

*Agricultural research networks: Sharing scarce resources*

*Linking institutions: Serving the Pacific*

*An agricultural information network in the Pacific: Gaining through collaboration*

*Agricultural information networking in the Caribbean: Challenges in paradise*

# Research networks

The purpose of a network is to share information and resources for the common good. It's ideal for research, where resources are tight but the benefits from sharing are tremendous.

Institutions and countries that join networks can see their problems solved faster: many hands make light work. A country can borrow research findings from its neighbours: a new rice variety, perhaps, or a technique for controlling a pest. That reduces the amount of investment needed in research, and means that small, or poor, countries can draw on a larger pool of expertise.

A researcher who joins a network may benefit from formal and informal contacts with distant colleagues, opportunities to collaborate on common problems, and perhaps the chance to travel to study or to present findings.

Donors like networks because they are an efficient way of using a limited amount of research funding.

Small wonder, then, that research networks are popular in the developing world. Setting them up and keeping them running can be difficult, though: it requires commitment and the willingness to compromise on everyone's part. But computers, e-mail and the Internet offer promising avenues for improved communication and coordination.

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## Agricultural research networks: Sharing scarce resources



Paul Mundy

One thing that most developing countries have in common is their reliance on agriculture. Another is the complexity of the problems their farmers face. A legion of pests and diseases thrive in tropical climates; few high-yielding crop varieties are available that yield well despite drought and poor soils; livestock breeds produce pitifully little meat and milk. Droughts, floods, erosion, deforestation and desertification all threaten production. A lack of capital, credit, roads and markets makes it difficult for farmers to invest in their enterprises and sell their produce.

Clear pointers for more investment in agricultural research? Yes, especially since studies have shown that investment in such research yields enormous gains – in terms of increased output and farmers' incomes.

But that doesn't mean that there is enough money available. Agricultural research is an expensive activity, and unfortunately it attracts only modest levels of investment in most developing countries. Governments cannot afford to – or choose not to – put more money into it.

### Pooling resources

One solution to this conundrum is to pool resources. Despite their differences, countries in the same region share many similarities. The swathe of countries in the Sahel, from Senegal and Mauritania to Niger and Chad, grow similar crops, raise the same types of livestock, have similar ecosystems, and share similar problems of disease, drought and desertification. The same is true of the countries of Eastern Africa, Southern Africa, the Pacific Islands and the Caribbean.

Sharing resources makes particular sense for the small island countries of the Caribbean and the Pacific. A country with just a few hundred thousand citizens cannot aspire to its own fully equipped research institute and highly qualified professional staff. But by banding together, a dozen such countries can support such an institution.

IRETA (Institute for Research, Extension and Training in Agriculture) in Samoa is a collaborative institution that serves 12 countries in the Pacific. Established as a department of the University of the South Pacific, it organizes workshops and training courses, conducts research, facilitates information exchanges, and publishes a newsletter, *South Pacific Agricultural News* (see p. 200).

The English-speaking Caribbean's equivalent is CARDI (Caribbean Agricultural Research and Development Institute). Based in Trinidad, it has staff in all 13 of the countries it serves. It enjoys close links with another regional institution, the University of the West Indies, and acts



Cattle are vital to the economy of the Sahel, and constitute an important part of CORAF's work  
(Photo: CORAF)

as the secretariat of yet another regional institution – PROCICARIBE, an agricultural research network covering nearly all the countries and territories in the Caribbean (see pp. 213–214).

### African networks

Paradoxically, many countries in Africa face similar problems to the tiny island nations of the Caribbean and the Pacific. Though some are huge, they have relatively small, widely scattered populations. Their transport and communication systems must overcome similar distances – only over land, not sea.

Africa's answer has been to build associations linking its research institutions. Three such associations span the continent south of the Sahara: ASARECA (Association for Strengthening Agricultural Research in Eastern and Central Africa, based in Uganda) links 10 countries in Eastern and Central Africa. In West Africa, the West and Central African Council for Agricultural Research and Development (more usually known by its French acronym, CORAF) covers 21 countries from its headquarters in Senegal. The countries of the southern cone are served by SACCAR (Southern African Centre for Cooperation in Agricultural and Natural Resources Research and Training), based in Botswana.

These associations typically have a small headquarters secretariat that coordinates work and facilitates information exchange. Much of the research is carried out through networks of researchers in the various countries in the association. These networks include not only scientists at the national research institutes that are members of the association, but also researchers at universities and international research centres, and even staff of producers' associations and NGOs. CORAF has 11 such networks: banana and plantain, cassava, cotton,



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drought resistance, forests, genetic resources, groundnuts, horticulture, livestock, maize and rice. Each network coordinates the efforts of up to 200 scientists in the various national research institutes.

Research programmes may be implemented by groups of national institutes, by consultancy firms such as GTZ, a German development agency, or by international research centres. AVRDC (Asian Vegetable Research and Development Center) implements SACCAR's vegetable research programme in Tanzania, while IITA (International Institute of Tropical Agriculture) manages the association's research on cassava and sweet potato in Malawi.



