ENCOURAGING INTERNET PUBLIC POLICY DEVELOPMENT AND CAPACITY BUILDING IN DEVELOPING COUNTRIES: LESSONS FROM THE FLOSS COMMUNITY

Chengetai Masango

The Background Report of the Working Group on Internet Governance (WGIG) stated "people from the developing world face a myriad of barriers when it comes to participating in the global Internet policy debate".[1] This chapter discusses some of the barriers that participants in developing countries face, and looks at the Free/Libre Open Source Software (FLOSS) movement to see if any of their experiences can be used in the effort to build up the capacity of people in developing countries to contribute and participate in the global Internet policy debate.

Over the past couple of years, various studies carried out under the Open Regional Dialogue on Internet Governance[2] and the Louder Voices project[3] have concluded that there is a need for sustainable capacity building in developing countries in order to strengthen their participation in the international ICT decision-making process. As noted in the WGIG Background Report, some of the issues include problems of access to information, prohibitive travel expenses associated with the attendance of meetings, and a general lack of collaboration among stakeholders within their regions.

One way to tackle such problems is to look at successful examples of distributed collaboration and see if lessons learnt there cannot be transplanted into the global policy space. One such place is the FLOSS environment, the products of which have been the object of much discussion in the information and communication technologies for development (ICT4D) arena. However, little attention has been paid within policy-making arenas to the ways the FLOSS environment organizes and creates these products.

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[1] Background Report of the Working Group on Internet Governance (Geneva: United Nations, 2005), <http://www.itu.int/wsis/wgig/docs/wgig-background-report.pdf>

[2] The Open Regional Dialogue on Internet Governance initiated in October 2004 by United Nations Development Program's Asia-Pacific Development Information Program (UNDP-APDIP).

[3] Panos, G8 Dot Force and DFID initiated survey and recommendation for actions to be taken by developing countries and international agencies to promote more effective, participation in decision-making around Information Communication Technologies <http://www.panos.org.uk/images/books/Louder%20Voices.pdf>

FLOSS is a broad term used to describe software developed and released under an "open source" license that allows for the inspection, modification and redistribution of the software's source without charge. The 'free' in FLOSS is used to encompass the Free Software movement, which also release software along the same terms as the Open Source Software movement, but with one important distinction: the resulting works *must* be made available under the same non-restrictive license terms. The use of the Spanish word 'Libre' was included to emphasize "freedom from entanglements," in contrast with the English word *free*, which unintentionally stresses the "pay no money" meaning of the word.

Community dynamics

FLOSS is usually developed by programmers who work in online communities for no remuneration. However, there is a growing trend toward big company proprietary software sponsorship of FLOSS projects 'for the common good', e.g. by such firms as IBM and Novell. FLOSS members interact primarily or exclusively via computer-mediated-communications with infrequent face to face meetings. Project members coordinate their activities primarily through private e-mail, mailing lists, bulletin boards and Internet relay chat rooms.

FLOSS communities are distributed, loosely coupled communities kept together by strong common values[4]. They generally have an open membership policy, meaning that anybody demonstrating initiative can join and participate in the community to the level that suits them. The more a member participates and contributes, the more they move into the center of the community. FLOSS groups do not have a formalized organizational structure; they are frequently described using a "bazaar vs. the cathedral" metaphor[5]. FLOSS developers autonomously decide schedule and contribution modes for software development in a manner similar to merchants in a bazaar, thereby dismissing the need for traditional forms of central coordination---the master architect of a cathedral. The bazaar metaphor does have its limits though, as it eliminates aspects of the FLOSS development process, such as the role of the project leader and the existence of de-facto hierarchies[6].

FLOSS developers are mostly volunteers, with varying interests and levels of expertise. Each member finds their own level of social and technological interaction within the community, which determines the roles and tasks they take on. Any individual who has an idea or feature request can either articulate it through the public forums such as mailing lists, chat rooms or

[4] J. Ljungberg, Open Source Movements as a Model for Organizing. Eighth European Conference on Information Systems, Vienna, 2000.

[5] E. S. Raymond, "A Brief History of Hackerdom", in C. DiBona, S. Ockman and M. Stone's ed., FLOSS's: Voices from the FLOSS Revolution. Sebastopol, CA, O'Reilly & Associates, 1999.

[6] N. Bezroukov, "A Second Look at the Cathedral and the Bazaar," First Monday 4 (12): 1999.

online project forms. Once a proposal for improvement of enhancement has been provided, it is up for discussion by the larger group. A subset of the members then decides whether or not to include it in the product.

The WGIG Background Report found that FLOSS "does not present an Internet governance issue in terms of the need for an analysis of 'governance mechanisms' and an assessment of global coordination." But it also suggested that several of FLOSS' underlying principles could be important in the development context.

Open standards

The first one of these principles is the adherence to open standards. According to the ePolicy Group's 'The Roadmap for Open ICT Ecosystems[7]', an open standard is one that consists of six elements. These are: it "cannot be controlled by any single person or entity with any vested interests"; the further evolution and management of the standard is carried out as a "transparent process"; the standards are "platform-independent, vendor-neutral and usable for multiple implementations"; as well as being "openly published" and "available royalty free or at minimal cost." The final criterion is that the standard has to be "approved through due process by rough consensus among participants."

Open standards in the development context signify a freedom of choice among technologies. This enables users to avoid the perils of vender 'lock in,' where a customer is dependent on a vendor for products and services and cannot switch vendors without substantial switching costs, such as converting data files, rewriting APIs, etc. Lock in also creates significant barriers to entry for local companies or small startups whose potential clientele are beholden to particular systems. Open standards can go a long way in leveling the playing field thereby encouraging innovation at a local level.

