GOVERNMENT OF SOLOMON ISLANDS

RURAL DEVELOPMENT DIVISION,
MINISTRY OF PROVINCIAL GOVERNMENT AND RURAL DEVELOPMENT

UNITED NATIONS DEVELOPMENT PROGRAMME

RURAL DEVELOPMENT VOLUNTEERS ASSOCIATION, SOLOMON ISLANDS

PEOPLE FIRST NETWORK

THE SOLOMON ISLANDS'
RURAL E-MAIL NETWORK FOR PEACE AND DEVELOPMENT

City, Country: HONIARA , Solomon Islands
Category: e-Government and Poverty Reduction
Organisation: Rural Development Volunteers Association
Description:
PFnet is an ICT project comprising a rural email network aimed at promoting and facilitating equitable and sustainable rural development and peace building by enabling better information sharing and knowledge building among and across communities forming the Solomon Islands. With funding from UNDP and several locally based diplomatic missions and projects, PFnet has already established a rural community email network and instigated partnerships to utilise the network for developmental activities such as distance education, agriculture and fisheries, and indigenous business development.

In providing improved communications and access to trusted information, PFnet is helping to build peace and national unity. In particular, the popular PFnet web site is being developed into a true development portal and will be used as part of an e-Citizen Initiative aimed and encouraging participation in democratic processes and thus furthering good governance.

Notwithstanding a wide range of severe logistical and socio-economic constraints, PFnet is working to include rural Solomon Islanders in the Information Society.

PFnet was a finalist of the IICD/InfoDev ICT Stories 2002 and Stockholm Challenge 2002 competitions.
Web Site: www.peoplefirst.net.sb
Keywords: ICT, rural development, community development, networking, radio email, appropriate technology, conflict resolution, poverty alleviation, Solomon Islands, Pacific Islands
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Introduction

One of the gravest obstacles to development in the Solomon Islands now is the difficulty in communication between trusted family members and professional peers. It is precisely in deprived and remote areas that basic telecommunication has the most value and impact. For such locations, telecommunication is the only and vital link with the outside world, either to ensure health security, public services such as education, or essential contacts with family and professional peers. It is also a major block to investors, tourism and enterprise.

However, such telecommunications are very scarce outside of Honiara. The tele-density of 0.3 per 100 rural inhabitants is the lowest in the region and even those lines are concentrated only in a few provincial centres. Most rural people depend wholly on overcrowded (and often expensive) ham radio channels for inter-island communications. International calls are not possible in rural areas other than from a handful of mobile sat telephone operations at a very high price.

It is often stated that one of the root causes of the social unrest, which has badly affected the country since 1998, is the failure of successive governments to deliver on policies for sustainable and equitable rural development. The ethnic tension between Guadalcanal and Malaita, which has left approximately 100 people dead, decimated the economy and displaced thousands, has also badly eroded national solidarity. Three out of nine provinces have expressed their wish to break away as separate countries. Lack of trusted information, misinformation and the absence of communications have only served to heighten the misunderstanding and tension between communities. The only commercial telecommunications provider has been severely affected and is less able to penetrate into rural areas, meaning that rural people are even less informed, more excluded and disempowered.

There is a severe gender imbalance in official mechanisms for governance; in 2002 there were no female MPs and very few senior female civil servants or provincial members. Other gender issues include lack of knowledge of rights, access to information and services regarding domestic violence and abuse.

Geography presents a real challenge to rural connectivity. Remote islands are separated by large distances of open ocean, almost all rural villages have no reliable power and there are few or no affordable commercial satellite telecommunications services.

Lack of direction and strategy also hinders development; there is no national ICT strategy, only limited awareness/knowledge of ICT among high-level decision makers and no integration of ICT into development strategy. Lack of appreciation of ICT as an enabler for development in government is mirrored amongst the development community. Another challenge is the lack of ICT capacity, with no IT in school curricula, few IT professionals and a very high price for IT services and products.

To address this problem at the very grassroots level, the People First Network is an email service that facilitates communications and information flows to and from the remote provinces of the Solomon Islands. It was launched in March 2001 with the opening of an Internet Café in Honiara, which has been a resounding success and is already functioning in a self-sustainable way. This was followed in October 2001 with the country's first community-run rural email facility at the remote village of Sasamungga in Choiseul Province, which will serve as a model for future expansion. At the time of writing, seven rural community stations have been deployed with two additional ones pending, and in accordance with the project's aims, PFnet has already initiated partnerships which are exploiting the rural network to deliver IT training and distance education, agricultural technical services and indigenous business development services.

Objectives

The PFnet system, offering basic email services, seeks to improve connectivity while dramatically reducing the prices of communication, making it affordable for low-income users and sustainable over time. As a basic utility to all other activities, this affordable telecommunication and information network will assist the country, particularly low-income groups, in taking in charge their own development through improved logistics,

information and knowledge. A particular attention is given to gender equity and democratic governance. This is in concrete terms what *bridging of the digital divide* means to the Solomon Islands.

