Beyond agricultural information access – shared learning experiences in Solomon Islands

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Abstract

Solomon Islands is a small country in the western Pacific emerging from a long period of civil unrest and political upheaval. As with other sectors of civil society and industry, there is a strong need to rebuild a viable commercial farming sector as well as ensure that the livelihood and well-being of people in the rural areas, largely subsistence farmers, is also enhanced. To that end, a national agricultural information network has been established which brings together a diverse range of organisations with a shared objective, that of improving access to and use of agricultural information. At the core of the information network is an information system comprising a range of bibliographic and other information databases. This builds on the success of a similar venture in neighbouring Papua New Guinea. However, the Solomons' initiative seeks both to disseminate information more widely and effectively, as well as incorporating a social knowledge networking dimension which renders it unique in the Pacific region. The network is underpinned by an appreciation that there are many and varied ways in which information can be transformed into knowledge. This includes innovative information and communication technologies such as community radio, distance learning centres and farmer information networks. At the heart of social knowledge networking is not just sharing of experiences and knowledge, but learning.

Résumé

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Introduction

Solomon Islands is an archipelago comprising nine main islands located in the western Pacific, part of the region known as Melanesia. It is the second largest country in the Pacific in terms of land area (27,986 m^2, only slightly smaller than Belgium), and a population estimated in 2009 to be 595,613. It does have a population growth rate of 2.39% (2009 est.), one of the highest in the world. Of the total land area, 97.3% is estimated to be forested; just 2.7% is farmed commercially or subsistence (2005). In common with its Melanesian neighbours, Papua New Guinea and Vanuatu, there is a high-level of subsistence farming (87%), low levels of economic diversity such as manufacturing, and faces similar constraints to economic activity such as a limited road network, poor inter-island shipping, limited power generation and supply, and a poor though improving telecommunication network. All of these factors constrain economic development in the country, such that GDP was estimated in 2009 to be USD 668 m, with a GDP growth rate estimated to be zero. Imports (food, plant and equipment, manufactured goods, fuels, chemicals) outstrip exports (timber, fish, copra, palm oil, cocoa) by a small margin.

Compounding similar problems faced by other Melanesian countries, ethnic tensions arose in the Solomons in the late 1990s to the extent that a civil war broke out in all but name. From 1999 to 2003, civil unrest had a crippling effect on security and economic activity, and accelerated a decline in social conditions. In 2003, at the invitation of the Solomon Islands Government, the Australian-led Regional Assistance Mission to Solomon Islands (RAMSI) was deployed. Recovery from the troubles has been halting, with a several significant flare-up in 2006. All of which has contributed to the country needing to

completely rebuild the organs of state and provision of services to its people. One such initiative is the World Bank-funded Rural Development Programme (RDP).

RDP is a five-year programme comprising three components targeting four provinces: Choiseul, Malaita, Temotu and Western. The purpose of Component 2 is to assist the Ministry of Agriculture and Livestock (MAL) improve agricultural services to smallholders. These services have been run down because of insufficient resources for research and development, staff development, operating costs and logistical support at the provincial level. The result has been disappointing for both agricultural service staff and rural communities who mostly have nowhere else to turn for help. The aim of this component will be to reverse this and create a situation where smallholders have access to up-to-date technical and market information services, provincial staff have satisfactory careers, and the Ministry can fulfil its obligations to Government and the people, in partnership with churches, NGOs, the private sector and overseas partners. Component 2 complements the other parts of the RDP which bring improvements in living conditions (Component 1) and stimulate rural businesses (Component 3). All three components are directed at improving household welfare. An essential feature of Component 2 is that it provides for technical support and assistance in the area of agricultural information and communication management (ICM). The writer is the RDP adviser tasked with this responsibility.

Information and communication management

In order to appreciate the extent of the current intervention, some history and background to agricultural information management in the Solomons is required. This will be followed by a summary of earlier interventions before a presentation of the results of a recent information needs assessment, and the strategies which were formulated to meet the current needs.

Agricultural information management prior to 1999

Solomon Islands achieved independence from the UK in 1978. At that point, there was a ministry of agriculture which included traditional research and extension divisions, and some information and communication activities in support of them. In 1985, an enlightened Chief Research Officer saw the need, from a researcher's perspective, to have access to the documentation relating to past research in the country. He decided that the answer was an annotated bibliography, and an improved library collection to house the documents found. The resultant *Solomon Islands Bibliography of Agriculture and Forestry* (Reilly 1985) comprised 1,500 annotated records and was one of the first attempts in the Pacific region to comprehensively document the years of research and development that had taken place. At the same time as the publication of the *Bibliography* (SIBAF), a VSO Volunteer (the writer) was recruited to help set up and manage a National Agriculture Library, based at the main research station on the island of Guadalcanal (actually on Red Beach for war buffs). Subsequently, the printed bibliography was transferred to computer, and documents were collected from here, there and everywhere; by the end of 1988, the number of records included in the database numbered around 2,000. It was a unique and, it was thought, an irreplaceable collection representing 70 years of agricultural research in the country. The Volunteer's experience with this task led, subsequently, to similar initiatives throughout the Pacific region, but particularly in neighbouring Papua New Guinea. The importance of this will be referred to later in this paper.

