



### Inside Story

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*APDIP e-Notes present an analytical overview of specific issues related to information and communication technologies for sustainable human development in the Asia-Pacific region. APDIP e-Notes are developed by the United Nations Development Programme's Asia-Pacific Development Information Programme based at the UNDP Regional Centre in Bangkok, Thailand. For more information, visit <http://www.apdip.net> or contact [info@apdip.net](mailto:info@apdip.net)*

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### Summary

*Communities of practice (CoPs) bring together like-minded individuals and/or organizations with a common purpose. They foster learning through information sharing.*

*Content and interactions are at the heart of any CoP. It is important that the coordinator and/or facilitator of the community keep members informed about relevant content and activities happening within the specific area of interest. At the same time, there needs to be multiple opportunities for members to contribute and share information and experiences in the community.*

*This APDIP e-Note describes how one CoP, the International Open Source Network (IOSN) is focused on promoting the strategic use of free/open source software (FOSS) solutions for sustainable human development. It discusses the approaches, tools and technologies being used by IOSN to build a participatory, sustainable and ever-expanding CoP in an online environment. It explores how IOSN: (i) expands its network to promote FOSS solutions using electronic mailing lists and really simple syndication (RSS) feeds; (ii) encourages members to participate in the community through blogs, forums, polls and wikis; and (iii) develops a culture of sharing among members.*

*This APDIP e-Note is an essential read for those planning to establish or expand a CoP.*

### Communities of Practice

#### What is a CoP and why is it important?

The term CoP describes a group of people interested in or working on a specific area or "practice".

CoPs are usually self-selected and voluntary groups committed to:<sup>1</sup>

- understanding their potential
- clarifying their purpose
- developing their capacity and effectiveness
- sharing and expanding the knowledge base of the specific area of interest

A CoP serves to nurture, share and sustain knowledge as a means to achieve greater effectiveness in meeting the objectives of individuals, organizations and communities. Community cohesion is based on commitment and identification with the expertise that form the basis of the practice. A CoP lasts as long as members in the group have an interest in improving the practice and maintaining the community.

The purpose of any CoP varies but in general it includes the following:<sup>2</sup>

- foster learning
- stimulate interaction
- create new knowledge
- promote awareness among new members
- develop common understandings
- identify and shares good methodologies, tools, projects, etc.
- build a network of experts in the specific area of interest

<sup>1</sup> UNDP Bratislava Regional Centre. 2004. *Establishing a Community of Practice: A resource handbook* (draft).

<sup>2</sup> [http://europeandcis.undp.org/?wspc=comm\\_practice](http://europeandcis.undp.org/?wspc=comm_practice)

<sup>2</sup> Ibid.

## How to build a CoP?

The development of a CoP can be divided into a five-stage process:<sup>3</sup>

1. *Conceptualize CoP*: identify a focus area for the CoP based on an assessment of needs.
2. *Define objectives*: bring key stakeholders together to define objectives, and agree on an action plan and the working modalities for the CoP.
3. *Begin CoP activities*: the coordinator(s) and/or facilitator(s) expand the CoP and encourage contributions and discussions.
4. *CoP consolidates*: CoP members understand the benefits of working together and move towards more active collaboration.
5. *CoP matures and expands*: CoP members become coordinators and/or facilitators themselves, and engage in innovations and knowledge creation; CoP expands as its contributions to the focus area are widely disseminated.

Content and interactions are at the heart of any CoP. UNDP's experience has demonstrated that a key ingredient for a well-functioning CoP is to have subject-matter specialist(s) in the CoP's focus area coordinate and facilitate content development and interactions.<sup>4</sup> Coordinators and/or facilitators play key roles in providing multiple opportunities for members to contribute and share information and experiences; keeping members informed by flagging current issues and upcoming activities; and maintaining quality of content.

The rapid advancement of Internet-based networking technologies has resulted in new forms of communities. The Internet provides convenient and flexible platforms and tools to manage content, and support groups and networks.

This *APDIP e-Note* looks at a CoP, the IOSN, and discusses the approaches, tools and technologies being used to build a participatory, sustainable and ever-expanding online FOSS community in the Asia-Pacific region.<sup>5</sup> It explores how IOSN: (i) expands its network to promote FOSS solutions using electronic mailing lists and RSS feeds; (ii) encourages members to participate in the community through blogs, forums, polls and wikis; and (iii) develops a culture of sharing among members.<sup>6</sup>

<sup>3</sup> Ibid.