PFnet uses an email system based on a robust, proven and sustainable technology that permits remote locations on islands across thousands of square kilometres to have access to Internet emails using a simple computer, short-wave radio, and solar power. It aims to:

- Facilitate point-to-point communications to/from the remote provinces of the Solomon Islands;
- Facilitate rural development and peace-related information flows among all social groups;
- Facilitate the exchange of information between communities and development programmes, NGOs, government offices, the media, businesses and other stakeholders;

Organisational Structure

PFnet was established through the Solomon Islands Development Administration and Participatory Planning Programme (SIDAPP), a project of the United Nations Development Programme (UNDP) and the United Nations Office for Project Services (UNOPS), which closed in December 2001. SIDAPP piloted consultations and participatory techniques with rural communities to profile each of 14 political constituencies included in the pilot. The communities made suggestions of micro projects. SIDAPP also strengthened the government institutions responsible for rural development. It was noted that among the main constraints, were poor communications and lack of reliable data. Thus, PFnet was conceived to bridge the communications gap, and in doing so, empower rural communities and make more effective the link between them and government. The PFnet web site was launched under SIDAPP in January 2001 and a research programme established to design a sustainably operated communications network. In March 2001, an Internet Café was opened which provides operating revenues for PFnet as well as a way of bringing access to the global information society to Solomon Islanders in Honiara.

In October 2001, PFnet was reorganised as a project of the Rural Development Volunteers Association (RDVA), an association created by SIDAPP to implement rural development research programmes. RDVA is affiliated to the Rural Development Division of the Ministry of Provincial Government and Rural Development (MPGRD). PFnet continued under it's own operating revenues with additional funding from three foreign donors. The MPGRD has provided input in terms of office facilities and manpower. PFnet has received funding and technical support from It has also received start-up funding from the governments of Britain, Japan and the Republic of China through their missions in Solomon Islands.

In December 2001, SIDDAP made final recommendations to UNDP and Solomon Islands Government during the closing tripartite review meeting held in Honiara on 19th November 2001. This included the recommendation "*that the National Government consider the establishment of the rural information and communications system [PFnet] top priority during the two-year reconstruction period and thus boost efforts at achieving national unity and facilitating the flow of development information and services to most of the country's villages.*" This recommendation has been approved by both Government and UNDP.

From August 2002 until February 2003, PFnet has become a directly executed UNDP project through the Fiji Multi Country Office. During this Interim Phase, PFnet is seeking multiple-donor funding to support a next phase programme focusing on expansion of the rural community email network and consolidation of the base operations to enable sustainable and fully localised operation after two years.

Project Description

PFnet has three key components. One is the Internet Café in Honiara, which allows residents of the capital city to access the Internet for writing emails to all locations across the Solomon Islands or the wider Internet. They can also browse the World Wide Web in search of information, or post their own information to share with

others. The Café has been operational since March 2001 with 12 workstations, and has proven very useful to the community and is already financially self-sufficient. The Café is also intended as a training facility for a number of rural development stakeholders and the broader public.

The second component of PFnet, a popular web site that is being promoted as a development portal, provides substantial information resources and news on it's web site and is active in facilitating the flow of trusted news between communities. This is an important part of peace building in a nation torn by ethnic conflict.

The third and, over time, most important component of PFnet is the network of email stations located in remote islands across the country. The stations are usually hosted in provincial clinics, community schools, or other accessible and secure public facilities. Email operators assist customer to send and receive emails at a nominal cost.

The stations use a simple, robust and well-proven technology, consisting of a short-wave radio (already ubiquitous and well-known in the South Pacific), a low-end computer, and solar energy. On schedule, several times a day, each remote email station connects to the hub station in Honiara automatically. At such time, incoming or outgoing emails are transferred between the remote station and the hub, and between this hub and the wider Internet.

Now the network is established, it is being used to facilitate the rural networking needs of sectors such as education, health, finance and agriculture.

Already, as of September 2002, PFnet has:

- Conducted trials to deliver distance learning courses by email, in partnership with the University of the South Pacific (funded by UNDP's Asia Pacific Development Information Programme);
- Opened a community station as a farmer's technical and marketing advice centre in partnership with Kastom Gaden Association (funded by AusAid);
- Linked the rural email service to an indigenous business development service run through the Ministry of Commerce which helps business people access online business information and attract joint venture partners;
- Opened a rural email station in a rural teacher training college to be used to train rural vocational teachers;
- Opened a station in partnership with a rural fisheries project;

As of September 2002, seven stations have been established with at least two others scheduled. However, in order to reach a "critical mass" whereby the impacts can be said to be truly national, it is hoped to deploy as many as 25 remote email stations across the nine provinces of the country. This is pending available funds from aid sources. Key stations may grow into better equipped "learning centres" as part of an integrated strategy to strengthen the education sector.

However, now the system is in place, it is very simple to add any number of stations on a modular basis. For example, projects strengthening rural fisheries or vocational training centres, a bank implementing a micro-credit scheme, or an environmental group running an eco-tourist site, may all wish to include a communication component to their projects. Similarly, information providers such as radio stations or electoral monitors can use PFnet to send dispatches and received reports from their staff in the field. PFnet will also prove crucial to small business entrepreneurs in fisheries or agro-forestry, for example, who need to maintain contacts with clients, suppliers and shippers.

The value of a community-owned communications and access facility is illustrated by it's absence. In January 2003 one of the strongest cyclones in the history of the Pacific tore through the remote island of Tikopia. Due to no communications, it was nearly a week before the fate of the 1,800 inhabitants was known (miraculously everyone survived thanks to their traditional knowledge). The reconstruction will take 2-3 years. It is proposed that linkage to emergency response and reporting systems would be another useful application.