At the user level, open standards can smooth the path to knowledge sharing and collaboration as people from different regions and institutions can transparently access each other's information given the ability to open each other's documents even though they may have used dissimilar applications in the creation of the information. Open standards also mitigate the risk of data loss due to makers of propriety formats going out of business.

[7] "The Roadmap for Open ICT Ecosystems," <http://cyber.law.harvard.edu/epolicy/roadmap.pdf>

Knowledge sharing and online collaboration

As is also noted in the WGIG Report, another barrier to the full participation of people from developing countries in the global ICT policy debate is a lack of knowledge of the issues. A way that this can be addressed is through online collaboration and knowledge sharing.

Though far from approaching adequacy, great strides have been made in providing people in developing countries with access to ICTs through programs such as rural telecentres, information kiosks etc. What has lagged behind is the creation of information or knowledge that is understandable to the constituents. Most of these projects embrace a top down approach to knowledge sharing instead of a participatory approach. The information to be accessed is mostly compiled and created by people who, though knowledgeable in the given area, are far removed from the local situations in question. It therefore often ends up in a form unpalatable for local consumption. A participatory approach to knowledge creation and dissemination offers a more successful way. For data to become useful information it has to be relevant to the context of the user, for this to occur the user must become an active participant in the creation of that knowledge, giving them a chance to add value to the information and shifting the locus of control more towards the consumers of the information.

Creating local content has been a challenge, but given the space and with the right initiative communities in developing countries can become active participants in the creation of their own knowledge. An example that can be followed from the FLOSS world is wikipedia[8], which is a web based free content encyclopedia written collaboratively by online volunteers, anybody can log on write or correct an article in the encyclopedia. Information here is written and distributed following a collaborative, consensus based approach. Since its formation in 2001, it has grown exponentially[9] to become one of the most popular reference sites on the web. At the moment there are one hundred language editions available and anybody with access to the Internet can start their own language edition if one does not already exist.

Access to ICT policy professionals and staff is another difficulty that participants face in developing countries. These individuals are often physically located far away in capitals, and cannot readily travel and offer their services to the communities or institutions that need help. One way to overcoming this barrier is to enlist virtual volunteers who can provide help. An example of such a program is the United Nations Online Volunteers[10].

[8] Wikipedia <htttp://wikipedia.org/>

[9] Wikipedia growth statistics <http://en.wikipedia.org/wiki/Image:Wikipedia_growth.png>

[10] United Nations Online Volunteering <http://www.onlinevolunteering.org/>

Stakeholders in the international policy arena from developing countries find the cost of attending international meetings prohibitive. One way of overcoming this barrier, used extensible in the FLOSS world, is by expanding face-to-face meetings to incorporate on line collaboration tools. For instance, the WGIG successfully used live web casts and real time transcription services in some of its meetings to enable remote participants to follow what was going on. These techniques could be expanded to allow delegates to such meetings to use two-way synchronous meetings tools such as instant messaging, video conferencing, or Skype-like Voice over IP tools. In this manner delegates could be connected to their constituents back home in real time, with constituents transmitting their views or suggestions in real time to their representatives who could express them in the meeting instead of waiting for the delegate to come back and physically consult with his constituents. In addition to making such international meetings more inclusive, these capabilities could improve the efficiency of policy-making institutions by reducing the turn around time for resolutions of proposals to be reached. FLOSS groups have leveraged these techniques for years, when they hold face-to-face meetings, there is always a virtual component to it to allow their dispersed members to participate and remain in the loop.

Localization

"Access to information is the base of all development" but it is difficult to gain access to that information through a computer if you do not understand the language the instructions and the labels the buttons and menus are written in. In order to encourage the uptake of ICT in developing countries, some localization has to take place.

According to the Localization Industry Standards Association, localization is a process that involves: "taking a product and making it linguistically and culturally appropriate to the target locale (country/region and language) where it will be used and sold."[11] With computer software this means customizing of the Graphical User Interfaces, front ends of programs and system messages into interfaces that are meaningful and comprehensible to local users.

Localization significantly reduces the amount of training necessary to empower end-users to use a computer system, as they do not have to know a foreign language. Some of the other benefits include:

- Opening the way for the development of computer systems for a country's national, provincial and district level administration that will allow civil servants to work entirely in the local language and manage databases of local language names and data;
- Allowing citizens to communicate through e-mail in their own language;

[11] Localization Industry Standards Association <http://www.lisa.org/>

- Empowering local software development companies to work for the administration, the public sector and private companies;
- Reducing the reliance on imports. Local programmers gain expertise and experience;
- Promoting local control over software appearance and functionality;
- Allowing the creation for new local technical standards and educational opportunities;
- Establishing a local software industry;
- Bringing the locus of control to the region instead of being outside its boarders, which in turn brings about a feeling of ownership and control, which encourages participation; and
- Overcoming the problem that it is difficult for foreigners to do localization, since they do not normally have an intuitive feel for the local language, which can be compromised.

Examples of localization projects can be seen in the WGIG Background Report (the Khmer example) and the FLOSS Localization Primer[12], which has example of localization projects in the Asia pacific region.

Conclusion

As can be seen from the above, there are several techniques that we can borrow from the FLOSS world, which may enhance the capacity for people in the developing countries to participate in the global ICT policy space. The lessons learnt from the FLOSS movement could not only increase collaboration but also make the participants feel that they have more of a stake in the process. Of course, we still must contend with basic issues of infrastructure and access, which are far from adequate in many countries. Additionally, these techniques require that participants be proactive in acquiring the needed skills to use these tools, imitating information-seeking activities and contributing valuable knowledge. However, with this effort and an awareness of the possibilities, much can be accomplished.

[12] The Asia Pacific Development Information Program, Localization Primer <http://www.iosn.net/l10n/foss-localization-primer/>