## Information exchange

Information exchange is a key function of all the associations. Mechanisms include newsletters (such as ASARECA's *Agriforum* and CORAF's *Coraf Action*), scientific journals (SACCAR sponsors the *Zimbabwe Journal of Agricultural Research*), publications and reports.

Websites are the most recent addition to this stable. CORAF and SACCAR have the most extensive websites, containing information about the association, addresses of networks, and issues of the association's newsletter. There's clearly a lot more that could be done via the Internet, though: e-mail lists for exchanges among network members, "walled gardens" to allow data analysis, the publication of datasets for joint scrutiny, the provision of links to other relevant sites, the posting of research articles to gather comments before publication, and e-mail conferences to discuss key problems. Both CORAF and SACCAR have initiated projects to develop some of these activities.

## Does sharing pay?

These networks are not just a way of coordinating science. They also perform two other useful functions. First, they enable research policy-makers to get together to discuss common problems and to compare notes. They can provide expert advice to help redesign research,

Field days such as this one organised by CORAF in Senegal enable researchers to show officials and farmers the latest agricultural technologies  
(Photo: CORAF)

**BOX 18****Country coverage**

Most of the countries of sub-Saharan Africa, the Caribbean and the Pacific are members of one or more of six regional research networks.

<b>Region</b>	<b>Caribbean</b>	<b>Caribbean</b>	<b>Eastern and Central Africa</b>	<b>West and Central Africa</b>	<b>Southern Africa</b>	<b>Pacific</b>
<b>Institution</b>	CARDI	PROCICARIBE	ASARECA	CORAF	SACCAR	IRETA
<b>Parent organization</b>	Caribbean Community (Caricom)	Ministers of Agriculture of Caribbean member countries	National research institutes of member countries	National research institutes of member countries	Southern African Development Community (SADC)	University of the South Pacific
<b>Headquarters</b>	St Augustine, Trinidad and Tobago	St Augustine, Trinidad and Tobago (CARDI)	Entebbe, Uganda	Dakar, Senegal	Gaborone, Botswana	Apia, Samoa
<b>No. of member countries</b>	13	22	10	21	11	12
<b>Member countries</b>	Antigua and Barbuda Barbados Belize British Virgin Islands Dominica Grenada Guyana Jamaica Montserrat St Christopher and Nevis St Lucia St Vincent and the Grenadines Trinidad and Tobago	Antigua and Barbuda Bahamas Barbados Belize British Virgin Islands Cuba Curaçao Dominica Dominican Republic French Guiana Grenada Guadeloupe Guyana Haïti Jamaica Martinique Montserrat St Christopher and Nevis St Lucia St Vincent and the Grenadines Suriname Trinidad and Tobago	Burundi Democratic Republic of Congo Eritrea Ethiopia Kenya Madagascar Rwanda Sudan Tanzania Uganda	Benin Burkina Faso Cameroon Cape Verde Central African Republic Chad Congo Côte d'Ivoire Democratic Republic of Congo Gabon Gambia Ghana Guinea Bissau Guinea Mali Mauritania Niger Nigeria Senegal Sierra Leone Togo	Angola Botswana Lesotho Malawi Mauritius Mozambique Namibia South Africa Swaziland Zambia Zimbabwe	Cook Islands Fiji Kiribati Marshall Islands Nauru Niue Solomon Islands Tokelau Tonga Tuvalu Vanuatu Samoa

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management and communication systems. Staff from one country can be seconded to another to help find ways around both technical and administrative barriers.

The associations bring advantages for donors and partner agencies too. Financing parallel research in neighbouring countries is wasteful and inefficient. By channelling funding through a regional research association, donors, governments and research agencies can be assured that the best brains and facilities will be brought to bear on the problem, and that the findings will be available to all members of the association. Partner research institutions (international agricultural research centres, United Nations agencies and research organizations in the developed world) also find it more efficient to work with the multinational associations.

That doesn't mean that coordination is easy, though. It can be hard enough to get scientists in the same laboratory to work together, let alone those separated by half a continent or an ocean. Different priorities, inflexible timetables, reluctance to reassign scarce staff and resources, squabbles over funds – all may take their toll. Some networks are highly effective, earning praise from their members and outsiders alike. Others are less active.

Despite their limitations, research associations are a promising way to stretch scarce resources further, for the benefit of all. Strengthened and facilitated through the Internet, we can expect them to become more important in the future.