Agricultural information management between 2000 and 2008

Shortly after the Townsville Agreement was signed in October 2000, ending the fighting, the research station together with its fabulous insect collection and library were burnt to the ground. The intention of the arsonist was to eradicate the station, its buildings and its capacity from the collective memory. In 2003, the Secretariat for the Pacific Community (SPC), a regional development assistance agency, sought to help the Ministry resurrect the library. It was agreed that the physical collection would not be replaced, but that documents in SPC's own library collection in Fiji would be the basis of an electronic library. The

software used was Greenstone, and significant development work, infrastructure and training were provided to the Ministry to implement this strategy. Problems with power supply, personnel and the general malaise which was prevalent during this period led to hardware failure, loss of the software (although not the digitised documents; they were merely misplaced) and loss of trained personnel. SPC provided some further training in mid-2008, this time focusing on the use of ProCite, a bibliographic database application that had been widely used in the region since 1988. The junior information assistants in the Ministry began to use ProCite to document what remained of a library collection in the Ministry's headquarters. No attempt was made to link any record with digital copies of the documents, and the old SIBAF database was to all intents and purposes lost.

During this period, the Technical Centre for Agricultural and Rural Cooperation (CTA) conducted a series of information needs assessments in eight Pacific countries, including the Solomons. The country report (Ho'ota *et al*, 2005) for the Solomons discussed the establishment of the Solomon Islands National Agricultural Information Centre (within MAL), and the constraints that were being faced, mainly: limited access to information by both MAL staff and farmers; inadequately trained staff; and poor facilities. It was intended that in 2006 as a follow-up to the CTA study, an additional exercise would be carried out to identify and prioritise the strategic options available to Solomon Islands to improve the situation. For various reasons this did not take place, but the Ministry did go ahead and create the Information Centre, which is why SPC came in with some training in 2008.

Agricultural information management from 2009

The commencement of the World Bank project provided the opportunity to assist Solomon Islands in its struggle to better manage and disseminate information. In April and May 2009, a follow-up information needs assessment was carried out leading to the development of strategies to meet the need for information at all levels and by all stakeholders, to identify and collect available documentation, and to set about establishing a partnership among stakeholder organisations to better manage and utilise information. That strategy called for the development of an information network, which is somethng that ties in with recommendations from the Ho'ota *et al* (2005) report.

Solomons National Agricultural Information System

The impetus for development of the Solomons National Agricultural Information System (SoNAIS) was to design a vehicle that would facilitate the process of identifying and gathering all available information resources in the country. There was an urgency to this in that building up the capacity of provincial agriculture offices was critical to helping farmers in the rural areas. Not only this, but with the near collapse of central government services in the early 2000s, and particularly following the tsunami in 2007, NGOs and other non-state actors jumped in to fill the void. Whether they were Save the Children Fund or more specifically agriculture-related NGOs such as Kastom Gaden Association (KGA), all had livelihoods programmes which undertook activities related to agriculture. This led to conflicting advice being disseminated, partly because of limited access to past research results and extension-type materials. It was impresssed upon the Ministry that any information network or system must be accessible to all actors, and preferrably be a partnership of different organisations, each of which would have something to contribute. As an example of this mutual dependency, the Ministry was seen by all stakeholders as holding or being able to generate information (thus the need to identify and manage this resources effectively); but the NGOs and other community-based organisations had superior access to communities, and the numbers of people on the ground, to better effect information dissemination. Developing a national network was seen as a way of harnessing these two dimensions, with a common purpose to improve access to and use of agricultural information.

If the network was about organisations partnering one another, then at the core of the network is an information system. The system comprises (currently) a range of bibliographic and other information

databases, and builds on the success of a similar venture in neighbouring Papua New Guinea (Walton 2009). Given the need to move fast with implementing the system, the bare bones of the PNG National Agricultural Information System (PNGNAIS) which had been operating successfully for eight years, were extracted, and populated with bibliographic data scavenged from various existing databases including those from SPC, PNGNAIS, the ProCite database from the Ministry and, in a stroke of luck, the last known copy of the SIBAF database, There is some duplication and redundancy, but with around 2,700 records, SoNAIS is a good start to organising avaiable information resources, particularly as available digitised documents increasingly are linked to bibliographic records.

