side is that, like most efforts to affect development through a technology thrust, it leads to a widening gap of opportunity and wealth in rural areas. In the wrong hands, without sensitive management, the technology which was expected to raise living standards and reduce drudgery can in fact impoverish members of the community and force them to join the drift to the city. Those owning or controlling the technology receive the greatest benefit: equitable development does not seem possible.

Need for new strategies

The recent wave of liberalisation in most ACP States has seen the decline of government efforts to encourage mechanisation directly. Instead, the market force of demand is a reason for new companies to invest in more appropriate products and services, and more credit facilities are becoming available.

Mechanisation is now getting ready for real business, but a well-balanced approach will be required for it to be a proper player in strategies for sustainable agriculture, rather than continuing its rather disruptive history. A seminar organised by CTA in November 1997 in Ouagadougou, Burkina Faso, on this topic led to a broad set of guidelines for the 'where/how' question of applying mechanisation. The sixty participants, from 19 African countries, concluded that in the foreseeable future, animal traction is likely to be the preferred system in rain-fed smallholder farming systems in African savannah zones.

Motorised mechanisation was seen as more appropriate in conditions wherein there are large farms, the presence of irrigation (only 5% of sub-Saharan African agriculture at present), and good marketing opportunities for increased and more regular production. The importance of mechanisation was also stressed in transport, crop and animal husbandry and post-harvest storage and food processing.

Much attention will be needed for training and credit, to train blacksmiths and to develop forage management. Governments are expected to create a climate that will enable mechanisation to become a viable option, across a broad landscape of tax measures, land tenure rights, health, infrastructure (roads) and special assistance programmes for those areas at risk (including, presumably, dealing with people displaced by the gap-widening impact of mechanisation).

In the frequent discussions now underway about strategies for mechanisation, it is recognised that little attention is paid to conservation tillage systems aimed at soil fertility, nor to gender issues – participants at the CTA seminar admitted as much, noting that the promotion, adoption and benefits of mechanisation in sub-Saharan Africa are not gender-neutral. Women provide a high proportion of agricultural labour, yet – as participation in the workshops confirmed – mechanisation is still a male-dominated subject.

Power for food security

Another key issue, technical but central, is energy and fuel, and it is insufficiently addressed in strategy seminars. The push towards motorisation is almost bound to continue, with animal traction being seen as an intermediary step. Few mechanisation strategies face this, but they will soon be forced to, given that there are already acute fuel shortages in many rural areas. One approach to follow is to link mechanisation more closely with investment in energy systems which can provide energy for making agricultural equipment, motor fuels for operating it, and fuels for powering agro-processing plants, at the micro- and macro-levels.

The challenge is to see how these developments for new sources of power and fuel can be made available for agricultural mechanisation. Mechanisation is not an end in itself, but a means of development. For those strategists who love to talk about empowerment, the challenge of getting power to the people, to the plough, and to the processing plant, is a tough one. ●

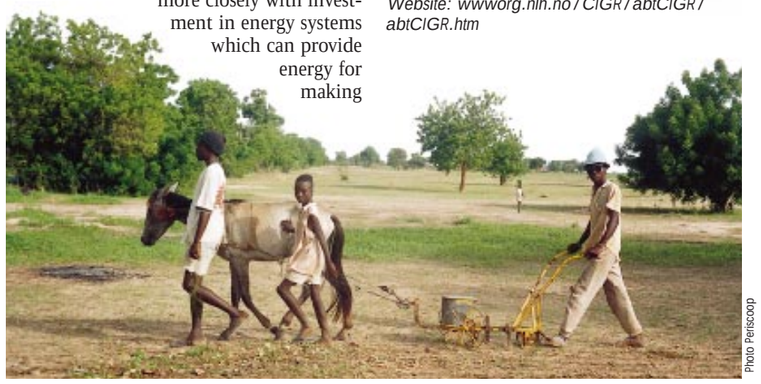


Photo Periscoop

The blacksmith and the farmer

The development of small metal-working enterprises has become an important basis for agricultural mechanisation. Centered on the village blacksmith, they have shown great success in the cotton areas of southern Mali, in Borgou in Benin, and in regions such as Chari-Baguirmi in Chad and Yatenga in Burkina Faso.

Farmers have used credit derived from the International Fund for Agricultural Development (IFAD) to purchase ploughs, carts, and small tillage equipment from local enterprises. However, the competitive prices of these products have been threatened by imported equipment, sometimes favoured by donor-funded projects. According to local specialists, international agencies should consider the impact on the local economy of favouring local manufacture when it is competitive: what they call 'inter-sectoral synergies' between the blacksmiths and the farmers are often key elements in mechanisation strategies. United they stand, divided they fall.

FAO-AGSE, Food and Agriculture Organization, Agricultural Engineering Branch, via delle Terme di Caracalla, I-00100 Rome, Italy.
Fax: +39 6 57053152
Website: www.fao.org/WAICENT/faoinfo/agricult/ags/AGSE/agse.htm

FARMESA, Farm-Level Applied Research Methods in East and Southern Africa, PO Box 3730, Harare, Zimbabwe.
Fax: +263 4 758055
Email: fspzim@harare.iafrica.com
Website: www.farmesa.co.zw/whatis.htm

IFAD, International Fund for Agricultural Development, via del Serafico 107, I – 00142 Rome, Italy.
Fax: +39 6 504 3463
Email: ifad@ifad.org

Sources:

Integrating mechanisation into strategies for sustainable agriculture. *Summary report and recommendations of a CTA Seminar. Ouagadougou, Burkina Faso, 24-29 November 1997. ACP-EU Technical Centre for Agricultural and Rural Cooperation (CTA), PO Box 380, 6700 AJ Wageningen, The Netherlands. CTA number 852. 5 credit points. See page 13 on how to obtain CTA publications.*

Mechanisation of agricultural work in sub-Saharan Africa*: study report. March 1997, CTA. Address given above. CTA number 841. 5 credit points. See page 13 on how to obtain CTA publications.*

CIGR, International Commission on Agricultural Engineering, c/o Universiteit fuer Landtechniek, Universitaet Bonn, Nussallee 5, D-53115 Bonn, Germany.
Fax: +49 228 73 25 95
Email: ulp81a@ibm.rhrz.uni-bonn.de
Website: wwworg.nlh.no/CIGR/abtCIGR/abtCIGR.htm

Women drivers

Women do more work than men in the field and on the farm, yet mechanisation tends to favour men. A recent study was undertaken by FARMESA (Farm-Level Applied Research Methods in East and Southern Africa) and FAO-AGSE on the potential for improving production technology of farm women in Africa. Covering Burkina Faso, Senegal, Uganda, Zambia and Zimbabwe, the study focused on the appropriateness of hand tools and animal traction. Its main conclusions included:

The prime constraint is the limited resources and credit available to women – a direct consequence of their low socio-economic status in society.

Weeding is women's hardest job and a major constraint to increased production; here lies the greatest opportunity for improvements.

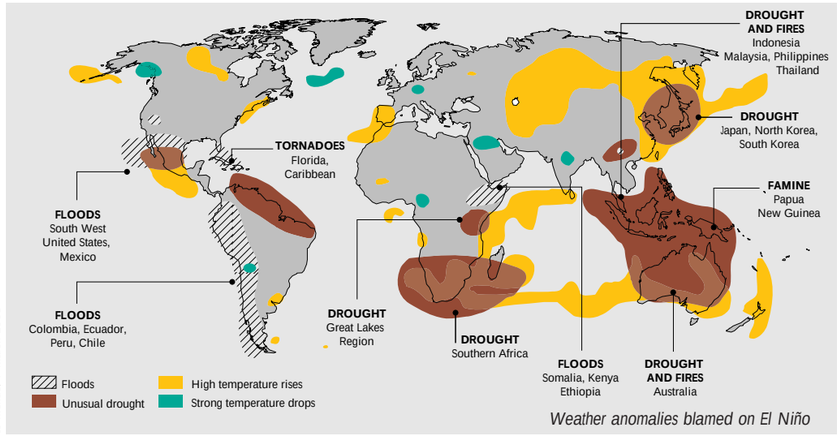
There is a serious lack of information flow between importers/producers of tools and (women) farmers.