## FOR MORE INFORMATION

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Caribbean Agricultural Research and Development Institute (CARDI), University of the West Indies Campus, St Augustine, Trinidad and Tobago. Tel. (1 809) 645 1205 to 7; fax (1 809) 645 1208; e-mail [infocentre@cardi.org](mailto:infocentre@cardi.org); website [www.cardi.org](http://www.cardi.org)

Conférence des responsables de recherche agronomique africains (CORAF), BP 8237, Dakar-Yoff, Senegal. Tel. (221) 825 9618; fax (221) 825 5569; e-mail [secoraf@telecomplus.sn](mailto:secoraf@telecomplus.sn); website [www.coraf.org](http://www.coraf.org)

Institute for Research, Extension and Training in Agriculture (IRETA), Alafua Campus, University of the South Pacific, Private Bag, Apia, Samoa. Tel. (685) 21671; fax (685) 22933; e-mail [uspireta@samoa.usp.ac.fj](mailto:uspireta@samoa.usp.ac.fj)

PROCICARIBE Secretariat, CARDI, University of the West Indies Campus, St Augustine, Trinidad and Tobago. Tel. (1 868) 645 1205; fax (1 868) 645 1208; e-mail [procicaribe@cardi.org](mailto:procicaribe@cardi.org); website [www.procicaribe.org](http://www.procicaribe.org)

Southern African Centre for Cooperation in Agricultural and Natural Resources Research and Training (SACCAR), Private Bag 00108, Gaborone, Botswana. Tel. (267) 328847–8; fax (267) 328806; e-mail [bndunguru@saccar.info.bw](mailto:bndunguru@saccar.info.bw); website [www.ibis.bw~saccar](http://www.ibis.bw~saccar)

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## Linking institutions: Serving the Pacific



Paul Mundy

### Pieces of a jigsaw

An agricultural information system is like a jigsaw. It consists of a lot of different pieces: research institutions, extension agencies, ministries of agriculture, NGOs, farmers, universities, international research agencies, radio stations and many others. Each of these pieces has its own particular role to play: doing research, producing radio programmes, and so on. For the picture to be more or less complete, each piece has to be in the right place, and linked with the other pieces around it.

But what holds the jigsaw together? How do the individual pieces relate to each other? How does an extension worker in one place hear about research done somewhere else? How can a ministry official get the information stored in a database or on the Internet?

Providing such glue is the job of a small team of agricultural liaison officers (ALOs) scattered around nine countries in the South Pacific. Working in each country's Ministry of Agriculture, it is their job to link with IRETA at the University of the South Pacific in Samoa (see Box 19).

### Wearing many hats

The ALOs are one-person information departments. Want to know the latest research findings on taro leaf blight, a disease attacking the starchy tuber that is the staple food for much of the Pacific? Go and see the ALO. Want to attend a course being offered at IRETA's training unit in Alafua? Ask your ALO. Have an idea for a radio programme on coral reefs? You've guessed it: the ALO is the person to talk to.

The ALO system began in 1983 as part of the South Pacific Regional Agricultural Development Program run by USAID. The newly appointed ALOs' tasks were to disseminate agricultural technologies produced by the University of the South Pacific's School of Agriculture. They quickly became a major link between the school and IRETA on one hand, and the national ministries of agriculture on the other.

A useful function – so useful, that when the USAID project ended after 10 years, the national ministries took over the staff and gave them permanent appointments as information officers, extension workers, agricultural radio presenters or training officers.

ALOs can wear many hats: librarian, information officer, radio programme producer, newsletter editor, trainer and extension worker. They maintain collections of agricultural information and publications. They search for information on CD-ROMs and the Internet. They write

**BOX 19****IRETA**

The Institute for Research, Extension and Training in Agriculture was established as a department of the University of the South Pacific, a collaborative institution that serves 12 countries in the Pacific, from the Solomons and Vanuatu in the west to the Cook Islands in the east, from the Marshall Islands in the north to Tonga in the south. IRETA's three main functions are research, extension and training.

**Research**

IRETA conducts applied agricultural research to increase food production and productivity. Its main research areas cover root-crop breeding, tissue culture, atoll agriculture, Polynesian agriculture, the use of local feeds for livestock, agroforestry and post-harvest techniques.

**Extension**

The extension programme includes the ALO network, electronic media services, library services and publications. The print media unit has desktop publishing and printing equipment; it produces technical manuals, extension leaflets and brochures, the newsletter *South Pacific Agricultural News*, the *Journal of South Pacific Agriculture*, and other publications such as annual reports and workshop proceedings.

**Training**

IRETA's training centre has facilities for short, non-formal training courses and workshops. Facilities include accommodation, a training hall (a traditional Samoan *fale* accommodating 50 people), catering facilities and offices.

IRETA hosts CTA's Pacific Regional Branch Office.



An issue of the IRETA newsletter, *South Pacific Agricultural News*

and record radio programmes for farmers. They produce newsletters for their own countries, and submit articles to IRETA's newsletter, *South Pacific Agricultural News*. They give training for extension workers and government staff, and they provide advice on farming techniques.

