

ICT Hubs for Rapid Adoption of Samoa Pathway and UN Post 2015 Agenda

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Abstract

The Samoa Pathway document highlights the importance of Capacity Building in Section 109 and clearly specifies the role of ICT in Paragraph (Section 109): “To establish national and regional information and communications technology (ICT) platforms and information dissemination hubs in small island developing States to facilitate information exchange and cooperation, building on existing information and communication platforms, as appropriate;”. The objective of ICT4SIDS Partnership (www.ict4sids.com) is to use these ICT hubs to accelerate the UN Post 2015 Agenda through ICT. This short white paper presents a blueprint of how ICT hubs at rural, regional and national levels for health, education, public safety, public welfare, and other vital sectors can be rapidly planned and deployed by using a computer aided planning platform.

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What are the ICT Hubs and How Do They Help

The ICT hubs envisioned by the Samoa Pathway represent the gateways for governments and individuals alike to access the world on an interdependency basis: both receiving value as well as contributing value to the world community. They provide the following SDG (Sustainable Development Goals) related services at rural, regional and national levels:

- Telemedicine for remote populations
- e-Agriculture for farmers in remote areas
- Fishery Distribution for the islands
- Tourism services for economic growth
- Distance Learning Centers for adult education
- Disaster Management Services for affected areas
- Business Intelligence (BI) for decision makers

These, and other hubs can provide information dissemination, decision support and mobile app services to underserved populations via CAMSS (Cloud, Analytics, Mobility Social, Security) solutions which are ideal for underserved populations. They should be strategically located and interconnected to each other for maximum impact. For example, Figure 1 shows a conceptual view where several rural and regional hubs that support health and human services are interconnected to a larger National hub that consolidates and disseminates vital information to other users. The hubs may be combined into highly effective community centers for remote villages. The hubs may be physical (e.g., rented rooms in a school) or completely virtual and located somewhere in the “Cloud”. These physical hubs in remote areas can be located closer to the Internet Backbone and thus serve nearby populations that have no connectivity.

Examples of ICT hubs are eSeva Centers in India that allow rural populations to pay bills and buy bus tickets, Telemedicine and Telenursing centers in Africa, and Community Centers for adult education by Faith-based organizations. In addition, several “Digital Hubs” are emerging in developing countries to narrow the digital gap. An interesting example is the “internet on a bike” that allows families in villages to have skype chats with their relatives overseas. See the article “Internet on Bicycle” -- <http://www.thehindu.com/news/international/internet-rolls-into-bangladesh-villages-on-a-bicycle/article4057457.ece>.



Figure 1: Conceptual View of ICT Hubs

What are the Examples of ICT Hubs Pilot Projects

We are currently using a computer aided planning methodology, described later, for quick design and deployment of about a dozen ICT Hubs at rural, regional and national levels in 7 countries. Examples of these hubs are:

- Three regional Telemedicine Hubs for providing healthcare to remote populations
- A regional Education Hub for educating high school teachers in ICT
- A national Anti Corruption Hub to fight corruption

- Five rural and regional Community Centers for health, education and agriculture
- A national Strategic Intelligence Center for decision support at national level
- A regional Hub for health and human services for the physically handicapped

Figure 2 shows a conceptual view of the ICT Hubs Pilot Projects in progress at present. The prototype consists of the following components:

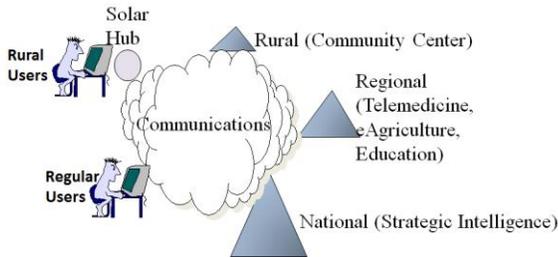


Figure 2: ICT Hubs Pilot Projects Initiative

- Sample hubs, as shown, that provide health, education, public safety and public welfare resources are located on the ICT4SIDS site. Each hub is supported by a portal.
- At least two rural user sites, at least one in a really remote area, powered by a Solar Kit that can access the remote sample Hubs
- The user accesses the sample Hubs for information on different topics and then downloads a few mobile apps and/or dashboards of high value and makes decisions
- The hub portals collaborate and exchange vital information with each other for economic, educational and healthcare growth in different regions.

- How to address the funding, business partnerships and capacity building issues
- How to reduce high failure rates of ICT projects like this (up to 80% in developing countries)

To address these and other related challenges, we use the following computer aided methodology, displayed in Figure 3:

- A Pilot Project is initiated by a SIDS and a Point of Contact (POC) is appointed for the Project
- The pilot project concentrates on one or two hubs, duration is up to 6 months at minimal/no cost
- A computer aided planning tool conducts an extensive feasibility study that specifically addresses the aforementioned challenges
- The on-line feasibility study can be completed within a day and produces an executive summary, a funding proposal and a sample portal for the selected Hub(s)
- The results of the feasibility study are published in a Demo and Donor Portal for attracting funding sources, business partners and system builders. The produced sample portal can be quickly customized and extended to support a fully operational hub within a few days. .

The objective of this computer aided methodology is to do more (provide more services to more customers) with less (less time, money and trained staff). Specifically, this methodology can save \$50K to \$70K per Hub, plus time (almost a year) and significantly reduce retries, errors and failures. These improvements reduce ICT risk, and therefore can attract greater participation by the private sector, which is key to accelerating the rate of value for SIDS organizations and individuals.

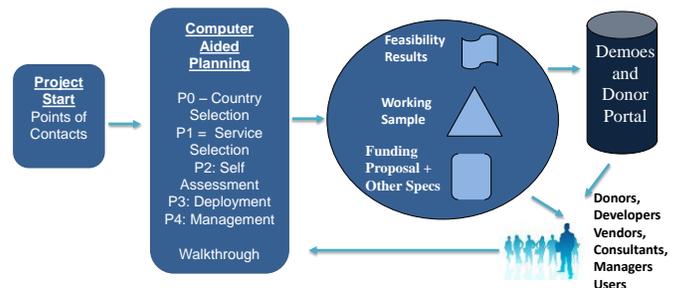


Figure 3: Methodology to Produce a Sample Hub

Exhibit1: Example of a Typical Rural ICT Hub

- A physical site (a small building around a bus stop, gas station or rented rooms in a high school) that are close to the Internet Backbone.
- A solar powered micro grid for supplying power and communication capabilities through a satellite link with remote users
- Basic capabilities to support Skype and Microsoft Office
- A “Computer Room” with a small LAN of 10-12 Laptops/Desktops for access to health, education, agriculture and other vital information systems
- Rental of smart phones or tablets (Android, Microsoft, iOS devices) for Mobile Apps
- A manager of the Hub, usually a high school teacher who works on a part-time basis

How Can the Feasibility Study be Done in a Day

Planning, development and management of ICT Hubs is a non-trivial task that presents the following challenges:

- Where to locate the Hub
- What type of service to provide for the area
- What type of energy and ICT infrastructure will be needed especially in the remote areas
- What are the national, regional and local security, privacy and cultural policy issues

How to Get Started

We are working on projects of high value to the Islands by using the following simple approach:

- We ask the customers to identify a point of contact (POC) who will lead the Pilot Project
- POC identifies projects of high value (i.e., one or two rural, regional or national ICT Hubs).
- We initiate a 6 month joint pilot project-- no money exchanges hands for the duration of the pilot project,
- We use the methodology to conduct the feasibility study and produce funding proposals and working prototypes of the needed Hubs.
- We work with the POC to identify the donors, business partners, and suitable vendors.