Women farmers have only limited access to training especially in animal traction technologies.

It is often men's attitude towards women which has to change first before the workload of African women farmers can be seriously reduced (Quote of Zambian research team member: "If a man comes home and finds his wife sitting resting, he will say, Why aren't you doing something?").

El Niño – a badly-behaved child demands attention

If there was a cup given for being the most-talked-about aspect of the weather, the El Niño phenomenon would win it this year. It comes at a time when climate change is being seen more and more as part of daily life (see Viewpoint in *Spore* 74). El Niño is the name given to the warming of the Pacific waters every few years off the west coast of South America, and the phenomenon has been observed for several hundred years. Typically it occurs around Christmas time, hence the name "El Niño," Spanish for "the baby boy". The cause of El Niño is not fully understood, but the effects are well documented. The main consequence is to cause precipitation patterns around the world (mainly in the tropics) to shift. Regions that are normally quite wet (such as the Indonesian archipelago) experience drought while other places that are normally dry (such as the Galapagos islands) experience unusually wet conditions.



Le Monde, 7 March 1998

Weather anomalies blamed on El Niño

The recent El Niño has been blamed for an ever-growing list of calamities: drought and fires in the Philippines, floods in Somalia, Ethiopia and Kenya; tornadoes in the Caribbean, famine in Papua New Guinea and Sudan. From the slopes of the Andes mountains to Japan, passing through southern Africa, El Niño has upset the seasons.

The particularly severe and long-term effects of the latest El Niño winds caused massive problems for farmers, traders, health workers, and consumers across the globe, and more of the same is expected in the future. Countries with weak infrastructure are more affected, as is always the case with natural disasters, but there appears to be some hope for alleviating the worst effects of the adverse weather by good advance planning and the use of forecasting systems.

Experts estimate that for this season El Niño has caused billions of dollars worth of damage, the loss of crops, and has led to higher food prices. Its effect on trade has been clear in some countries: heavy rains in Kenya curtailed production of fine beans, a high return export, but Uganda and Bangladesh benefited when importers had to seek alternative supplies. Mango crops were washed away by heavy rains in Central and South America but Puerto Rico in the Caribbean began its harvest six weeks earlier because the warm weather encouraged early flowering and fruit production. South Africa's dry season meant good production and fewer disease problems. The Kenya Tea Development Authority advised farmers to take advantage of the higher returns possible following El Niño rains, which had increased tea production.

In many places where the changes brought more water, pests and diseases flourished. Nairobi fly and Rift Valley Fever erupted in parts of East Africa and El Niño was blamed for swarms of locust in Madagascar. The effect on cattle, goats and people in Kenya was severe, with hundreds of deaths reported, after floods isolated a normally accessible arid part of the country.

Forewarned is forearmed

Better planning can help. Earlier this year, the Agriculture and Land Affairs Minister in South Africa said that he was not overly worried about El Niño but more concerned about whether farmers and the agricultural sector in general were prepared for disasters – they should not assume that the government had a huge pot of money to bail them out. The correct approach is to plan ahead to meet the disasters, he said, and many farmers had already taken the initiative through careful financial planning, corrections for marketing, appropriate choice of land on which to plant and careful choice of cultivars in consideration of El Niño.

A global atlas has been produced by the International Irrigation Management Institute (IIMI), together with the Government of Japan and the University of Utah, to help identify the agroclimatic conditions appropriate to specific crops. As water becomes more scarce, the IIMI believes the atlas will be of increasing use in identifying appropriate crops for specific areas. Researchers elsewhere, working with farmers in South America using long-term forecasting to help plan crop husbandry activities, have already yielded promising results.

El Niño has been blamed for events that are sometimes unrelated anomalies – its bad behaviour seems to be helping to focus efforts across a wide front of activity, sometimes outside the scope of the phenomenon everyone loves to hate. Maybe the Zimbabwean tease about El Niño – El Nonsense, they call it – in some cases, rings true.

World Water and Climate Atlas for Agriculture, International Irrigation Management Institute, P O Box 2075, Colombo, Sri Lanka. Website: http: / / atlas.usu.edu /

Tithonia spells trouble for termites

Farmers working with the Kenya Woodfuel and Agroforestry Programme (KWAP) have identified a local shrub as having potential to help control termite infestations. Farmers, involved in the project as part of a 'participatory rural appraisal' approach identified termites as a serious problem on their farms. One farmer's experiment, making a tea from either fresh leaves or the ash of *Tithonia diversifolia* (also known as tree marigold, or wild sunflower), *Cassia siamea* and *Cassia spectabilis* and applying it to affected trees, provided protection from termites for up to 45 days. Another farmer, who had a problem with underground termites, made a solution based on fermented extracts of *Tithonia diversifolia* and *Melia azedarach*, which controlled the pests when poured into their nests. After two years of research, farm results showed the most effective treatment to be a solution made from *Tithonia diversifolia*, *Vernonia amygdalina* and *Agave sisalana*. Not only did this solution control termites, but it also contributed to soil fertility. Using these local resources avoided the need to purchase chemical pesticides. Moreover, farmers were reported as being enthusiastic about the use of *Tithonia* and its effectiveness.

Source: ILEIA Newsletter, December 1997. ILEIA, PO Box 64, 3830 AB Leusden, The Netherlands. Fax: + 31 33 494 0791 Email: ileia@antenna.nl

Research goes commercial

A Centre for Agribusiness Services has been set up in the Caribbean region by the Caribbean Agricultural Research and Development Institute to support commercial activities in the private sector and to ensure business opportunities are exploited. It will also promote and market the institute's own products and services.

The centre has a Business Services Programme to help identify and develop viable business opportunities, and in Jamaica three organisations have been appointed to help develop it: the Agribusiness Council of Jamaica (with a membership of over 30 market-driven organisations), Trevor Hamilton, and Agrisystems Ltd., both consultancy firms. The services to be offered include: market research, business advice, input testing, meat handling, project appraisal, and quality assurance and certification.

Contact: Executive Director, CARDI, UWI Campus, St Augustine, Trinidad and Tobago, West Indies. Fax: +1 868 645 1208.

Castor seed oil brings smiles in Côte d'Ivoire

Castor seed oil is used in medicine as a purgative. It has an unpleasant taste, and those who have to take it usually pull quite a face. In Côte d'Ivoire, though, it is bringing smiles to the faces of its potential growers. The West African association of castor seed growers launched some experimental crops which, the daily paper *Fraternité Matin* reports, have led to encouraging results from the very beginning. Trials were conducted on four hybrid varieties that came originally from Costa Rica in Central America. They yielded two to eight tonnes of seeds per hectare. Castor seed cultivation is set to become a promising route to follow in diversifying agricultural production. It is easy to grow – in Côte d'Ivoire, castor seed plants grow naturally on rubbish dumps; and it has a valuable market – its oil is used in the manufacture of varnish, paints and lubricants in the automobile industry. In the United States alone, 40,000 tonnes are consumed annually. The final conclusions of the trials should be awaited before people start trying to overtake India, world champion in castor seed oil production, but this is clearly a crop to watch.

Source: Fraternité Matin, 23 February 1998 Boulevard Général De Gaulle, 01 BP 1807, Abidjan, Côte d'Ivoire Fax: + 225 37 25 45 Website: www.africaonline.co.ci

Window on Internet in the South: a CD-ROM training resource

The CD-ROM *Internet au Sud* from the French research group ORSTOM is a resource for training programmes run by organisations in the South: system engineers, network administrators, librarians, teachers, researchers, public service administrators and the private sector. It is a detailed guide to Internet services in many ACP countries and elsewhere in the South, full of training aids and valuable references – for those who want to get the most out of the Internet.