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## Ups and downs

There have been ups and downs, of course. Funding has become tighter. The ALOs used to meet twice a year. The first meeting was devoted to training and refresher courses, and was held in a different country to expose the ALOs to new ideas and farming situations. The second meeting was held in Alafua – the Samoa campus of the University where the School of Agriculture and IRETA are located – and was devoted to administrative and budgetary matters. Now, there is only one meeting a year, and the time has to be divided between training and bureaucracy.

Changes within national ministries have also affected the ALOs. Reforms in several countries have led to staff cuts and institutional restructuring. Noo Tokari, the ALO in the Cook Islands, says the number of agricultural staff has been slashed from 100 to 26, and the ministry's extension service has been abolished. In Tonga, the ALO position has been shifted from unit to unit within the ministry, disrupting the flow of work and production of the newsletter that the ALO, Sione Hausia, used to produce. In the Solomons, Alfred Maesulia's only other colleague in the Agricultural Information Unit has been made redundant, leaving him to hold the fort alone. In Vanuatu, the ALO position was eliminated altogether in 1999. And in Tuvalu, the ALO, Uatea Vave, was moved along with the agricultural headquarters from Funafuti, the capital island, to remote Vaitupu, where a lack of communication facilities handicapped his work.



Logo of the University of the South Pacific

## Uncertain future

The ALO network is currently the subject of considerable debate in the region. Is it effective? Does it really do what it is supposed to? Considerable reform may be needed to improve its usefulness. In this, real political support from the various national governments is vital. A network cannot function and provide useful services unless it has this support, and unless it changes with its environment.

And the ALOs' role is changing, not least because of new technologies. The ALOs must learn new skills: desktop publishing, e-mail, Internet use, computer-based information searches, and so on. And old skills need to be refreshed. The 1999 annual meeting included a week's practical training in which the ALOs put together a short video programme, practised writing and editing extension materials, studied publication layout and design, and conducted research using CD-ROM databases. They also learned how to use e-mail and search the Internet for information.

As electronic media spread (for example, through facilities such as USPNET), further changes in the ALOs' role can be expected. And as computers and Internet access become more common, it will become easier for anyone to obtain information from overseas, without having to go through the ALO. That may not eliminate the need for ALOs, but it will change what they do: they may become more of a guide than a gatekeeper to information resources.

**BOX 20****Polyvalent personnel**

Information and communication is an increasingly specialized business. A skilled video camera operator normally does just one job: shooting videos. He or she doesn't usually get into video scriptwriting, editing or production – let alone produce websites or record radio programmes. Similarly, a librarian is a librarian: he or she isn't expected to write a newsletter or explain agricultural techniques to farmers.

But in small institutions, isolated places and small countries, there isn't enough money to pay for lots of specialists. Communication departments often have limited facilities and only one or two staff.

One solution to this problem is to contract out specialized or expensive items such as video production and printing. This is typically the solution preferred by short-term, donor-funded development projects, which often have a fair amount of funding for information services, but see no point in establishing a specialized unit to handle them.

More permanent institutions, such as ministries of agriculture or extension agencies, have to budget their limited resources carefully. So their communication staff have to be polyvalent: they have to be good at a wide range of tasks.

That in turn means they have to have training in these skills: video production, editing and desktop publishing, information search and retrieval, computer operation, and so forth. It also means that they have to have support from specialists: people who can provide training, feed them with information, and respond to requests for advice.

IRETA's ALO system is an example of how this works. The ALOs are generalists: they do a little bit of everything. But they should also be able to call on specialist teams such as IRETA's electronic media unit for help. And IRETA must be able to provide them with training to keep their skills up to date.

**Video for the Pacific**

Video is a hugely effective medium – if it is used correctly. But agricultural research and development institutions that want to use video have a problem. Audiences are used to television programmes produced in the developed world: they have come to expect top-quality

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lighting and sound, good camera work, professional actors and narrators, tight editing, and lots of special effects. How can an agricultural institute compete?

A common mistake is to buy a set of video equipment – cameras and editing decks – and give staff some minimal training, and then expect them somehow to produce award-winning programmes. All too often, little thought goes into the details:

- *How much will it cost?* After including salaries, transport, equipment, maintenance and supplies, a single video programme can cost many thousands of euros.
- *What types of training will be required?* Professional productions need professional staff.
- *What type of equipment is needed?* Television stations are fussy about the video formats they will accept.
- *How will the videos be distributed?* It may be necessary to pay for broadcast time, or arrange for videocassettes to be reproduced, distributed and shown to groups of farmers attending training courses.

The result? Some poor-quality programmes, perhaps merely a series of wobbly shots of some dignitary visiting an experiment station. Such footage cannot be used in broadcasts (except possibly in the evening news programme) and is useless for educational videos.

## IRETA's electronic media unit

Clearly, producing broadcast-quality videos requires a fair amount of planning and investment. This is a good example of the type of service that can be provided by a regional research organization such as IRETA. It would not be cost-effective to set up an agricultural video production unit in each country in the Pacific: to produce the required quality programmes, such units need fairly sophisticated cameras and editing equipment, and they need highly skilled personnel.