<sup>4</sup> Henderson, K. 2005. "The knowledge sharing approach of the United Nations Development Programme," in *KM4D Journal*, 1(2): 19-30. <<http://www.km4dev.org/journal>>

<sup>5</sup> IOSN's evolving needs and the process of selecting appropriate platforms and tools to meet those needs are documented in, UNDP-APDIP. 2005. *Connecting Communities – The International Open Source Network: A case study*. <<http://www.apdip.net/news/iosncasestudy>>

<sup>6</sup> These three areas are identified and discussed in Pickle, T. 2003. *Practice Guide: Techniques for engaging with members*, Bristol: Sift. <<http://www.sift.co.uk/practice/tips/index.html>>

## The International Open Source Network – A Model CoP

### What is IOSN?

IOSN is an initiative of UNDP-APDIP to promote sustainable human development in the Asia-Pacific region by supporting the strategic use of FOSS solutions.<sup>7</sup>

IOSN aims to:

- raise awareness on the benefits of FOSS
- advocate for the incorporation of FOSS in national information and communication technology (ICT) policies
- strengthen human resources in using FOSS
- develop and promote a range of FOSS-related resources to meet development needs
- support FOSS initiatives and projects
- facilitate information sharing

IOSN works primarily through its web portal <<http://www.iosn.net>>. This web portal is collectively managed by a network of FOSS advocates, professionals and individuals working on or interested in FOSS issues.

### What is FOSS?

FOSS refers to computer programs that can be used, studied, modified and shared. Users can take these programs and understand how they work by reading the source code; use them for any purpose; modify them as they please; and redistribute original or modified copies for gratis or for a fee. The well-known GNU/Linux operating system is an example of FOSS. Other examples include the OpenOffice.org productivity suite and the Mozilla Firefox web browser. FOSS is an access solution for developing countries. The adoption of FOSS is an opportunity for these countries to bridge the digital divide.

### How does the IOSN web portal work?

IOSN uses the Plone content management system (CMS) to manage its web portal.<sup>8</sup> The advantage of using a CMS is that it allows coordinators/facilitators and members who may not know HTML or other web technologies to add and organize content, and manage interactions in the community. Plone itself is a FOSS application.

The IOSN web portal is arranged thematically and by country. It contains a wealth of information and knowledge, including e-Primers, training materials, country reports, and an archive of news and events.

<sup>7</sup> IOSN is supported by the International Development Research Centre of Canada.

<sup>8</sup> More information on Plone is available at <http://plone.org>

Under each theme an e-Primer on FOSS has or is being developed. These e-Primers form the basis for thematic discussions, comments and news updates, and provide ideas for collaborative projects. In order to increase accessibility, the IOSN community members have, for example, voluntarily translated the e-Primer, *FOSS: A General Introduction* to Vietnamese.<sup>9</sup> The Spanish and Portuguese translations of all FOSS e-Primers are being developed by the community.

A range of training materials developed by IOSN and different organizations on FOSS are also accessible from the IOSN web portal, again voluntarily translated to different languages by the community. IOSN's guide on using the Linux desktop has been translated into Spanish and Portuguese by IOSN members. It is also made available in different formats – PDF, HTML and wiki,<sup>10</sup> and on a CD-ROM for wide distribution.

A number of volunteers manage specific themes and country pages. The FOSS Education theme, for example, is managed by an Australian and all country pages are managed by volunteers from the respective countries. A full-time CoP coordinator/facilitator is also present to ensure smooth day-to-day running of the CoP.

IOSN takes advantage of Plone's multi-language support to develop locally-relevant content. The Iran FOSS resource page<sup>11</sup> is an example of an active locally-managed site that provides country-specific information on organizations working on FOSS, national FOSS projects, news, and events in Farsi and English. The country pages not only offer resources and network FOSS users, but also build an active base for support, and research and development for FOSS in their respective countries.

IOSN opens doors to community members by providing greater exposure to activities and events such as Software Freedom Day and upcoming workshops, meeting and conferences. IOSN also offers opportunities to apply for grants that fund FOSS development.<sup>12</sup>

## How people find out about IOSN?

To develop a CoP, people first need to know that it exists and be convinced that visiting and/or joining the CoP is beneficial.

Currently, IOSN has over 1,500 registered members. Visitors to the IOSN web portal average a thousand per day, hitting a peak of 20,000 in a single day.

A number of effective tools are used to promote what IOSN has to offer and to increase the number of members and contributors to the IOSN community.

<sup>9</sup> <http://www.iosn.net/foss/foss-general-primer/>

<sup>10</sup> A wiki is a website or similar online resource that allows users to add and edit content collectively.

<sup>11</sup> <http://www.iosn.net/country/iran>

<sup>12</sup> More information on IOSN's competitive grant scheme in the Pacific Island Countries can be found at <http://www.iosn.net/country/pacific-islands/usp-microgrants/>

## Announcements and electronic mailing lists

News, events and resources on FOSS are posted on the web portal. At the same time, they are sent to a number of FOSS- and ICT-related electronic mailing lists<sup>13</sup> to introduce potential visitors to IOSN, and remind and re-engage existing members. IOSN also submits news to the main FOSS community news sites such as Newforge.net.