Contact: Pascal Renaud, Scientific editor Order by Email: diffusion@bondy.orstom.fr Price: FFR 50.

Better slice of the market

The Jamaican agriculture and livestock sector should soon be benefiting from a new Research Centre, and a Demonstration and Training Centre (DTC), set up to help farmers and marketers in the local sheep and goat industry which, according to the Caribbean Agricultural Research and Development Institute (CARDI), can compete in the regional market without recourse to government aid.

The centres are geared towards increasing production of high quality breeding stock and improving preparation and presentation of choice cuts of meat; this, in turn, will give consumers in the region a better choice of superior meat products.

The Research Centre is a joint project of CARDI and the Jamaican Ministry of Agriculture; the DTC is between CARDI and Aluminium Partners of Jamaica.

As part of its regional initiative to support marketing activities, CARDI has also established a Master Butcher and Meat Consultancy Service for the meat industry in Barbados.

Contact: Executive Director, CARDI, UWI Campus, St Augustine, Trinidad and Tobago, West Indies. Fax: +1 868 645 1208.

Websites: still growing fast

New Websites are continuing to be set up on the Internet at a phenomenal rate – and this trend shows no sign of abatement. The world of agricultural development is beginning to recognise the advantages of a presence there for a minimum outlay. The Fiji Ministry of Agriculture, Fisheries and Forests has a clear outline of its Agricultural Research Division hosted by the International Service for National Agricultural Research (ISNAR): the research stations and the major crop research programmes are presented. The Mauritius Sugar Industry Research Institute, the National Foundation for Rice Research in Surinam, and the National Agricultural Research Organisation of Uganda have all benefited from the ISNAR 'host' programme, which provides special resources to help research organisations publish on the 'Web'. *Website: www.cgiar.org/isnar/hosted*

The New Agriculturist Online is an interactive and topical type of Web publication, with regular up-dates and breaking news stories. This site has a magazine format and is devoted to tropical farming and food production and processing. Topics have included a review of research on crops of the semi-arid tropics, genetically modified crops, agroforestry, news, books, and forthcoming training courses and conferences. The site is an initiative of WREN*media*, until 1998 the compilers of the English edition of *Spore*.
Website: www.new-agri.co.uk

OneWorld, which claims to be the largest site devoted to sustainable development and human rights, has generated a discussion and networking offshoot, One World Europe. This subsite brings together organisations in Europe working on issues of global importance and its members use it to disseminate or search for information as well as to exchange ideas.
Websites: www.oneworld.org and *www.oneworld.org/europe*

See page 16 for details of CTA's own Website, launched in May 1998.

From passion fruit to passion juice

Photo DR

In Burundi, the production of passion fruit (*Passiflora edulis*) has soared in recent years as a result of joint efforts by fruit juice processors and fruit and vegetable exporters. It is grown throughout the country and given, a potential production of one tonne per hectare, output could reach 145,000 tonnes.

The National Centre for Food Technology (*Centre national de technologie alimentaire)* in Bujumbura has drawn up a simple set of processing guidelines to enable all producers to select quality products, and use a viable method of juice processing. There are ten steps in all, from the weighing of the fruit (to calculate what the output will be) to its conservation. First, the fruit is washed in large tanks of water. The fruits rise to the surface, where unsuitable ones (unripe, damaged, or diseased) can be removed. Then the stalk is discarded, prior to cutting the fruit lengthwise with a knife. Using a spoon, the flesh of the fruit is scraped off the peel. This is manual work and requires considerable labour. The fruit pulp is then warmed up until the seeds turn black. The seeds are separated from the pulp, which is then mixed with water in a centrifuge or extractor, and filtered. At this stage, water is added (to dilute the pulp), and sugar, according to taste. The final sieving of the juice has to be done with great care, to ensure the removal of any remaining residues from the sugar or seeds. The type and conditions of bottling will depend a great deal on the method adopted for sterilisation: either by standing a filled bottle in a bain-marie (in a pot over boiling water), or in a covered stainless steel cooker. After sterilisation, the juice should be allowed to cool for a few minutes, since the taste and colour will change if it stays at high temperatures for very long. The cooling water should be slightly chlorinated, to prevent micro-organisms entering the container. Passion fruit juice can be stored at average temperatures of 25 to 28°C for three months. It should be consumed within 24 hours of opening the bottle.

Contact: Mr Venuste Gikota, Director of the National Food Technology Centre (CNTA), BP 557, Bujumbura, Burundi.

Fisheries bulletin is quite a catch

The *EC Fisheries Cooperation Bulletin*, published by the European Union and the Technical Centre for Agricultural and Rural Cooperation (CTA), has reached a new milestone, and a circulation of 5,000 copies world-wide. The first issue of volume 10, which appeared in March 1997, celebrated the tenth anniversary of this quarterly journal. It is intended for a wide audience that includes fisheries organisations, ministries, universities and information centres. It provides a real window on the world of European cooperation on fisheries and aquaculture, with a clear and readable bilingual (English and French) presentation. It has grown into a real forum for the exchange of practical information on projects financed by the European Commission, and has a valuable set of summaries and contacts. *EC Fisheries Cooperation Bulletin* also covers more substantive issues such as environment, biodiversity and sustainable tourism, as well as news and comments from all over the world.

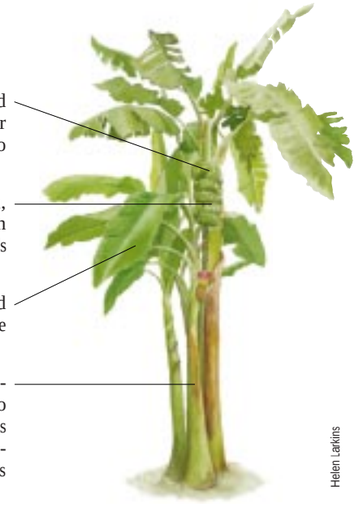
EC Fisheries Cooperation Bulletin
Available free of charge, from
Cornelia E. Nauen
European Commission
Directorate-General for Development
200, rue de la Loi
1049 Brussels
Belgium
Fax: + 32 2 299 06 03
E-mail: cornelia.nauen@dg8.cec.be

Ticks

The global network of specialists working on ticks and tick-borne diseases have a newsletter *Integrated Control of Ticks and Tick-borne Diseases* and accompanying Website devoted to their cause as part of a European Union Concerted Action Project. Networking and communication is at the heart of the project which also sets out to advocate an integrated research strategy covering the range of tick-borne pathogens present in a particular geographical region. The objectives and programme of the project are also provided on the web in French and Spanish. The project started in 1996 with 40 participants from 24 laboratories in eight European and nine African and Caribbean countries. So far, over 100 scientists have registered as associate members.

Contact: Dr Frans Jongejan, Network Co-ordinator, Faculty of Veterinary Medicine, Institute of Infectious Diseases & Immunology, Dept of Parasitology & Tropical Veterinary Medicine, PO Box 80.165, 3508 TD Utrecht, The Netherlands.
Fax: +31 30 2540784
Email: f.jongejan@vetmic.dgk.ruu.nl
Website: http://www.ruu.nl/tropical.ticks

The many facets of the banana tree



Helen Larkins

- The fruit can be served up as a puree, snack (dried slices and chips in Honduras and Nigeria), jam, vinegar, in bread, beer (Uganda), ketchup (Philippines), and baby food. It is also commonly found in muesli cereal mixes in Europe.
- The peel or 'skin' is rich in starch, cellulose, sugars, pectin, minerals, proteins and vitamines. The inner surface of the skin is distilled into an aromatic essence used in pharmaceuticals and perfumes.
- The leaves are a valuable source of proteins, vitamins, and cellulose and may be used as a light laxative. In Asia, they are used as an accompaniment to rice and meat dishes.
- The stem contains starch and is used industrially (in textiles, cigarette paper, paper money, and tea bags). It is also another source of sugar, and, on the world market, is less expensive than cane and beet sugar. In Kenya and the Philippines, the fibre is used in making sacks, lamp-shades, baskets and toys.