Based on earlier meetings and interviews with Ministry staff and others as to what information was needed, the first documents to be made available through SoNAIS are those requested most often. It has been a tremendous help that the software applicated used to manage SoNAIS (and PNGNAIS) is Inmagic DB/TextWorks, and that this comes with a free run-time version that is easy to install on any computer, meaning that in provincial agriculture offices they can now have similar access to information as that enjoyed by staff in the Ministry's headquarters in the capital, Honiara. Within a couple of months, around 40 installations of SoNAIS have taken place. There has been an eagerness among the non-government sector to have access to SoNAIS, and so a number of installations have taken place in offices of NGOs etc, as well as at centres of teaching and learning (schools, tertiary institutions). By being able to install SoNAIS on any computer, the opportunity has been taken to talk with government and non-government organisations to improve their own internal management of information – libraries, information resources etc – with one NGO, Kastom Gaden Association (KGA) already coming on board as a contributing partner in the network, and indications that several others are keen to join in. The impetus to join SoNAIS comes from the need both to access and better manage available information resoures. Sharing of information resources is a given all parties are keen to support. Activities are continuing to improve the system, make more information available, digitise more documents, and provide training and support to operators.

Social knowledge networking

As far as it goes, being able to adopt an already successful model for the information system (and there was well-advanced plans for a more formal linking with PNGNAIS) has meant that progress has been rapid. The ability to deploy the system across the country because of the run-time functionality has helped generate awareness and begun to meet some of anticipated information needs. But there is more: there is the intention to incorporate aspects of social knowledge networking into SoNAIS so that it is much more than 'just a library system' or a technical solution (and a first for the Pacific). And this gets back to the core issue, that information plus people equals knowledge. Accordingly, the system must be dynamic, with a two-way flow of information, or it is nothing. There are many and varied ways in which information can be transformed into knowledge, and plans are being made to explore opportunities to enable this to happen.

At its simplest, a social network can be a family or a group of friends. More complex social networks can include associations or business partnerships, where there is an intent to achieve common social, economic and even political goals. Thus the network of organisations which contribute to SoNAIS, or use the information resources contained therein, is as much a social network and an information network. Given the willingness of partners to share information and work collaboratively, this network is also underpinned by a fair degree of trust which is essential if all members of the group are to benefit.

The traditional research and extension services have had very specific information and communication needs. The researchers have required access to past research, and access to comparable information. The results of research are then compiled into reports; some of the more adventurous researchers have written journal articles or presented papers at conferences or symposia. Extensionists have needed access to technical information to enable them to carry out their work, and they have needed to disseminate this

information to farmers in the form of leaflets, extension materials, demonstration plots, training and advice. There has not been a great deal of overlap between the two categories of agriculturalists, and disseminating information has traditionally been in one direction only, to farmers. The practices of researchers and extensionists has changed markedly in the last 20 years or so, and so too has the level of technology available to them. Yet, when it comes down to it, far too many strategies resort to the traditional methods as a safer bet. An attempt is being made in the Solomons to break this mold, and technology can help.

Two examples will help to illustrate the potential of different approaches. The first concerns a comprehensive collection of photographs (all digital), taken over many years by a plant pathologist. Her question is, what can she do with them that will be useful and make a difference? Currently, the SoNAIS bibliographic database includes a recently-completed set of extension leaflets on pests and diseases in the Solomons, each with two or three photographs. In a meta-tagged database of this kind, there is no impediment to recording informational materials in other formats, so she could create records for each of the plant diseases for which she has photographs, and link them. But she could do more, she could provide commentary to help the viewer understand what he or she is looking at, perhaps make suggestions as to other informational materials that can be consulted, and who might be contacted if necessary. She is able to do all of this with the system in its current form, and as it is currently deployed.

The second example came about during a search for documents available in digital format; the person helping in this context, a well-experienced adviser, talked about the merits of each document, why it was important, in what way it could be used. This is invaluable input when someone seeking information is faced with a plethora of materials and is in a quandary about which one is most suitable. Whereas commentary can easily be added by the contributor to a bibliographic record, as a sort of user-created enhancement. However, what would be even better would be if others were able also to add their views much in the same way that hotel guests add a commentary on their experience in TripAdvisor.

Engagement by ‘users’ as opposed to ‘operators’ is the social knowledge networking dimension that is being sought. The problem is that access to the internet in the Solomons is not widespread, fast, reliable or very affordable. TO BE CONTINUED ...

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