## RSS feeds

RSS (Rich Site Summary or Really Simple Syndication) is a handy way to be notified of new information posted on one's favourite websites. It is easily identified as an orange rectangle - **RSS**. The RSS provides brief descriptions of website content together with a link to the complete version of the content. This is delivered as an RSS feed.

Through the use of RSS feeds, IOSN delivers web updates to users on their desktops or web browsers such as Internet Explorer and Mozilla Firefox.<sup>14</sup>

Other websites can also publish and share information about IOSN through RSS feeds. Incomunicado<sup>15</sup> and Planet MYOSS: The Malaysian Open Source Community Speaks,<sup>16</sup> for example, feature IOSN news through RSS feeds.

Similarly, the IOSN web portal receives RSS of numerous related websites to alert the IOSN community about latest FOSS news around the world.

## How IOSN members participate?

To build up a CoP, visitors and members need to not only be continually convinced of its relevance and usefulness, but also see the benefits of participating and contributing to the CoP knowledge base.

Since the launch of the IOSN web portal in 2003, there have been over 1.2 million pages contributed by almost 150,000 individuals.

There are different ways in which members can contribute to the IOSN portal - from simple comments, documents, images and news items to more complex contributions such as forums, polls, blogs and wikis.

## Comment

Perhaps the easiest way to encourage members to participate in a CoP for the first time is to have a simple commenting facility. The FOSS community at-large can add comments to news items and documents by completing and submitting an online form.

<sup>13</sup> An electronic mailing list (also called listserv, email discussion group or forum) allows the moderator and subscriber of the list to send an email to other subscribers. A list is often organized around an area of interest.

<sup>14</sup> An RSS reader is required to view and organize the RSS feeds. Find out more about RSS at

[http://en.wikipedia.org/wiki/RSS\\_%28file\\_format%29](http://en.wikipedia.org/wiki/RSS_%28file_format%29)

<sup>15</sup> <http://incomunicado.info/aggregator/sources>

<sup>16</sup> <http://myoss.bytebot.net/>

## Contribute

Similarly, FOSS practitioners interested in contributing documents, links, images, news items and events announcements to particular sections of the web portal can complete and submit an online form.

## Discuss

IOSN members can establish and contribute to discussion forums organized around a specific topic. Archives of the mailing lists are available and searchable. IOSN, for example, runs a mailing list, "iosn-general", with archives online.<sup>17</sup> Another example is a discussion forum for Linux users set up by the Myanmar group on IOSN.<sup>18</sup>

## Poll

Online polls and surveys are increasingly familiar to many users. A straightforward poll may ask a single question with multiple choice answers. The Malaysian Open Source Group (MyOSS) have used polls to plan their monthly face-to-face meet ups.<sup>19</sup>

## Blog

Blogging, or the use of a personal web space to record one's thoughts, ideas and experiences, has grown rapidly in recent years as people have discovered the ease of online publishing. Communities can create personal spaces where individual members are free to maintain their own blog. IOSN offers the FOSS CoP personal space for blogging.<sup>20</sup>

## Wiki

Developing or converting content as wikis enables members to add and edit content, and track revisions and comments from others. The FOSS country reports, for example, are developed in wiki form.<sup>21</sup>

Despite the availability of these tools to encourage participation, a critical question is "what's in it for the contributor?" Most contributors are looking for some form of recognition or publicity by seeing their work published online and their name associated with a well-established CoP.

Contributors to IOSN are acknowledged by their username with a link to their profile. Content developed by the IOSN community are also published on other websites. IOSN uses the Creative Commons Attribution License<sup>22</sup> whereby other users may copy, distribute and

display the original material and derivative works as long as the original copyright is cited.

IOSN's contributions have been translated and published in different formats. Some examples have already been illustrated previously. Others worth mentioning include the e-Primers on *FOSS: Localization* showcased on other websites in HTML<sup>23</sup> and wiki<sup>24</sup> forms; and details of IOSN's key event – the FOSS Asia-Pacific (FOSSAP) consultation on Wikipedia.<sup>25</sup> These recognitions provide contributors with the incentives to continue contributing and sharing content.

## How IOSN members interact?

Contributors and managers of specific themes or country pages who have recently joined the open source movement have commented that the IOSN web portal is a key FOSS resource and is the focal point for many FOSS practitioners since it provides them a web presence for their activities.

IOSN's web portal has encouraged community groups to organize local activities based around FOSS. Forums hosted on IOSN bring together enthusiasts and groups to pool knowledge and resources. In Malaysia, individuals have come together to form MyOSS.