COURSES AND CONFERENCES

INTERNATIONAL SYMPOSIUM
BANANA PRODUCTION: A MAJOR ISSUE IN FOOD SECURITY

10 - 14 November 1998
Douala, Cameroon

The symposium is organised by the Regional Banana and Plantain Research Centre (Centre de recherches régionales sur bananiers et plantains - CRBP, Cameroon) and International Network for the Improvement of Banana and Plantain (INIBAP, France), in collaboration with the Technical Centre for Agricultural and Rural Cooperation (CTA, Netherlands) and the Centre for International Cooperation on Agricultural Research for Development (Centre de coopération internationale en recherche agronomique pour le développement - CIRAD, France). It will cover seven major topics, shedding new light on the place, role and socio-economic importance of non-industrial bananas, and of local and regional networks of production and consumption.

Contact: Symposium on banana production
Secretariat, CRBP, BP 832, Douala, Cameroon.
Fax: + 237 42 57 86.

INTERNATIONAL SEMINAR
FALLOW LANDS IN TROPICAL AFRICA.
ROLES, IMPROVEMENTS, ALTERNATIVES

13 - 16 April 1999
Dakar, Senegal

A meeting of 120 to 150 researchers and stakeholders in development having experience in the problems of fallow lands in tropical Africa.

Contact: Organisation commitee secretariat
Projet Jachère / Fallow Lands Project
Orstom - BP 1326, Dakar, Senegal.
Fax: + 221 382 26 98; Email: ponpon@dakar.orstom.sn
Website: www.orstom.sn/act-rech/jachere

ENGINEERING CHALLENGES IN AGRICULTURE IN DEVELOPING COUNTRIES IN THE 21ST CENTURY

20 - 25 September 1998
Ghana

International conference covering: farm power and machinery, post-harvest technology and biotechnology, soil and water engineering, energy in agriculture, structures and environment, agricultural waste management, agricultural engineering education, extension and training, ergonomics, terramechanics, standards and safety. Registration US $250.

Contact: Dr Komla Dzisi, Conference Secretary, Department of Agricultural Engineering, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.
Fax: + 233 51 60137; Email: ustlib@ust.gn.apc.org

INTERNATIONAL SCIENTIFIC MEETING OF THE CASSAVA BIOTECHNOLOGY NETWORK, CBN IV

3 - 7 November 1998
Salvador, Bahia, Brazil

This meeting is for scientists and decision-makers, and representatives of cassava farmers and processors, having a genuine interest in cassava biotechnology and R & D subjects related to the application and transfer of biotechnology innovations. Special themes for this meeting include: role of biotechnology in conservation and use of manihot genetic resources, and farmer participation in cassava research using biotechnology. Registration US $50 for participants from developing countries. Organised in collaboration with EMBRAPA.

Contact: Dr A Thro, Coordinator CBN,
c/o CIAT, Km 17 Recta Cali-Palmira, AA 6713, Cali, Colombia.
Fax: +57 2 445 0073
Email: a.thro@cgnet.com

INTERNATIONAL CONFERENCE ON THE ROLE OF SCIENCE AND TECHNOLOGY IN DEVELOPMENT

7 - 11 December 1998
Malawi

This conference, for policy-makers, industry and consumer organisations, NGOs, research and scientific communities, and regional and international organisations, aims to promote an exchange of experience and ideas and to produce strategies for collaboration, development and applications of science and technology in developing countries in addition to the proper utilisation of scientific knowledge in Africa.

Contact: Dr Alexis Ndibwami, Secretary, Conference Organising Committee, P O Box 280, Zomba, Malawi.
Fax: +265 522 046; Email: ICRSTD@unima.wn.apc.org

INTERDISCIPLINARY TEAM RESEARCH FOR AGRICULTURAL DEVELOPMENT (IN ENGLISH)

11 January - 22 July 1999
The Netherlands

Researchers on this course design and implement interdisciplinary research projects as a service to client institutes in developing countries. The programme includes preparatory training and three months fieldwork. Participants should hold PhD or MSc and have two years experience in developing countries.

INTERDISCIPLINARY TEAM RESEARCH FOR AGRICULTURAL DEVELOPMENT (IN FRENCH)

1 March - 9 September 1999
Montpellier, France

Contact: Dr Jon Daane, International Centre for Development Oriented Research in Agriculture (ICRA),
P O Box 88, 6700 AB Wageningen, The Netherlands.
Fax: +31 317 427046.

12TH SCIENTIFIC CONFERENCE OF THE INTERNATIONAL FEDERATION OF ORGANIC AGRICULTURE MOVEMENTS

16 - 21 November 1998
Mar de Plata, near Buenos Aires, Argentina

Contact: Movimiento Argentino para la Produccion Organica, Av. Santa Fe 873, (1059) Buenos Aires, Argentina.

MSC IN TROPICAL FORESTRY: SPECIALISATION IN SOCIAL FORESTRY OR SILVICULTURE AND FOREST ECOLOGY

September 1998 - 2000
Wageningen, The Netherlands

Contact: Frits J Staudt, MSc Programme Director, Department of Forestry, P O Box 342, 6700 AH Wageningen, The Netherlands.
Fax: +31 317 483542; Email: frits.staudt@alg.bosb.wau.nl

SILK: AN OPPORTUNITY FOR ECONOMIC DEVELOPMENT IN SEMI-ARID AFRICA

October 1998
Dakar, Senegal

Indications suggest that the production of silk is potentially a successful economic activity for Africa. This symposium, organised by the International Program for Arid Land Crops (IPALAC), will explore the possibilities for silk production in Africa and develop an action plan.

Contact: The Organising Committee, International Program for Arid Land Crops, c/o Ben-Gurion University of the Negev, P O Box 653, Beer Sheva, Israel 84105. Fax: +972 7 647 2984; Email: ipalac@bgumail.bgu.ac.il

COMBATING DESERTIFICATION WITH PLANTS

2 - 5 November 1998
Beer Sheva, Israel

Researchers and development workers are welcomed to this conference to share experiences in the use of plants in income-generation or environmental projects. Topics include: traditional and new crops (genetic improvement, crop transfer, domestication), agroforestry and non-wood forest products, social cultural and economic aspects, and ecological considerations (biotic interactions, colonisation).

Contact: see previous address.

Please write to the addresses given above, and not to CTA, if you are interested in participating in these events.

On our 'Mailbox' page we publish extracts from letters sent to the editorial team at CTA. These letters have been selected for their potential interest to other readers of ***Spore***. Readers are therefore invited to send us further information on subjects covered in ***Spore***.

Spore would also be pleased to receive short articles and news items on agriculture and rural development in ACP countries; these will be considered for publication in our 'In Brief' pages. Finally, under the heading 'Viewpoint', we will continue to publish personal opinions on the subject of agricultural development in general.

Please send your correspondence to ***Spore*** at CTA in the Netherlands (see back page for our address) and please note that we are unable to return manuscripts.

Cassava mosaic diseases

Professor J. Michael Thresh, of the UK Natural Resources Institute, has responded to an article published in *Spore* entitled *Malawi farmers unaware of effects of EACMD.* Professor Thresh writes "A recent feature in *Spore* 70 (p. 8) summarises an article in *Roots* (**3** (2) pp.4-7; 1996) concerned with what is referred to as East African cassava mosaic disease (EACMD). This implies the occurrence of a new, hitherto unreported virus disease of cassava in Africa that differs from the one previously referred to as cassava mosaic virus or African cassava mosaic disease. Readers of *Spore* should be aware that there is no evidence for such a conclusion and that it is more appropriate to refer to the mosaic diseases of cassava in their different parts of Africa and India as cassava mosaic disease. Recent research at the Scottish Crop Research Institute, Dundee has shown that several different whitefly-borne geminiviruses are involved but they are distinguished biochemically and **not** so far on biological grounds."