Partners

The main partners involved in the project formulation, execution and implementation, are:

- ***United Nations Development Program (UNDP)***
  The UNDP have now opened a sub office in the Solomons, thus creating a more immediate partnership in which PFnet can respond quickly to facilitate the networking and information sharing needs of other UN projects (see below).
- ***Solomon Islands Government (SIG)***
  PFnet is implemented through the Ministry of Provincial Government and Rural Development (MPGRD) and is working with the Ministries of Education and Commerce in facilitating rural networking for various schemes.
- ***Rural Development Volunteers Association (RDVA)***
  Members of RDVA may be used by PFnet in it's program; likewise the objectives of RDVA in rural development may be furthered through the networking activities of PFnet.

Financial Donors to PFnet and participating rural communities:

- ***UNDP***
  UNDP financial support to establish PFnet has come through SIDAPP and through the Fiji Multi Country Office as Interim Assistance (the current phase).
- ***UNDP's Asia Pacific Development Information Programme (APDIP)***
  The APDIP funded a project partnered by PFnet, RDVA and the University of the South Pacific Centre (USP Centre) to pilot the delivery of distance learning to a remote location using the PFnet email network, and conduct research into the impacts of the network.
- ***The Government of Japan***
  The Japanese Grassroots Assistance Programme has funded the establishment of two rural email stations including 1kW solar power supplies located at community schools;
- ***The Government of Britain***
  The British High Commission has supported PFnet with funding for the establishment of the base station and three rural stations, plus funding for technical assistance;
- ***The Government of R.O.C.***
  The Embassy of the Republic of China has supported PFnet with funding for technical assistance;
- ***EU Micro Projects Programme***
  This programme has approved one community application for funding a rural station, and welcomes more applications which will be forwarded by PFnet in response to community demand;
- ***Community Peace and Restoration Fund (CPRF)***
  The Aus-Aid CPRF has funded one station and has co-funded another which may be used to coordinate project implementation in rural areas;
- ***OXFAM Solomon Islands***
  OXFAM has sponsored capacity building through journalism training of PFnet staff, and PFnet is facilitating Internet sharing for a Community Development Corner resource center.

Rural Networking and Information Management; PFnet is facilitating networking and information sharing for:

- ***University of the South Pacific Centre (USP Centre)*** – see APDIP above.
- ***Solomon Islands College of Higher Education (SICHE)***
  The Distance Education Centre (DEC) of SICHE is planning to use PFnet to offer, in particular, remote learning opportunities to vocational students and in the non-formal sector.
- ***Kastom Garden Association (KGA)***
  KGA is a community farmer's advice network incorporating PestNet aimed at improving food security by reinforcing traditional agriculture, networking technical and marketing advice, and research. PFnet

has established one joint email station in partnership with KGA, and another email station provides access to a second KGA rural office.

- *EU Rural Fisheries Enterprise Project (RFEP)*
  RFEP has established on subscriber email station in a rural Fisheries center, used to coordinate and monitor the project and collect data. RFEP judge the pilot successful and are planning to expand their subnet of PFnet.
- *Solomon Islands Association of Rural Training Centres (SIARTC)*
  SIARTC have established a demonstration PFnet email station at a rural teacher training college, to be used to educate teachers to use such ICTs and about appropriate technology; SIARTC have judged the application successful and are planning expansion to selected RTCs.
- *Ministry of Commerce Industries Development Division (IDD)*
  The UNDP/UNIDO-established Online Business Information Service provides business and investment information and online advertising to help with indigenous business development. PFnet is facilitating the extension of this service to rural communities.
- *UNDP Constitutional reform Project (CRP)*
  The CRP (implemented through SIG/MPGRD) is benefiting from the PFnet rural network and web site to consult citizens about constitutional reform, and from Internet Access and web presence provided by PFnet.
- *Office of the UN Human Rights Advisor to Solomon Islands*
  This UN project benefits from a web presence and rural networking provided by PFnet. The project may use PFnet to consult and raise awareness among rural communities.
- *UN Integrated (Isabel) Rural Development Programme (IRDP)*
  This joint UN program will commence in 2003 piloting an integrated approach to intervention in one province. There will be a PFnet networking component, including approximately three rural stations and pilots in facilitating various services such as micro-enterprise and village banking through the PFnet.
- *National Peace Council*
  The Aus-aid funded NPC has commissioned a web site section on the PFnet web site;
- *SIG Prime Minister's Office and Think Tank Task Force*
  The PMO and ROC-funded TTTF have commissioned a web site section on the PFnet web site;
- *Solomon Islands Broadcasting Corporation (SIBC)*
  PFnet is working with SIBC to "string" grassroots/rural news through the rural email network, and PFnet is receiving capacity building in online journalism through the services of the SIBC Chairman.
- *Solomon Islands Institutional Strengthening For Lands Administration Program (SIISLAP)*
  The Aus-Aid SIISLAP is interested in linking rural forestry offices to the PFnet rural network

Strategy Development:

- *Regional and National ICT Strategy*
  PFnet is working with partners in proposing an ICT Strategy Workshop to develop a national problems and objectives tree for ICT development purposes. The commercial operator Solomon Telekom is cooperating with this activity.
- *Other International Linkages*
  PFnet, as finalist, attended the final events of the 2002 Stockholm Challenge. This has resulted in many opportunities for collaborative activities and sharing of ideas and solutions, as well as substantial publicity. There may be linkage to the ITU Multipurpose Community Telecentres Project, which is complementary to PFnet.

Project Strategy

The project provides technical and financial support in the form of institutional capacity building and training of staff, rural development volunteers and other partners for both communication activities and information management. It also assists in the deployment and maintenance of appropriate rural networking technologies and facilities, with a view of the system being self-sustainable within one-two years.