But many programmes are highly “transportable”: a programme on coral reefs or on livestock diseases in one Pacific country can probably be used with little or no adaptation in other countries too. It makes sense to have a central production team with all the recording and editing facilities. Such a team can bring together the skills and resources needed to produce top-notch programmes, and can send out camera teams to shoot footage when needed.

IRETA's electronic media unit is such a team. It supports the agricultural extension, education and training activities of national ministries of agriculture in the Pacific, as well as the University of the South Pacific's School of Agriculture and NGOs. Aside from video, it also has radio and satellite media facilities.

## Video services

The unit has excellent equipment that can produce broadcast-quality programmes, with special effects and graphics capabilities. It currently produces short, instructional, educational and training video programmes, which it distributes through IRETA's network of ALOs in national ministries of agriculture. It also updates existing programmes as research uncovers new information.

The unit has a video library with over 400 titles on agriculture, including some 80 of its own productions. It loans these videos out to countries served by IRETA. The unit also offers audiovisual services such as public-address systems and projection facilities for conferences, training courses and exhibitions.

## New facilities, new possibilities

The unit's radio-production facilities have recently been upgraded. This will allow the production of radio programmes to resume: they have been neglected for several years because of staff and funding constraints.

The University of the South Pacific is currently establishing a satellite-based communications system to link its various sites in the 12 countries. This university-owned network, called USPNet, will enable lectures held at one of the university's campuses in Vanuatu, Fiji and Samoa to be broadcast live to USP centres in the other countries. It will be used for video-conferences for university administrators and research groups, and will provide e-mail, fax and telephone facilities independent of the local telecommunications providers.

USPNet will complement the production and dissemination of the IRETA unit's video programmes. It will also greatly ease IRETA's ability to communicate with the ALOs, its clients and information sources, and will enable the electronic media unit to obtain information for programmes more readily.

## FOR MORE INFORMATION

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## An agricultural information network in the Pacific: Gaining through collaboration



Peter Walton

Back in the late 1980s, several institutions and projects were all working towards the common goal of developing agriculture in the Pacific. It seemed that each institution and each project had some kind of information activity or service as a key feature.

Not surprisingly, many people started to think that maybe information activities had begun to fall over themselves: services duplicated, institutions developing products and tools by themselves that could more easily be done together.

In 1987 and 1988, the directors of agriculture in the region met, and said that enough was enough: the interested parties should meet to pull all these various strands together, to collaborate on information-related activities and cooperate in providing information services.

This meeting happened in late 1988. It brought together the two main regional agricultural institutions: the University of the South Pacific (including the School of Agriculture and IRETA) and the South Pacific Commission (now the Secretariat for the Pacific Community). It also brought together representatives from the University of Guam, the ADAP (Agricultural Development in the American Pacific) Project, and Papua New Guinea. The meeting gave birth to the Standing Committee on Agricultural Information Networking in the Pacific, or SCAINIP. (When thinking of a name for a new network, think of the acronym first – otherwise it could end up looking and sounding like a fearful disease.)

### Why was SCAINIP established?

As suggested, SCAINIP was established to collaborate and cooperate. What does this mean? Does it mean that the work of each institution continues as normal, but that you talk to each other? Or does it mean something more fundamental? Well, the latter of course.

“Collaborate” means working with others. “Cooperate” means working with others with a single vision – a common purpose. It means overcoming rivalries between institutions or projects (which are not as uncommon as you might think). It means having a good idea what the region needs, as opposed to what you can do, but then seeing who is able to fill that need best. It means working strategically, to a common plan.

It wasn't easy to get started. All the participants felt that they had something to gain *and* something to lose. Everybody wanted to be in the driving seat; nobody wanted to be an anonymous passenger. But, after a week in which current situations (and frustrations) were described

## BOX 21

### The Pacific Index to Agricultural Journals

PIAJ – the Pacific Index to Agricultural Journals – contains over 3150 references to articles that have appeared in 11 agricultural journals published in the Pacific, journals such as the *Fiji Agricultural Journal*, first published in 1920, or the *Papua New Guinea Journal of Agriculture, Forestry And Fisheries* (from 1935), the *Alafua Agricultural Bulletin* and its successor, and the *Journal of South Pacific Agriculture* (from 1976).

Each record contains full bibliographic details with, in some cases, original abstracts, as well as comprehensive indexing using keywords and descriptors. There are some gaps, and some titles have not yet been indexed apart from one or two issues. But without PIAJ, agricultural researchers in the region would be even more isolated than they are already.

and opportunities explored, the eight information professionals at the meetings were able to come up with a blueprint for how institutions and projects could collaborate. Their idea of cooperation has stood the test of time.