What's in a weed's name?

Joël J. Loumeto, of the Botany and Ecology Laboratory at the Science Faculty in Brazzaville, Congo, writes about the number of names given to *Chromolaena odorata* (*Spore* 72, p. 4). "The fact that there are so many underlines the importance of the weed, its distribution, and the forceful way it establishes its presence. [...] In Benin, for example, the name 'Sekou Touré ma' (the Sekou Touré leaf) refers to the similarities between the introduction of the plant, and the official visit of President Sekou Touré to the country. In Togo, 'Acheampong' was the name of the President of Ghana at the time the plant is thought to have arrived, supposedly from that neighbouring country. In the Central African Republic and Congo, the nicknames 'Bokassa' and 'Lantana di(a) Ngouabi' refer to the ruling and incoming presidents respectively at the time. The name 'Rawlings' in some West African countries symbolises the force of the *Chromolaena* by recalling the repeated seizures of power by Jerry Rawlings in Ghana. In Côte d'Ivoire, the plant goes under the name of the 'Independence Plant', because it arrival coincided with the country's independence in 1960." Mr Loumeto reminds us that *Chromolaena* has beneficial effects too. It helps in controlling another serious weed, *Imperata cylindrica*, as well as improving soil fertility and reducing the fallow period for a piece of land. It also has nematicidal and medicinal properties, and is especially efficacious in healing wound cuts.

Herbicides better than manual weeding

René Rabezandrina, of the Department of Agriculture of the University of Antananarivo, Madagascar, also shares some ideas on weeds (*Spore* 72, p.4) : "True, *not all farmers can get hold of some herbicides in isolated areas*, but this should not be a reason to deprive less isolated regions by not carrying out research and training on these products, as in the case in Madagascar at present.

The relative costs of herbicides and weeding can be shown. Special mixtures are one and a half times the costs of manual weeding, but simpler products, such as 2-4-D, are half the cost of weeding. With regard to the claim *that herbicides are dangerous to the farmer's health,* this holds for any chemical substance. Herbicides, though, are significantly less dangerous than fungicides and, in particular, than insecticides. However, the latter are widely promoted and used in Madagascar against lice and rice borers, crickets, etc, without hurting the farmer. The risk can be avoided if Malagasy farmers are taught the proper application methods. They are no less aware than any others, as is shown by their correct use of insecticides and fertilisers. The claim that *repeated use of herbicides encourages certain resistant species of weeds* should refer to the use of a single herbicide, since if different types were used from year to year, the problem would not arise. As for the statement that *pulling out and weeding manually is the best way to deal with weeds,* it must be stressed that however much the farmer tries to manage weeds by weeding, the impact will always be less than with a proper use of herbicide. After all, he will only remove weeds when they have taken hold, and by then it is too late, since they will have already wrought their havoc by assimilating the fertilisers in the soil which the rice could enjoy, notably nitrogen. Herbicides, on the other hand, can prevent the appearance of weeds.

Nonetheless, I fully share the author's opinion that herbicides lighten the work load. It took me one hour carrying a sprayer on my back to apply a quarter of a hectare of rice field with a herbicide liquid, the equivalent of four hours of not too heavy work per hectare. It would take four women one whole day of hard work (constantly bent over) to weed the same area manually. Let me add that the use of herbicides disturbs the soil less, and protects it better against erosion, than if you have to hoe or plough to remove or bury weeds."

Raising rabbits and ducks

Tshala Mwengo, of Musokatanda Agriculture and Family Health Project in Katanga Province, Democratic Republic of Congo, writes to share an innovation with readers of *Spore*. "We specialise in integrated small animals, crop, fish culture and animal traction to increase protein, vitamin and mineral intake in the diet of the local population.

We had a problem with our rabbits wasting much of their concentrate through the bottom of the cages and onto the floor of the rabbit shed. There it would spoil and attract flies and create a strong odour. We like to leave the rabbit droppings, urine and forage droppings to decompose under the cages before removing the compost to the gardens.

We solved the problem of feed waste by keeping a family of ducks under the cages. They eat the dropped feed as well as all the insect larvae. We now have a clean-smelling rabbit shed without flies, as well as the benefit of fast growing ducks."

We hope that this idea will help some of your readers to raise rabbits without the added problem of disease-carrying flies or strong odours which can cause problems in the village."

The doctor orders more science in politics

Dr Monde Kagonyera was born in south-western Uganda. After completing advanced studies in veterinary science at the Universities of Nairobi and California, Davis, he taught clinical veterinary medicine at Nairobi and Makerere Universities. In 1988 he was appointed Minister of Animal Industries and Fisheries for Uganda – a position he held until 1991. Currently he is a Member of Parliament in Uganda, and chairman of the Appointments Board of Makerere University.

With most economies in Africa and other ACP States largely based on agriculture, the question governments and donors have to ask themselves is "are they doing enough of the right kind of interventions to assist farmers?" At a recent seminar in Swaziland on "Livestock Development Policies", organised by CTA in collaboration with OAU/IBAR and the Swaziland Ministry of Agriculture (see *Spore* 72), Dr Kagonyera delighted delegates with his frank perspectives. He spoke with ACP journalist Anita Allen.

Dr Kagonyera began by saying that "Any agricultural policy in Africa must address the needs of the peasant, and must be aimed at a viable food strategy programme leading to self-sufficiency in food production as well as addressing the question of poverty alleviation, since we cannot yet talk about poverty elimination."

Such brevity is remarkable for a politician, but then Kagonyera is an example of the new breed of scientist-turned-politician. He would like to see many more such figures occupying parliamentary benches throughout the continent. Sometimes called an African Renaissance man, he believes that the tide has turned for Africa. One reason for optimism, he says, is that the quality of politicians is improving.

"As you realise at the time of Independence a lot of political leaders had very poor education and experience. Things are different now. If you look at the parliament of Uganda for example, I'm sure 80% of the members have got at least one university degree. So the politics are completely different."

The African renaissance

Things may be different, but they are not yet right and Kagonyera reserves some of his most pithy remarks for politicians and their various organisations, recalling the prayer book saying: "we have left undone those things we ought to have done and we have done those things we ought not to have done".

Kagonyera sets great store in education as a key in the African renaissance, and he would like to see donors throwing everything they have into capacity building. "I think Africa should be given time to prepare itself to join the rest of the world and the best way to help Africa prepare itself is to emphasise capacity building, whether it is in education, industry, or agriculture."

He is, though, a little wary of aid: "it tends to give you breathing space not to work hard, and that's not good". The fact that democracy is coming to Africa only now doesn't bother him and he dismisses a suggestion that it has taken a long time. "All over the world these things have taken a long time. Look how long it took the Europeans to become democratic. Africa is on the launching pad, there's no question in my mind. I wish I could live long enough to see Africa a better place. We are taking off already – look how many countries have adopted democratic principles of governance, look how many countries are registering positive economic growth after long decades of negative growth, look at the coming to the stage of South Africa with its economic might – Africa is going to be a different continent."

In this awakening, Kagonyera says Africa must look to itself first. "Africa has first to put its own house in order before it can go to the global field, and it is important to go stage by stage. This can only be based on each country doing a good job within its own borders, then in regional groups, then the whole of Africa can look to the world."

Is enough attention being paid to agriculture by governments in Eastern and Southern Africa? Kagonyera thinks not. "One problem we have is that when farmers make mistakes, instead of finding a remedy, they are punished. That's wrong because those mistakes are not intentional. It's a learning process and we are not allowing that to take place."

Scientists, he believes, have a crucial role to play in ensuring a better tomorrow for Africa's people. "I would like to see scientists assert themselves more because they can be listened to, that's my view. Certainly in Uganda, we can listen to them because even in parliament we have so many professionals – at least seven vets and probably more medical doctors and professors." He dismisses any suggestion that scientists are not noted for their assertiveness, and says that in their labs they have to be assertive. Furthermore, he believes that scientists must become political animals.