The project's strategy for rural connectivity may be summarised as follows;

1. Use affordable appropriate technology with low running costs, which is easy to operate and understand;
2. Use technology in a way which is sympathetic to local conditions, i.e. it is affordable for most people in the rural economy, and initially operator assisted to allow for lack of IT skills in the community;
3. To connect the largest possible number of communities using small scale sites with basic access rather than large centres in fewer sites which are more costly and require IT knowledge to use, and which may create new divides between rural villages and provincial centres. The natural evolution of these sites is then driven by a dynamic where, as the community awareness and IT capacity grows (with training inputs), demand results for more computers, services, full Internet etc. The sites are expected to develop into "email Cafes" and then into full Tele-centres. Three of the seven sites already established have reached this dynamic within 8-14 months of their deployment;
4. To establish centralised technical support and revenue base. It is not realistic to expect the rural stations to support themselves technically, as there are few IT professionals and not enough revenue to support them. Therefore these functions are centralised and are supported by earnings from an Internet Café and other activities.

Rural Networking

To ensure accessibility to all social groups, in particular in remote and poorest provinces of the Solomon Islands, PFnet provides technical and capital support for the deployment of appropriate, robust, inexpensive and community-controlled rural email system, largely based on two-way short-wave radios (HF) already in use. This technology has been in use for over a decade in many countries, notably in sparsely populated and undeveloped areas of Africa. Data transmission over HF radios has more recently become increasingly robust, easier to use and cheaper.

Following field trials using an amateur grade HF modem and a subscriber email service, the project settled on the Pactor / Wavemail system of Schuemperlin AG, Switzerland. This has a number of advantages in that it is well established and used in many places around the world, allows flexibility regarding the equipment with which the modem interfaces and has inherent security when operated in non-public mode with the proprietary compression system acting (in effect) as encryption. Each remote client can have up to six other subsidiary or alternative modems including telephone, VHF Packet, Inmarsat Mini-M or B, Thuraya and TCP/IP as well as the HF modem.

Due to the geographical nature of Solomon Islands, where large distances separate islands and repeating stations are vulnerable to land disputes and vandalism (in the aftermath of the ethnic tension), the project has initially opted for an HF system. A later project phase may add a second round of connectivity with VHF and spread spectrum technology where possible. Outside Honiara there are few settlements with permanent power supplies and telephone access, so the system chosen had to be autonomous in both.

The current HF system utilises Pactor, well known for it's robustness and resilience in low signal-to-noise conditions. The project is currently upgrading to Pactor 3, which offers data throughputs of over 2kbps (equivalent to more than 5kbps for text in terms of characters per second, due to the effective compression system). System operation is half duplex – one station at a time connects with a base station transceiver (the base station can have up to seven) and communication is one way at a time.

Rural stations are made up of a mid range HF radio (such as ICOM IC78 or M700Pro) with broadband antenna, a Pactor HF modem, reconditioned Pentium 1 or early Pentium 2 laptop, bubble-jet printer and 80W solar power supply. During the deployment, the operator selected by the management committee is trained to operate the station on behalf of customers for a small fee, using a shared email account. In some ways this similar to a telegraph or fax agency but the Internet email technology has many advantages in terms of costs and efficiencies, and possibilities for conferencing, etc.

In the project's experience so far, the majority of operators had no experience using a computer before,

although it was a minimum requirement to be a typist. However, one week of training on site is all that is required to give them the confidence to follow the simple procedures to type, send and receive mail. Extra technical support is provided by voice radio calls when require, followed up by regular workshops.

In the short term, this simple affordable connectivity offers great benefits to a community that has no alternative (see the Results section). However, as awareness and computer skills grow in the community with time and with the introduction of IT training, the natural growth of the stations would be towards "email Cafes" and eventually even full Tele-centres, in line with the ability of the rural economy to utilise the enhanced connectivity and improved services.

In addition to email, the project also plans to train partners and information providers (government officials, development agencies, NGOs, media organisations and other stakeholders) at using electronic conferencing tools, in particular the email-based mailing lists. Through this, the project intends to provide a virtual space to facilitate the spontaneous and horizontal exchange of information among and between grassroots stakeholders themselves, and between those stakeholders and professional organisations serving them.

Sustainability of Rural Email Stations

A model for sustainable community operation was piloted with the opening of the first rural facility. This model draws on the participatory development inherited from SIDAPP and is founded on community management through a representative committee, with a number of strategies to help sustainability, including the following.

- **A *participatory approach*** is used from the onset. Communities are mobilised initially through publicity and awareness raising activities. Those applying to PFnet are encouraged to in form village management committees in the way most appropriate to their cultural group. The committees validate the locations and operators. The committees themselves, are validated through site visits to ensure complete representation and community awareness.
- *Three-way agreement*
  Following consultations, a three-way agreement is agreed and signed by the committees, the operators and PFnet/RDVA. This clarifies the roles of each party including the level of technical support, maintenance, security, ownership, services, and so on.
- *Revenue sharing*
  In the agreement, revenue sharing is defined, with incentives for the operators and committees.
- *Maintenance Fund*
  The committees are encouraged to save their share in a maintenance fund bank account.
- *Cyber Support Group*
  A mutual support and healthy competitive culture is nurtured between the operators and committees in different stations, who are in touch via radio and email. This cyber self-help system is enhanced by annual operator training and committee chairmen conferences, and helps each station to feel less isolated and part of a larger whole.
- *On-air technical support*
  Operators can receive on-air technical support over voice radio on the PFnet frequencies if they have minor technical problems.
- *Local Experts involved*
  "Expert" local resources are identified, i.e. expatriate bible translators, graduates living nearby, etc, and these are involved in the daily management of the stations, with incentives (usually an email account).
- *Champions identified*
  "Champions", with email awareness and immediate needs for email communication are identified in the local community and trained to use the email. Others follow their peers by example.
- *Trusted supplier relationships*
  Building good relationships with suppliers.
- *Appropriate technical specification*
  Choosing equipment which is flexible and which can be repaired (i.e. reconditioned Toshiba laptops which have replaceable HDDs, keyboards, etc).