### What was done

At the very first SCAINIP meeting it was decided that success would mean achieving solid results – that is, something practical and useful. In the first instance, what was needed was better bibliographic control of agricultural documents in the Pacific region. This is librarian-speak for knowing what documents are available, whether they are published (or perhaps remain in the form of “grey literature” such as seminar papers or research reports), where they can be found, and how to get a copy. That’s bibliographic control.

It was decided to focus on Pacific documents and, in particular, to index all agricultural journals published in the region. This sounds like a big task, but really only eight titles (initially) were identified (see Box 21). But some of these titles did start publishing in the 1920s!

This was made a priority because no comprehensive index of articles in these journals existed. That meant that a scientist in one country could repeat an expensive and time-consuming piece of research that had already been done somewhere else – and even been written up in a journal article – simply because the researcher had no way of knowing the article existed.

The journals focused exclusively on the Pacific, so they were very relevant to scientists in the region. And people had become tired of searching through issue after issue of the journals in the hope of finding a relevant article!

Recognizing that the task would be too big for one person, the SCAINIP group chose a task leader (i.e., an institution), and allocated the journals to the various SCAINIP members. Common sense was important: for example, the institution with a journal would naturally be given the job of indexing it.

## Common standards and compromise

In order to make this work, the group had to agree on common standards. What software should they use? (This was before databases could be transferred easily from one software package to another, or from one computer system to another.) How about entering data: full first names or initials? Lower case or upper case for titles? Most important, what set of keywords should be used?

These things may sound trivial for the layperson, but for librarians (and for library users), they are vital. Imagine what would happen if two different people indexed a set of publications but followed different sets of rules. One person might classify an article on cassava (an important root crop in parts of the Pacific) under the keyword “cassava”. Another person might call it by its other name, “manioc”. When the results of their work are put together in a single index, a researcher searching for articles about “cassava” would miss all of the articles about “manioc”.

Immediately, you can see that being in a network is about compromise as much as it is about meeting on a regular basis. Once the standards were established, timelines and targets were easy to agree on (though harder to achieve).

## Training

The other major activity agreed to at that first SCAINIP meeting was to train para-professional staff. In fact, there were hardly any trained para-professionals at that time; most of the staff in agricultural libraries were school-leavers with no formal training.

But librarianship is a skilled profession, a key service to scientists and information users. Without a skilled librarian, a library is just a collection of books guarded by someone bearing the title of “librarian”.

In 1991, a series of training workshops began, most with CTA funding. Some were regional in scope, but many were national, so were better at dealing with local circumstances. A set of training materials specific to the region was developed for the first workshop; they were used in all subsequent workshops. This resulted in a shared understanding of how to improve access to agricultural information in the region, and how to make better use of this information.

Three more SCAINIP meetings were held (in 1990, 1993 and 1996). Each one reinforced previous agreements and sought to tackle problems. More tasks were added to the list: a Pacific union list of agricultural serials, a database of agricultural research in the Pacific (Pacific CARIS), a directory of agricultural information centres in the Pacific (published in 1996) and an index to annual research reports (this remains a dream). And more training workshops were held.

## So was SCAINIP successful?

It is all too easy to say that SCAINIP was successful. Or not. But the truth is that it depends on how success is measured.

If it is measured in terms of output – people trained, databases finished and distributed – then SCAINIP was successful. Somewhere between 80 and 120 people have been trained over the past 10 years. The index to agricultural journals (and other institutional and project databases) was distributed to over 30 sites.

But if success is measured in terms of impact – people being able to apply their training, databases being used for better agricultural research and development – then SCAINIP was not so successful. And this goes to the heart of the matter.

SCAINIP was set up as a result of a recommendation by the directors of agriculture. And reports were presented to the same directors at their annual or biannual meetings. But SCAINIP was, essentially, a merry band of individuals working at different institutions with different strengths and weaknesses, who saw a common vision and shared a common purpose. The network was never formalized.

Attempts to formalize the network ran into just those difficulties that led to its establishment, which could best be described as “institutional barriers”. While there were enthusiastic individuals prepared to commit to shared tasks and activities, then SCAINIP functioned well as a proto-grassroots organization. Unfortunately, most of these individuals have now moved on.

## What of the future?

SCAINIP's time seems to be over – but it does not have to be so. A new network of some kind might evolve, centred around better access to communication technology. After all, the monthly SCAINIP meetings using the University of the Hawaii's PEACESAT satellite system were excellent. Maybe the new USPNET (see p. 204) will help further.

Some of the problems apparent in the 1980s are still there. There is still a need for training library and information professionals. There is still a role for common information tools and shared information resources. And at heart, there is still a need for collaboration and cooperation among agencies and institutions. A lot of good work has been done. But there is still much work to do.

## FOR MORE INFORMATION

### *About SCAINIP activities, tools and products:*

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# Research networks

## Agricultural information networking in the Caribbean: Challenges in paradise



Paul Mundy

The Caribbean – the name conjures up images of hundreds of sun-soaked islands, idyllic beaches, energetic music, coconuts and rum. But what the tourist sees from the deck of a cruise ship is only part of reality. Behind the coconut fronds, the Caribbean is also home to pressing problems of poverty and environmental degradation, low farm productivity and over-dependence on a few crops.