Plant your people

"It's like playing American football, you must plant your people. Scientists must take the game to the politicians – if you don't take the initiative – and this is true of every walk of life – there are times when if you don't promote a thing, you don't get it. You must draw programmes that are achievable," he says, and that means focusing on food self-sufficiency with government interventions directed at enabling and empowering the peasant to produce more.

"If you do not understand the problems of the small farmer, then you will not be able to help him – and how do you know his problems? You must talk to him, so there must be forums with the peasant farmers, where they can come and give their problems and tell their stories. Government archives are full of projects, but none of it gets to the people, so follow-up is the rule."

Which brings him back to his only words of advice to donors: build capacity in the people.

The views expressed are those of the speaker and do not necessarily reflect those of CTA

Agricultural technology development and dissemination

In 1996 CTA commissioned a study that served as a working paper for the ISRA/CTA workshop held in Dakar, Senegal in 1996, entitled *Effective Utilisation of Agricultural Research Results in West and Central Africa*. The study, which has just been published, called for the identification of two technologies from each of five agricultural research institutes, three in Nigeria and two in Ghana. It examines the process involved in the development and dissemination of the identified technologies. The technologies from the research institutes in Nigeria include improved rice varieties, a small-scale brown-sugar production plant, cocoa and kola hybrids and a dual-purpose groundnut for fodder production. Technologies from Ghana included an improved quality protein cowpea variety and a wheat bran formulation for livestock feeds.

Results showed that both Ghana and Nigeria used the farming systems research approach for technology development, and that this approach significantly strengthened the traditionally weak research-farmer linkages. For dissemination of research results, extensionists from both countries used the classical 'train and visit' system, or, in the case of Ghana, a modification of this approach, within a unified extension service – an approach that requires that an extension agent, who is directly in contact with farmers, to deliver all messages.

Finally, the study showed that for a high degree of adoption and impact, the intended beneficiaries of the technology must be actively involved in their development, and must be encouraged by a conducive policy environment, which ensures the availability of production-enhancing inputs at affordable prices complemented by tangible incentives for production.1

This publication will primarily interest policy-makers and planners in extension and research.
CTA number 855, 1998,
ISBN 92 9081 179X, 5 credit points.

Network on tropical forests and trees

The Tropical Trees Network, launched in 1987, now unites 4,000 members involved in defending and promoting trees and forests in tropical Africa. To mark its first ten years of existence, the network invited several organisations to participate in a review of its work, to suggest future directions and to promote the financial and organisational autonomy of national networks. As part of this, CIRAD, CTA, FAO, the Niger Office for Forests, and the European Union linked up with SILVA to conduct a workshop in November 1997 in Torodi, Niger. Two network representatives from each of 14 countries of West and Central Africa attended the workshop. In each instance, one delegate came from the national forestry body and the other from a civil society organisation.

The seminar, largely organised into working groups, was made up of national presentations and field visits (to examine Niger's innovative natural resource management), and was an opportunity to understand the different situations in the various countries regarding environment and forest management.


Photo Cirad

Much of the working groups' attention was devoted to the network's future, in particular on these priority topics: member participation, finance and structure, and communication. A 'membership charter' was drafted as a result, and approved by all participants. The main recommendations dealt with making the network better known, encouraging regular meetings of members, and improving information exchange by all available communication means. Participants also recommended that a preference be given to the use of existing bodies, whether public or private, as the secretariat and network point of contact.

Tropical Trees Network c/o SILVA,
21 Rue Paul-Bert,
94130 Nogent-sur-Marne, France.
Fax: +33 1 48 76 3193; Email: silva@cirad.fr

Institutional performance: assessing the impact of information management

Assessing the impact of information and communication management on institutional performance is a complex matter, with quantitative techniques not yet well defined and the development of appropriate indicators still at an early stage. In order to develop a framework for evaluating the impact of information a workshop was organised by CTA from 27 to 29 January 1998, in Wageningen, the Netherlands. This event brought together experts from various fields to share their experiences and exchange ideas.

The main objectives of the workshop were:

- to identify the relationship between information and communication and the performance of organisations with particular reference to effectiveness, efficiency and networking;
- to determine the indicators which can be employed to illustrate this relationship;
- to find the best way of collecting information on the indicators;
- to assess the significance of such information;
- to develop a practical and cost-effective approach for measuring the impact of information and communication on institutional performance and identifying priority issues.

The keynote address, given by Dr Cooke, Director of the CTA, highlighted the importance of information and communication channels in agriculture and rural development and in institutional strengthening, including empowering the National Agricultural Systems (NAS) through capacity building, and identifying key indicators to determine effectiveness and efficiency. Several approaches which could be used to assess these indicators were discussed.

Based on workshop discussions, the participants identified the following key issues relating to the concept and implementation of impact assessment :

Impact assessment is an ongoing learning process intimately tied to the organisational environment.

The impact of information activities can be assessed by looking for indicators relating to the client orientation of the information activity, the information channels used by an organisation, and the organisation's policy on information and management systems.

Selection of the key indicators should be participatory and easy to follow.

Impact assessment should take into account human and socio-economic indicators.

The working groups strongly recommended that CTA should continue to pursue its goal of developing a cost-effective method for such impact assessment by carrying out pilot studies in collaboration with organisations in ACP countries.

Setting research agendas for animal science

Livestock production and development plays an important part in the economies of developing countries. In order to discuss the interactions between livestock development and various environmental concerns, CTA, the British Society of Animal Science, the Kenya Agricultural Research Institute and the International Livestock Research Institute co-organised an international seminar which was held in Nairobi, Kenya from 27 to 30 January 1998. The main objective of this seminar was to address three areas in which animal production in the developing countries interact with the environment: food and livestock, land and livestock, and livelihoods and livestock.

The seminar brought together 190 participants from Africa, Asia, South America and Europe, and was a follow-up to another CTA seminar on livestock held in Mbabane, Swaziland in July 1997 (see *Spore* 72). Keynote presentations examined the importance of agriculture to Africa and the challenges faced, including setting research agenda both regionally and globally. The challenges facing livestock and agriculture in general included increased expectations, declining public and donor funding, narrow technological bases, poor linkages among partners in research and little involvement of the private sector in research.

Papers presented on food and livestock issues highlighted the need for a holistic understanding of livestock, and improved farmer-researcher collaboration in research projects. Addressing land and livestock issues, presenters highlighted the need to incorporate the environmental cost into livestock production and to achieve sustainable development. The seminar also underlined the need to understand the constraints faced by developing countries of incorporating environmental costs into livestock production. Global warming and greenhouse gas issues were also considered in relation to livestock production. Improved understanding of the contribution and role of livestock in natural resources management was stressed. Participatory approaches and the social value of livestock were discussed in the context of livelihoods and livestock. The seminar further affirmed the need to involve farmers in setting research agendas aimed at improving the livelihoods of livestock owners. The tools used to assess the impact of diseases on livestock productivity were discussed, including use of geographical information systems.

Participants visited a small-scale peri-urban and mixed crop and livestock farm, semi-arid small- and medium-size farm and a semi-arid mixed farm to familiarize themselves with the practical aspects of livestock production in these environments.

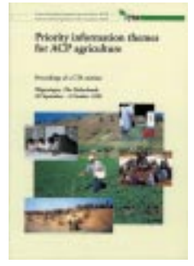
The seminar concluded that more emphasis should be placed on developing a holistic approach to livestock development. This would ensure that there is sustainable development with minimum environmental damage. The workshop also recommended the development of policies that enhance the benefits of livestock to those who own them, and called for more private sector participation in livestock research. The availability of the proceedings will shortly be announced in *Spore*.

More new publications from CTA

Strengthening biometry and statistics in agricultural research, Proceedings of a CTA/ University of Hohenheim workshop 1997.
ISBN 90 9081 1676, CTA number 850, 20 Credit points.