- *User-friendly systems*
  Simple but user friendly email client with simple modem connection (as opposed to generic clients with intermediary software).
- *Centralised backstopping*
  Constant daily support and guidance from PFnet Base.

To maintain the network, PFnet needs to increase it's technical and revenue base. The revenue base is almost entirely founded on the Internet Café, which although experiencing a very high demand (close to maximum capacity), is unable to expand without significant injection of funds. The current demand indicates that a doubling in size could be justified. This would increase the revenues enough to support the key staff required to maintain the operations.

Gender Strategy

The project is creating professional opportunities for women. The rural station operators, who are identified by the committees, are often women with some secretarial experience. PFnet provides training and skills upgrading including training as trainers for the 0perators, who are developed into IT professionals who can pass on their skills. PFnet also actively shares development vacancy notices with rural communities

The facilities provide income-generating opportunities for women, who can offer their communities secretarial services.

PFnet provides networking and ICT capacity building for identified women's groups such as the National Council of Women, the Family Support Group, Mother's Union, and others. This allows their activities to have greater penetration of rural areas, and PFnet can mobilise the rural station committees to raise awareness, conduct rights education workshops, etc.

The Mother's Union is an interesting example. Culturally appropriate and very strong at village level, the Mothers Union provides a channel for women to influence policy making at provincial level where the other governance systems such as the official provincial government, chief's councils and church are often almost totally male-dominated. Capacity building of key persons and access to communications and information would help enable women to participate in governance.

PFnet works through committees. These committees can be mobilised for various purposes such as consulting the community on behalf of a development initiative, rights education, etc. In this way, PFnet aims to increase the reach of women's initiatives.

Indirectly, networking empowers everyone and allows rural women to air their views, access opportunities and participate more in democratic processes.

Integration of Web Portal and Rural Networking

Furthermore, a popular[1] specialised Web portal is under development by PFnet and will provide a point of entry for systematic classification and automated search for Solomon Islands rural development and peace information. A Web portal is a website serving as a focal point for information from various networked sources. PFnet will therefore build the capacity of the Ministry of Provincial Government and Rural Development to maintain this portal as a public service. The project will also provide training to information providers having full Internet access for Web-based information dissemination and Internet search.

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[1] Nearly 11,000 sessions (visits) and 36,000 page views (hits) were recorded for October 2002

The portal will be developed from the already information-rich PFnet web site[2] has already attracted substantial recognition and content from many partners.

Although the rural stations will initially not be able to browse the Internet directly, this Web portal is very much an integrated component of PFnet with PFnet core staff serving as a human interface between the web site and the remote information stakeholders. For instance, a referral system is used to request Web-based information from the Honiara-based Webmaster. The technology used to connect rural stations is capable of sending attachments including digital photos as may be necessary. Already, news is flowing two ways to and from the portal. The Web Editor compiles news reports from the portal web site and distributes tem by email to the remote stations on a daily basis. This will be possible with other data than news; The project will identify and train the key information providers/coordinators in each sector how to access relevant online information and circulate it to their rural stakeholders using plain email, newsletters, mailing lists, etc. Linkages will be created to ensure these relevant information and links will be placed on the web site.

Thus, these human interfaces, initially under the guidance of PFnet, will enable rural data to be collected for the portal. PFnet will also burn regular CD-ROM copies of the Portal web site and send them to the stations.

e-Citizen Intiative

In the interest of peace building PFnet aims to build up it's own capacity to generate news and further develop the web site as the main portal for independent grassroots news and trusted information. PFnet already emails "PFnet news reports" to rural stations three times a week, increasingly with it's own news as well as international news (requested by communities). These are made available for sale at a nominal cost as a substitute for newspapers, which cannot reach the rural areas. It may also be possible to work in partnership with existing newspapers to provide additional coverage.

To promote good governance PFnet aims to develop a public web forum for online debate and a way to enable and encourage citizens to participate more in government and democratic processes. This might include participatory policy making, with citizen *and government* proposals being debated online. This may be a remote objective at the current time of crisis and will require building bridges between the government and the citizen, with awareness raising and training, but the objective is a noble one.

In facilitating consultation of rural communities, PFnet is already helping the UNDP's Constitutional Reform Project get feedback from rural people. This is done through the email system with the PFnet management committees being mobilised to raise awareness and help participants to respond.

PFnet may assist in promoting human rights education. The Solomon Islands Office of the Human Rights Advisor has been conducting an education programme that includes a series of full page newspaper articles entitled "Lo Blong Iu, Raets Blong Iu!"(Your Law and your Rights!). The newspaper only reaches a minority of the public, due to problems in delivering to rural areas. However, PFnet is able to assist the Office to email tem to the rural stations where they can be printed and circulated, with the management committee taking an active role in awareness raising and public education.