In some cases, individuals and groups have used the IOSN model to develop CoPs outside of IOSN. The FOSS Foundation of Pakistan is an example.<sup>26</sup>

Another instance of interaction is the development of the user guide on using the Linux desktop,<sup>27</sup> written collaboratively by IOSN community members and posted online for use by all.

To consolidate the sense of community, it is useful to organize face-to-face events. Online platforms and tools are valuable for having discussions before and after the events. The IOSN web portal features the agenda and logistics for the FOSSAP 2004 and 2005 events, as well as photos and blogs.<sup>28</sup> Another example is the MyOSS meet up days.<sup>29</sup>

## Conclusion: Lessons learned

CoPs bring like-minded people and organizations together who share a common purpose. They foster learning by sharing information and nurturing knowledge, and they promote interaction and common understanding. They are also an avenue for individual's recognition among peers.

The IOSN web portal provides a virtual collaborative workspace for people interested in FOSS to network,

<sup>17</sup> More information on "iosn-general" mailing list at <<http://lists.apdip.net/mailman/listinfo/iosn-general/>>

<sup>18</sup> <http://www.iosn.net/country/myanmar/MMLUGFORUMS/>

<sup>19</sup> <http://www.iosn.net/country/malaysia/organizations/myoss/>

<sup>20</sup> Examples from selected bloggers on IOSN:

<http://www.iosn.net/Members/kaeru/blog/>;

<http://www.iosn.net/Members/ken/blog/>;

<http://www.iosn.net/Members/platypus/blog/>; and

<http://www.iosn.net/events/fossap-2005/blog>

<sup>21</sup> <http://www.iosn.net/country-reports/>

<sup>22</sup> <http://creativecommons.org/licenses/>

<sup>23</sup> <http://www.knowprose.com/fosslocal>

<sup>24</sup> [http://en.wikipedia.org/wiki/Internationalization\\_and\\_localization](http://en.wikipedia.org/wiki/Internationalization_and_localization)

<sup>25</sup> <http://en.wikipedia.org/wiki/Fossap>

<sup>26</sup> <http://www.fossfp.org/>

<sup>27</sup> <http://www.iosn.net/training/end-user-manual/>

<sup>28</sup> [http://www.iosn.net/events/fossap-2005/index\\_html](http://www.iosn.net/events/fossap-2005/index_html)

<sup>29</sup> <http://www.iosn.net/country/malaysia/organizations/myoss>



partner on various initiatives and create new FOSS knowledge. IOSN also provides the exposure and recognition for FOSS advocates, practitioners and initiatives.

IOSN has spurred new FOSS-related CoPs in countries of the Asia-Pacific and worldwide. Some lessons learned from managing and facilitating the IOSN CoP can be summarized as follows:

- Identify clear objectives for the CoP; it is important that members and visitors are clear about the purpose of the CoP.
- Select suitable platforms, CMS and tools that meet your CoP's needs; migrate to a new CMS, if necessary.
- Appoint a coordinator or facilitator for the CoP; s/he is pivotal to the effective functioning of a CoP, especially for quality control and encouraging members' participation; a national focal point is also essential for country-specific sections.
- Use a range of tools and technologies to encourage community members to contribute and share information and experiences.
- Know your community members, i.e. their work, needs, interests, areas of expertise, and offer tailored products and services to meet members' needs.
- Respond promptly to questions and requests for technical support.
- Promote your CoP both online and offline.
- Acknowledge and promote community members' contributions.
- Use an Open Content License such as one provided by the Creative Commons to implicitly give permissions to reproduce (or modify) materials.
- Strengthen the sense of community through face-to-face exchanges.

~ Christine Apikul

## Additional reading

IOSN Web Portal <<http://www.iosn.net>>

UNDP-APDIP. 2005. *Connecting Communities – The International Open Source Network: A case study* <<http://www.apdip.net/news/iosncasestudy>>

e-Learning Centre's Library: Learning Communities/Communities of Practice.  
<<http://www.e-learningcentre.co.uk/eclipse/Resources/communities.htm>>

Kondratova, I. and Goldfarb, I. 2004. *Virtual Communities of Practice: Design for Collaboration and Knowledge Creation*. Ottawa: National Research Council of Canada. <[http://iit-iti.nrc-cnrc.gc.ca/publications/nrc-47157-print\\_e.html](http://iit-iti.nrc-cnrc.gc.ca/publications/nrc-47157-print_e.html)>

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<[http://www.elearningeuropa.info/index.php?page=doc&doc\\_id=1483&doclng=1#5](http://www.elearningeuropa.info/index.php?page=doc&doc_id=1483&doclng=1#5)>