Priority information themes for ACP agriculture, Proceedings of a CTA seminar 1997.
ISBN 92 9081 1692, CTA number 849, 20 Credit points.
Policy-makers and planners are the main target groups of this publication.

Marketability of Caribbean minor fruits edited by St Clair Forde, Proceedings of a CARDI/CTA seminar.
Available from: CARDI, UWI Campus, St Augustine, Trinidad and Tobago, West Indies. Fax: +1 868 645 1208.



Pests, diseases, and nutritional disorders of the common bean in Africa: a field guide

The purpose of this new publication is to help workers in bean research and development to recognise in the field, the biotic and abiotic stresses that affect the crop in Africa. The authors describe insect pests and their biology and distribution. They explain the symptoms and consequences of damage and suggest the type of control measures available. The distribution and importance of disease is discussed as well as disease symptoms, diagnosis, spread and control. The pests described include mites, nematodes and parasitic angiosperm weeds. In the nutritional disorders section, the authors present steps to follow when diagnosing problems and describe tissue-sampling procedures. For each disorder the authors describe its symptoms and the conditions under which it occurs. The appendix provides several aids to the diagnosis of nutritional disorders. All illustrations are in colour for ease of identification.

CIAT / CTA publication 1996,
ISBN 958 9439 55 1, CTA number 835,
10 credit points.

Obtaining CTA publications

Publications on CTA's list are available free-of-charge to **subscribers** to the Publications Distribution Service. Readers who have applied to become subscribers will, in due course, receive a response to their application and, if admitted, will be sent two publications order forms, one of which will indicate the number of CTA credit points available to them.

Credit values have been assigned to all the publications on CTA's list. Subscribers can order these publications up to the value of the credit points available to them. Publications can only be requested on the order forms provided.

Non-subscribers who apply by letter, fax or email will be sent an application form. Applications will be considered from agricultural and rural development organisations in the ACP (Africa, Caribbean and Pacific) Group of States; individuals resident in ACP countries may also apply.

Organisations which work for agricultural and rural development in the ACP States, but are **not based in an ACP country**, should write to CTA giving details of the publications they wish to acquire and the reasons why they are needed.

How to have healthy legumes

It is estimated that one-quarter of all protein from crop plant sources is derived from legumes.

However, major diseases are limiting the production of many pasture legumes in the world and the International Crops Research Institute for the Semi-Arid Tropics and CAB International have now published a reference book on *The Pathology of Food and Pasture Legumes*. It has been written by leading researchers in Nigeria, Malawi, Tanzania, Uganda, India, Syria, New Zealand, the USA and UK.

ISBN 0 85199 166 1, 750 pp. US $175.

CAB International, Wallingford, Oxon, OX10 8DE, UK. Fax: +44 1491 826090 Email: cabi@cabi.org

Soil fertility and poverty

Dare to Share! is the outcome of the conference and fair of the same name organised by the International Soil Conservation Organisation in Germany in 1996. The basic importance of soil fertility and land degradation being at the heart of much poverty in the world was the theme of the event. It provided a forum for 145 institutions and projects from 56 countries to make contacts and exchange experiences. The publication presents the highlights of the major issues plus a description of twenty of the conference exhibit booths.

ISBN 3-8236-1273-5, 140 pp. US $25.

Margraf Verlag, Postfach 105, 97985 Weikersheim, Germany. Fax: +49 7934 81 56.

Plant clinic and quarantine facility

The Plant Clinic Handbook is essential reading for anyone intending to set up and run a plant clinic and/or plant quarantine facility. Published by CAB International, the book covers all technical procedures, material requirements and organisation. The diagnostic process is described, from field observation and collection to culture methods, microscopy, record-keeping and general laboratory practice.

ISBN 0 85198 918 7, 104 pp. US $28.

CAB International, Wallingford, Oxon, OX10 8DE, UK. Fax: +44 1491 826090 Email: cabi@cabi.org

Background to the trade talks

The current preferential trade provisions existing between the 71 African, Caribbean and Pacific States and the European Union, which are not considered compatible with those presented by the World Trade Organization, form the basis of a working paper produced by the European Centre for Development Policy Management (ECDPM). One of the ways the Centre aims to improve international cooperation between Europe and ACP countries is through the provision of information, and this paper clearly outlines the situation. It pays particular attention to the Pacific states and canned tuna, bananas, sugar, and the options for trade provisions after the year 2000.

Negotiating a Fait Accompli: the WTO incompatibility of the Lomé Convention Trade Provisions and the ACP-EU Negotiations. R Grynberg. Working Paper No. 38.

European Centre for Development Policy Management, Onze Lieve Vrouweplein 21, 6211 HE Maastricht, The Netherlands. Fax: +31 43 3502902 Email: Info@ecdpm.org

Private sector support

The European Commission (EC) has published a booklet, *European Community Support for the Private Sector in ACP Countries*, which outlines the way it can support the private sector in Africa and the Caribbean and Pacific Regions. The fourth Lomé Convention introduced significant changes in the way the EC supports enterprises. This booklet gives examples of how the support now operates in practice. The EC offers assistance at different levels depending on the circumstances: at the macro level, for intermediary institutions serving the private sector, and at the enterprise level. It may take the form of structural adjustment support and technical assistance to governments, financial and technical support to build the intermediary agencies, project financing and support for credit facilities, or assistance for investment promotion, business contact and partnerships. The booklet has seven sections including one devoted to the four main programmes managed by the Commission, one describing the European Investment Bank, and another on the Centre for the Development of Industry.

Catalogue no. CF-06-97-303-EN-C, ISBN 92-828-0766-5, 24 pp.

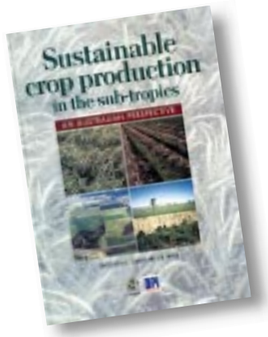
Information Unit, Directorate General for Development, European Commission, Rue de la Loi 200, B-1049 Brussels, Belgium. Fax: +32 2 299 30 02.

Navigating the Internet: a guide to resources on rural development in Africa

This French-language resource guide *"Naviguer sur Internet. Guide des ressources consacrées au développement rural en Afrique"* is a useful first listing of 78 Websites. It helps users to identify information sources and to better navigate the Web.

Inter-Réseaux, 32, rue Le Peletier, 75009 Paris, France. FFR 30. Fax: +33 1 42 46 54 24 Email: intereso@imaginet.fr

Learn from the Australian experience



Sustainable Crop Production in the Sub-tropics has been published by the Queensland Department of Primary Industries. It is an Australian analysis of scientific research and farmer experience on land degradation and the sustainability of farming systems. Although drawing on Australian experience, the publishers say it has direct relevance to environmentally similar regions in other parts of the world and its principles can be applied both within and beyond Australia. It will be of use to scientists, administrators, extension workers, educators, students, agribusiness, landcare workers and farmers.

ISBN 0 7242 5985 6, 376 pp. Australian $95.

Manager, Publication Production, Department of Primary Industries, Queensland, GPO Box 46, Brisbane, Q 4001, Australia.

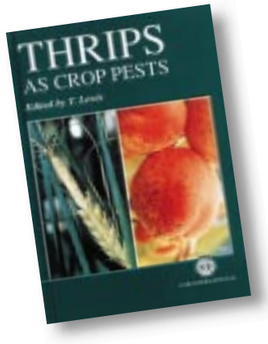
African honey bees

The International Bee Research Association, with support from the United Kingdom's Department for International Development, has produced a simple to read 15-page booklet on *The Management of African Honey Bees including the Design of Low Cost Hives*. The topics include: how to make top-bar hives, getting started with an apiary, how to attract bees and a section on further reading. It is free of charge to nationals in EU-supported African, Caribbean and Pacific States.

International Bee Research Association, 18 North Road, Cardiff, CF1 3DY, UK. Fax: +44 1222 665522.