Monitoring and Evaluation

The monitoring and evaluation (M&E) of the project is based on the explicit definitions of objectives, identifying at the outset the measurable performance indicators and their respective and detailed means of verification.

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[2] http://www.peoplefirst.net.sb

The ongoing and participatory process of monitoring will be based on the monitoring of measurable qualitative and quantitative indicators, calling upon the different groups of participants and project managers to provide regular inputs that will meet the M&E project requirements as well as the participants' own information needs. The indicators and their means of verification will include the following:

1. Benchmarking, in quantitative achievement and time, of expected project outputs. To be measured through pre-defined scales of execution and frequency for each output;
2. Quantitative assessment of expected project outputs and outcomes. To be measured on completion of the project against baseline study measuring quantitative indicators at the project outset;
3. Qualitative assessment of expected project outputs and outcomes. To be measured on completion of the project against baseline study measuring quantitative indicators at the project outset;
4. Quantitative assessment of performance indicators (email stations, Internet Café) from research interview programs, daily segregated traffic reports from each station, surveys, financial data and other means.

Results

Rural Community Email Network
Sasamungga is one of the largest island in Solomon Islands. It is ethnically Melanesian and in religious grouping it is almost entirely Christian. The total population in 1999 was 20,008[3]. Typically of high islands in the Solomons (except for Malaita), Choiseul is uninhabited in the interior, with only scattered settlements and villages along the coast. There are few roads and transport is mainly by dugout canoe and fibreglass canoe with outboard motors. Relative to income, the cost of transportation is very high. The nearest telephones are a 3-hour outboard canoe ride away, costing more than a teacher's fortnightly monthly wage in petrol. A mobile satellite telephone was situated there for a while, but at a cost of USD 2-3 per minute this proved unsustainable and unaffordable for the majority. Most of the population are subsistence farmers.

The total population of the Sasamungga, which is made up of five villages along a 6km coastal road, is about 2000. The sample of 120 persons selected at random (although with set targets on gender and age groups) represents about 6% of the total. Sasamungga email station is perhaps the most typical of the PFnet email stations. It was the first station and has been host to most of the pilots and initiatives that have taken place. It is not surprising that it is the most successful in terms of the degree with which the community have adopted the new technology. The graph below shows how the traffic has built steadily and is continuing to grow, and the revenues are holding at a level whereby a surplus is collected each month (the threshold is $300 p.m.).

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[3] Choiseul Province Development Profile, 2001, produced for the Ministry of Provincial Government and Rural Development by the Solomon Islands Development Administration and Participatory Planning Programme with assistance from the United Nations Development Programme. Downloadable from www.peoplefirst.net.sb/Choiseul/Choiseul.asp

Sasamungga - Emails sent and received

Sasamungga - Revenues (SBD)
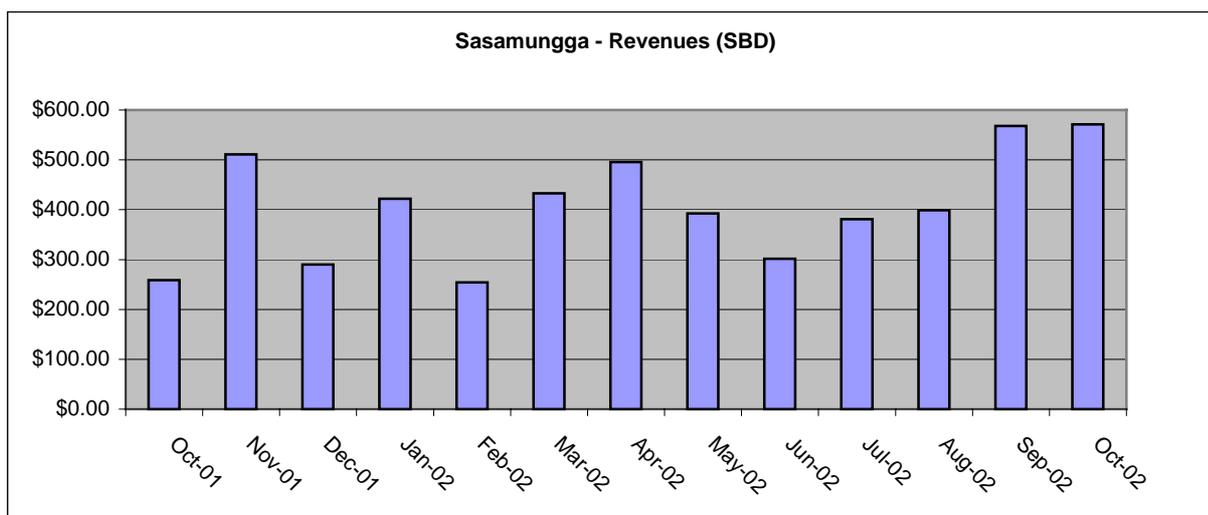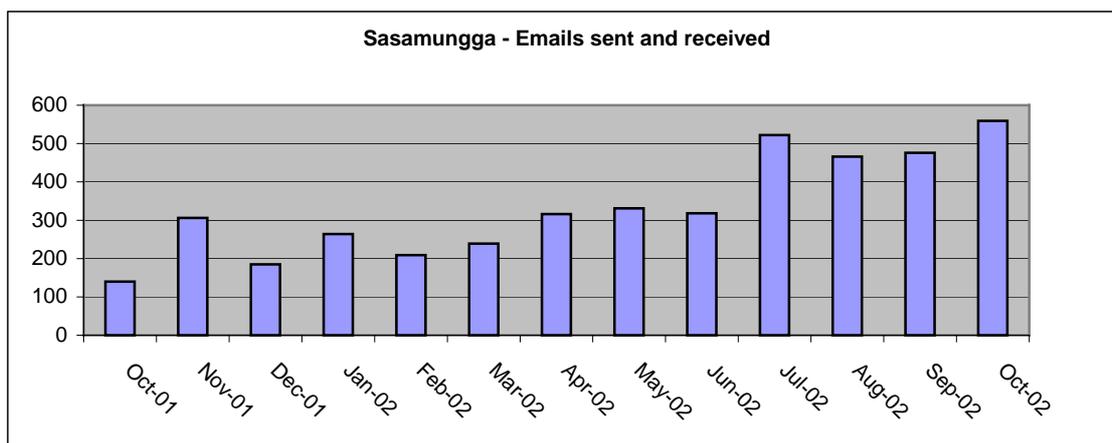
Research Interviews