This has got to be one of the most diverse and interesting places on the planet. Since the arrival of the first Europeans five centuries ago, the tides of history have left their mark here: waves of European, African, Indian, and Indonesian immigrants have left a fascinating ethnic mix. Four European languages – English, French, Spanish and Dutch – have given birth to numerous Creole dialects. The islands and the nearby mainland are home to over a dozen independent countries as well as several territories that still retain their dependent status.

The mainland countries (Belize, French Guiana, Guyana, Suriname) are large but sparsely populated. There are a few larger islands – Cuba, and Hispaniola (split into Haiti and the Dominican Republic) – but most of the countries are tiny. Some of the islands are flat; others are mountainous, with fields clinging to steep hillsides. Hurricanes sweep the islands (outside the tourist season, of course). Farmers grow hundreds of crops, including sugarcane, bananas and tobacco, which continue to be vital export commodities.

A challenge, then, for agricultural research and for the information services that link them and that keep farmers informed about research results. Most of the region's countries are too small to support a fully fledged research institute or university. And the number of crops, livestock types, pests and diseases is overwhelming.

### Together we stand

As in the Pacific (see pp. 199–204) and in much of Africa (see pp. 194–197) the answer is to share resources. The governments of the English-speaking Caribbean recognized this 70 years ago, when they established the precursor to what was to become the Regional Research Centre at the University of the West Indies (UWI). And they reaffirmed it in 1975 when they converted the centre into CARDI (Caribbean Agricultural Research and Development Institute).

CARDI had a strong foundation. The Regional Research Centre had done excellent research on traditional food crops such as pigeonpea, root crops and vegetables, and was well known for its soil maps. Although it is now an autonomous institution, CARDI's headquarters is still



located on the UWI campus in St Augustine, Trinidad and Tobago. CARDI inherited the Centre's facilities and a professional staff of 25, most of whom were located in Trinidad and Tobago, though five were in Jamaica and one was in Barbados.

One of CARDI's first tasks was to decentralize so it could better serve its clientele – the countries' farmers. By 1981, it had scientific teams in all 12 countries served, and the number of professionals had grown to 57.

Several continuing challenges have faced CARDI in its 25 years of existence. These include coordinating and managing a research team scattered across a dozen countries, improving services to farmers, and maintaining funding for research – and all the while maintaining the flow of relevant research to solve farmers' problems.

### Focus on farmers

The organizational structure and management have undergone periodic changes. An important shift was made in 1987, when the Caribbean Agricultural Rural Development and Advisory Training Service was merged with CARDI. This service had been established in 1978 to help solve some of the chronic problems of rural small farmers in the eastern Caribbean. It aimed to help transform small farmers from subsistence growers to commercial operators.

Instead of targeting a geographical area, CARDI's Technology Adaptation and Transfer Programme focuses on increasing the production of specific commodities. Task forces of researchers, extension workers, farmers, marketing and credit organizations, and end-users have been established to ensure a reliable supply of high-quality products. A task force organized farmers in Nevis to produce fruits and vegetables for a five-star hotel; another team helped farmers in St Vincent export root crops and ginger to the UK. The task forces were effective because they could organize planting, harvesting and marketing of crops to meet a specific demand.

CARDI retains this focus on farmers. Unlike many research institutes around the world, which focus on science and perhaps tend to forget their clients, CARDI emphasizes the business aspects of agriculture: it aims to help farmers adapt to the rapidly changing economic environment, and to help them make money.

### Outreach

A related shift has been improvements in the planning and management of research. In the late 1980s, a programme-management system was introduced that allowed CARDI to manage its activities better. This involved CARDI's clients – extension staff in the ministries of agriculture, farmers and farmers' organizations – in the planning process. Individual researchers became more aware that research could

be considered successful only if farmers adopted it. They began to work on outreach programmes with farmers and farmers' groups, in collaboration with national ministries of agriculture. These efforts have helped to bridge the gap between research and extension. They also ensure that CARDI's research accords with the ministries' policies and strategies.

The economic and political environment continues to change rapidly. Trade is being liberalized worldwide through the World Trade Organization, and large regional trading blocs have been established in the Caribbean's traditional export markets – North America and Europe. These require fundamental changes to agriculture in the countries CARDI serves, and hence in the types of research that CARDI does.

CARDI's links with CTA help promote the transfer, exchange and use of information in the Caribbean. Since 1986, CARDI has housed CTA's Regional Branch Office. CARDI collects and disseminates information on agricultural research and development in the Caribbean. CTA and CARDI hold joint seminars, conferences and workshops, making important contributions to the region's agriculture.