Thrips and crops

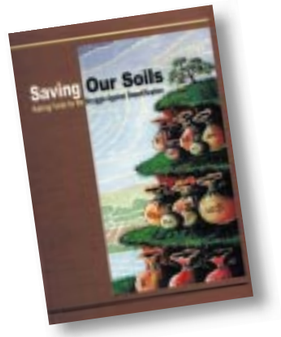
Thrips have recently surged to prominence as insect pests of field, plantation and glasshouse crops in many countries, as international trade in fresh vegetables, fruit, flowers and plant propagation material has increased. By damaging aerial parts of the plant, thrip infestation can lead to yield loss and spoilage. Also, thrips are important vectors for certain plant viruses. Being quite small, they are particularly difficult to control. CAB International has published *Thrips as Crop Pests*, a book that brings together knowledge on thrip basic biology, ecology, applied science and pest control. Chapters are written by world authorities from Europe, the USA, and Asia.



ISBN 0 85199 178 5, 736 pp. US $175.

CAB International, Wallingford, Oxon, OX10 8DE, UK. Fax: +44 1491 826090 Email: cabi@cabi.org

Finding the right way to attract project support



Saving our Soils: Raising Funds for the Struggle Against Desertification is a two-section book offering clear, comprehensive advice on how to go about attracting funding and other support for projects. It is geared towards anti-desertification projects in particular but could be of great practical value to any set of activities related to natural resources. Section one deals with fundraising in practice, types of grants available, proposal writing, identifying and approaching donors and post-funding issues. Section two provides details on multi-lateral funds and funding agencies, with addresses and eligibility criteria to guide the reader towards the most appropriate support.

Published by the Environment Liaison Centre International and Both ENDS. Contact: ELCI, Desertification Coordinator, P O Box 72461, Nairobi, Kenya. Fax: +254 2 562175 Email: riod@elci.sasa.unon.org

Or

Both ENDS, Coordinator, Sustainable Land Use, Damrak 28-30, 1012 LJ Amsterdam, The Netherlands. Fax: +31 20 6208049 Email: bothends@bothends.antenna.nl

Stakeholders and forest reserves

The Usambara forests in Tanzania, like many others in the world, are facing increased pressure from human populations. Different groups, such as conservationists, estate holders, and local villagers each make demands on forest resources. Researchers from the University of Wageningen, examined and compared how these different groups value, perceive and act upon available forest resources, and further, analysed the effect of the differences and the possible modalities for their reconciliation. The results of the study, published as *Tropical Resource Management Paper 18*, proposes a reconciliation model as an essential prerequisite for achieving sustainable forest resource and biodiversity conservation in the East Usambaras. This publication series, which covers a broad range of natural resource management topics, has been developed in an effort to achieve a wider distribution of research results than that realized by international scientific journals.

Conservation and Utilization of Natural Resources in the East Usambara Forest Reserves: Conventional Views and Local Perspectives. ISSN 0926-9495, 168 pp.

Wageningen Agricultural University, Office for International Relations, PO Box 9101, 6700 HB Wageningen, The Netherlands. Fax: +31 317 48 42 92.

Unless otherwise stated, the books on these two pages are not available from CTA. Readers are advised to write to the publishers for further information.

New Website: CTA goes cyber

Given its mission to improve access to information, it will come as no surprise that CTA has now officially joined the World Wide Web, or 'Web' for short. The Web is a system for linking up all the computers which form the global Internet. The Web does this in such a way that a user of one computer anywhere in the world can actually 'visit' selected parts of any other computer linked to the system and collect information on a myriad of topics.

Spore 74 on the CTA Website. Available to 100 million Web users and, perhaps, on a computer screen near you?

The Web is often described as being a living, up-to-date library. It makes available hundreds of millions of documents and other types of information: not just the written word, but also music, the spoken word, pictures and charts.

It is a rich, often enriching, sometimes frustrating medium – the problem for a user is not how to find enough information, but more often, how to find and select a specific item. There are on the Web, for example, more than 812 separate documents, including collections of music and films, describing the heart sutra chant of Zen monks, and more than a quarter of million recipes on making hot chili sauce!

Started as a means of enabling scientists to share each others' working papers across the world without the need to mail or fax, the Web now has an estimated 130 million users world-wide. When an individual, or an organisation, bundles various documents together and makes them available on the Web, the set of information is known as a Website. This can be visited by any Web user.

Have you heard the one about...?

Often the special value of a Website lies not only in the information that the original person or organisation has provided, but in the 'links' that are made available to other Websites. In the case of CTA's new Website, the first phase of its existence is focused on providing information about the organisation itself: its goals, and its services. Now, for the first time, the complex set of CTA's objectives and operations are described and readily accessible in one standard form, in one place – cyberspace.

Because the information is broken down into separate 'pages' (similar to chapters in a book), the reader can familiarise herself or himself with CTA's organisational background, the main office in Wageningen, and details of the various regional representations. The priority information themes of CTA are explained, as are the specific programmes of publishing, seminars and meetings, opportunities and activities for capacity building and training, and overall policies. Key documents, such as the CTA Mid-Term Plan, which guides the institution towards the conclusion of the current Lomé Convention, as well as the relevant excerpts from the latter, are available for those wishing to understand the nature of the organisation.

Everything you wanted to know about CTA

For many users – within the community of those working for agriculture and rural development in ACP States, and others with similar technical or policy interests elsewhere – the main benefits from this Website will be the ease of access to two kinds of information. Firstly, how to use CTA to maximum advantage, by making the best possible use of the services of the Centre. The explanations of how to apply for support in publishing, or training, or information supports and equipment, will help to ensure that only those who qualify for potential partnership will apply. This will heighten efficiency for potential requesters, and will help CTA perform more effectively. Secondly, specific CTA services are now available online through the Website. As well as sound files of the rural radio packs, which CTA provides to qualifying ACP radio stations, and the full catalogue of 800 publications available through CTA (for qualifying applicants), the full texts of *Spore* are available from issue 72 (December 1997) onwards, and back numbers will be available in early 1999. These facilities are searchable through an innovative database search system.

In joining the cyber set after lengthy and painstaking preparations, the CTA Website serves, in its first phase, to increase the accessibility of its own information. The upcoming second phase will expand into an interactive service site, under the name of AGRICTA. This will provide dynamic links to information from and about partners and key resources elsewhere, and will provide various platforms for exchanges and dialogue on themes and events.

The Website is not intended to replace the 'traditional' set of CTA services which have grown up over the last fifteen years in response to user demand and ACP priorities. Instead, by helping the user, and the institution itself, to find and provide information more efficiently, faster, more fully and in a more targetted way, the Website will help to heighten the impact and value of the full range of CTA services for its many users. The Website service is also available in a text-only version which allows users who have less powerful computers, or possibly poor and/or expensive telephone connections, to avoid the use of graphics.

CTA will not forget that the majority of the world is still waiting for a dial tone, nor that information has to be exchanged in many different forms. It will continue its efforts to promote Internet access for agricultural and rural development workers. However, the message will remain the message, and the medium will remain the servant, and not become the master.

SPORE is a bi-monthly publication providing information on agricultural development for ACP countries
Publisher: Technical Centre for Agricultural and Rural Cooperation (CTA) – ACP-EU Lomé Convention.
CTA: Postbus 380, 6700 AJ Wageningen, The Netherlands. Tel +31 317 467100. Fax +31 317 460067. E-mail: cta@cta.nl Website: www.cta.nl
Compiler: Spore is compiled by a consortium formed by Louma productions and Médiateurs.
Louma productions, 3 rue Neuve, 34150 Aniane, France. Fax: +33 467 570 180. E-mail: louma@hol.fr
Médiateurs, W-Alexanderpoort 46, 1421 CH Uithoorn, The Netherlands. Fax: +31 297 540 514. E-mail: paul.osborn@mediateurs.org
Layout: Louma productions **Printer:** Imprimerie Publicep, France
 ISSN 1011-0054