A research interview programme[4] was carried out in Sasamungga Village, Choiseul, site of the first PFnet rural email station (est. Oct 2001) between July and August 2002. The purpose of the research interviews was to collect baseline data on the impacts of ICTs on a representative rural community and their readiness to embrace ICTs for educational purposes. The sample size was 120 people covering all groups. The sample was randomly selected from the five main villages that make up Sasamunga Community. The sample was deemed to be representative of gender, age, and education level. These results, taken after 8 months of operation, show firstly the exposure that the community have to IT, and secondly, the usage patterns and user profiles for the email station itself.

Exposure To Information Technology

- 14 (12% of the total sample) had used computers
- 43% were women
- 64% had only reached junior secondary education or lower
- The IT experience was gained during employment, training courses or introduction by peers, mostly in the large towns of Honiara or Gizo

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[4] The results here are taken from the final report to Pan Asia Networking project S006 (Asia Pacific Development Program), project title "A Distance Learning Application of the Solomon Islands People First Network", September 2002. The full report is downloadable at www.peoplefirst.net.sb/general/distance_learning.htm

With regards to respondents with computing experience more than 10% had used computers. Most of these had only primary or junior secondary education. It shows that access to Information Technology (IT) is not the privilege of an elite and at the same time it shows that many people are ready for IT in the rural areas.

Type of computing experience

- Word processing (50% of those who had IT experience)
- Games (28%)
- Email and Internet (21%)
- Spreadsheets (15%)
- Archiving (15%)
- Presentation, PowerPoint (7%)

Word-processing seems to be the common programme used by 50% of those with computing experience. Others (28%) mainly use computers for games and the remainder used other programmes. This indicates that people are already aware of the potentials provided by IT.

Level of computing experience

- Skilled (14% of those with IT experience)
- Entry level - some experience (28%)
- Entry level - minimal experience (35%)
- Just introduced to it (28%)

Only two people (of 120) were experienced in office computing. One is the email station operator and the other is "out of practice". Most of the rest have some experience of typing or word processing while some just use it for games

Reasons why others have no IT training

- 88% have no IT training
- No access to computers
- Don't know how to use them
- Not well educated
- When young, there were no computers
- Afraid that people's brains will atrophy if they rely on computers

The obvious reason why 88% have no IT training is predominantly due to lack of access to computers. People who live in rural areas have no access to the technology thus do not know how to use it. At the same time many assume it as only appropriate for urban centres. This implies that the technology is yet to penetrate many rural settings in the Solomon Islands. Couple with this non-availability of training is another factor. Interestingly, 3 people indicated fear of the technology

What will help them to use Computers

- Basic Training (51% of responses)
- Access, a computing facility (18%)
- Computing as school subject (2%)
- No response/don't know (29%)

To help them use computers, 51% of respondents need basic training and 18% indicated that access to a computing facility would enable them to use computers. Two people have identified including computing in the school syllabus. Several suggested having a computing facility at the school

Computer skills people want training in

- Word processing (52% of responses)
- Email (21%)
- Basic computing (8%)
- Internet (6%)
- Spread sheets (6%)
- Other: Introduction to hardware, archiving, games, digital photographs

Predominantly, more than 50% of responses want training on word processing and 21% want training on how to us email. The data indicates that there are ranges of skills that people want training in.

Percentage of respondents using the PFnet email station

Several members of family	**32** (27% of sample)
The Interviewees only	**14** (12%)
Other family members	**30** (25%)
No-one in family	**44** (37%)

Sixty four percent of respondents had someone in the family who used the PFnet email station. Thirty eight percent of this random sample stated that they use the email station themselves. This demonstrates that the community to effectively and cheaply communicate has utilized the PFnet email station.

Number of email station users by education level and gender

Education Level	Female	**Male**	**Total**
Primary	5	8	**13** (sample size 47)
Jr. Secondary	4	7	**11** (32)
Sr. Secondary	2	2	**4** (20)
College	9	6	**15** (18)
University	1	2	**3** (3)

Usage by gender is fairly balanced. Usage by education level is fairly even, people of all educational levels use the station, but proportionally to the sample, fewer people with primary and secondary use it (see the sample size in brackets). Nearly all the tertiary educated people use it

Number of email station users by age group and gender

Age Group	Female	Male	**Total**
< 20	2	2	**4** (of sample 27)
20-29	9	5	**14** (44)
30-39	3	7	**10** (19)
40-49	5	10	**15** (24)
50+	2	1	**3** (6)

In terms of how often people use the email station, again there is a fairly even spread across the age groups. Looking at the sample size in brackets, it is clear that older people have relatively more confidence in using the email because they have more reason to use it. Proportionately, older women use it less than older men, but women often ask their husbands to do their communicating.