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### CARDI's areas of expertise

- Business development and consultancy
- Crop production, integrated pest management, and farming systems
- Environmental and soils management
- Livestock and forages
- Market research and statistical services
- Marketing and information services
- Project development
- Technology services

## The PROCICARIBE research network

CARDI is a relatively small organization: it currently has only about 30 professional staff, working in different scientific disciplines, and scattered around many countries. To achieve the “critical mass” to be effective, CARDI must collaborate with others.

PROCICARIBE, the Agricultural Science and Technology System of the Caribbean, is an attempt to do this. It is a “network of networks”, like CORAF, ASARECA and SACCAR in Africa (see pp. 194–197).

Jointly sponsored by CARDI and the Costa Rica-based IICA (Inter-American Institute for Cooperation



on Agriculture), PROCICARIBE covers almost all of the Caribbean's countries and territories – not just the English-speaking ones that CARDI serves. CARDI acts as the executing agency for PROCICARIBE and is the home of its three-person secretariat.

What does PROCICARIBE do? It facilitates a set of regional research networks, each focusing on a specific commodity or subject. For example, the CARIFruit network concentrates on fruit, while CIPMNet focuses on integrated pest management (a way of controlling pests without using too many chemicals).

There are other networks on rice, banana and plantain, plant genetic resources, and biosystematics (the description and classification of plants and animal species). Additional networks on land and water resources and on sheep and goats were due to be established in 1999. Each network links government and university researchers, extension personnel and private companies to tackle problems of common interest.

Managing all this can get rather complicated. Within each country, national network committees meet to coordinate work on their particular topic (fruit, rice, etc.). A regional coordinator for each network makes sure that the national groups share information. And there is also a national coordination committee in each country, whose chairperson represents that country on the PROCICARIBE executive committee.

### Newsletters and bulletin boards

It's complicated: so smooth communication is vital to make it all work. One channel is the PROCICARIBE newsletter, which is also available on the Internet (at [www.procaribe.org/news](http://www.procaribe.org/news)). This has discussions on policy issues (the June 1999 issue, for example, covered the effect of World Trade Organisation rulings on the Caribbean's banana industry), announcements, brief articles about factors affecting research, news of workshops and seminars, and items from the various networks.

How about using the Internet to communicate? This would seem ideal, and indeed many of the scientists and officials on the network have their own e-mail addresses. The PROCICARIBE secretariat has set up an admirable set of Internet-based bulletin boards for each network. But these remain unused. There could be several reasons for this. Perhaps the bulletin boards are still new? Perhaps the networks themselves are new, so the members do not yet have very much to say to each other, or they are too busy with their own work and fail to see the benefits of networking? Perhaps the technology is unfamiliar, so training and publicity are needed? Or maybe there is no reason to use the bulletin boards since e-mails and face-to-face meetings can handle all the necessary traffic?

Whatever the reason, time will tell whether the networks will work. Probably, some will take off, powered by some energetic individuals or a pressing need that can be overcome only through collaboration. Other networks may wither and die, perhaps to be replaced by more vigorous groups.

# Research networks

## A strength and a weakness

PROCICARIBE's breadth may be at the same time both a strength and a weakness. One strength is that its networks include members from government, university and private sector institutions. Another is that it bridges all three major language groups in the Caribbean – English, French and Spanish-speaking countries. PROCICARIBE's scope also makes it an attractive way for donors and foreign research organizations to focus their support: they get more bang from their buck, franc, pound or guilder.

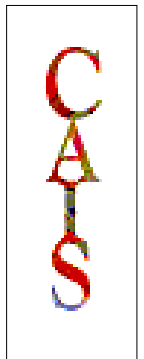
But at the same time, coordinating such a large and diverse group is fraught with difficulties. The PROCICARIBE newsletter, for instance, is published only in English. And it can be hard for part-time national coordinators to find the time to do the large amount of local management and communication work needed if the networks are to function.

## CAIS study

A separate but related initiative within CARDI is the newly established CAIS (Caribbean Agricultural Information Service). While PROCICARIBE coordinates the research, CAIS will handle the information side: it will provide information to the researchers (and to lots of other people besides) on agricultural technologies, marketing and other data that these users need to improve the productivity of farming in the Caribbean.

Like PROCICARIBE, CAIS is still in the teething stages. It plans to link together agricultural institutions in the various countries so they can provide information in various forms to their users. CAIS has an ambitious to-do list: a news service, a question-and-answer service, extension publications and factsheets, training, specialized services such as market research and trend reports, video presentations and radio programmes. Some of these will be produced by CAIS itself; others will be existing materials or services that the various members of the network will make available through CAIS. Much of this information will be made available via the Internet.

Will CAIS succeed? That depends on two things: the usefulness of its services, and the commitment of the various network members and funding agencies to make it work. CAIS is wisely starting off with some pilot projects to test several of the approaches before rolling them out on a regional scale. That will allow any problems to be ironed out, and for the duds to be dropped before they consume an inordinate amount of resources.



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