The graph shows that there are two peaks. These are occasional and regular users. Occasional users have used the station an average of 5 times while regular users use the station on average once a week

Reasons respondents quoted for why they do not use PFnet email

- No need/no-one to contact (61%)
- No message to send (14%)
- Do not understand how to (9%)
- People I want to email don't have access (4%)
- Husband sends them (4%)
- Other family member sends them (1%)
- Not confidential (Operator types) (1%)
- Need training to self type (1%)
- Use other means (radio / sat phone) (1%)

The main reason people do not use PFnet email is that they perceive no need to do so, or only have people to contact in areas without access. Only 9% of the 74 respondents who did not use the email station did not know how to do so. This demonstrates that the email technology and the community management of it are accessible to most people. The monitoring data from all the networked email stations shows that most users (about 70-80%) are male. However, the interviews reveal that in fact many women ask their husbands or other family members to send their messages for them.

Respondents main purpose quoted for sending email messages

- Family correspondence (47%)
- Education (25%)
- Business (9%)
- Health (6%)
- Development (5%)
- Church (3%)
- Other (5%)

One of the main needs why people send email messages is for family correspondence. This is mainly contacting family in Honiara, Gizo and other places of access including PFnet stations. They also contact family especially

students overseas (some rural people have managed to communicate with long lost relatives within hours of email station opening, after years of no contact).

Secondly, another reason for use is education. This is mainly for arranging school fees for themselves and family members. Teachers use it to contact the Ministry of education and other professional institutions. The Distance learning students use it to communicate with tutors and sending assignments.

Thirdly, they use it for business purposes ordering stock from suppliers as most village storeowners make orders by email. Furthermore, they use it for health reasons such as ordering medical supplies and contacting Ministry of Health.

Perceived personal benefits from PFnet quoted by respondents

- I can send messages quickly (63%)
- I can send messages cheaply (51%)
- I can send messages quickly and cheaply (39%)
- Easy to pursue business dealings, make orders and contact suppliers, and locate new suppliers (11%)
- Gives me access to education services and helps in school admin
- Gives me health security as it helps the hospital (17%)
- Helps me coordinate my development project
- Helps me to send urgent messages
- Gives me access to international news

The main benefit is that it allows affordable and efficient communication. Many people saw the indirect benefits, such as health security - it helps them as it helps the essential services. The hospital uses email to make orders for drugs and other supplies. People saw the PFnet as more than communications as some pointed out that it provides information and news, as well as communications.

Perceived community benefits from PFnet quoted by respondents

- Fast and affordable communications
- Community is better informed
- Supports local businesses by improving efficiency
- Improves access to education and quality of education
- Supports local economy
- Supports health and medical services
- Religious groups can better coordinate activities
- Gives community a voice to lobby decision makers

The email station has benefited the whole community in a range of ways. It enables community to be better informed, through access to trusted current news and information. It supports the local economy by reducing costs and the need to travel to town. It supports health services by making it easier to order supplies, drugs and make emergency calls, therefore it improves health security. It empowers the community by giving them a way to better provide input into public debates and to influence decision makers.

The above responses are rephrased, however all these benefits were identified by the interviewees themselves.

Information and communications needs respondents quoted as not yet met by PFnet

- None (over 90%)
- Need to contact people in other rural areas where there is as yet no email access (5%)
- Full Internet access (2%)
- Contact details of overseas business suppliers

- Information on Charitable organisations
- More overseas news and current affairs

Over 90% of respondents have no information and communication needs. This indicates that the current services provided by PFnet are sufficient in meeting the current demand. Several respondents (5%) mentioned the need to communicate with people in other rural places. This indicates demand for more rural stations

General Comments by Respondents

- The school computing facility should be continued after the APDIP project and students
- More computers should be added
- School leavers (drop-outs) should be given computer training
- Demand for IT training is high in the community

The interviews have shown a high demand for Information Technology (IT) training. Both the Distance Learning trials and the experience of PFnet in setting up community-run email stations have demonstrated the readiness and capacity of people of all educational standards to successfully adopt these new skills and technologies.

Supporting Information

The following supporting information is available online:

- About PFnet: www.peoplefirst.net.sb/General/PFnet.htm
- Latest News about PFnet: www.peoplefirst.net.sb/General/PFnet_Update.htm
- Progress reports and statistics: www.peoplefirst.net.sb/General/PFnet_stats.htm
- PFnet Archive: http://www.peoplefirst.net.sb/General/Archive.htm
- In the archive you can download:
  - PFnet Brochure
  - PFnet Project Document
  - Deployment reports report of the setting up of a rural email stations
  - Final report on the PAN/APDIP-PFnet distance learning project
- Photographs of PFnet Community Email Stations
  http://www.peoplefirst.net.sb/Library/All_Library.asp?keyword=pfnet
- Development Profiles of Solomon Islands, produced for the Solomon Islands Rural Development Division of the Ministry of Provincial Government and Rural Development by the Solomon Islands Development Administration and Participatory Planning Programme with assistance from the United Nations Development Programme.

  Downloadable from http://www.peoplefirst.net.sb/General/Provinces.htm

- Solomon Islands human Development Report 2002 http://www.peoplefirst.net.sb/SIHDR/default.asp

Contact information