

AGRICULTURE AND DEVELOPMENT SEMINAR SERIES (ADSS) HIGHLIGHTS

COMMUNITIES OF PRACTICE OR COMMUNITIES OF CHAMPIONS: SHIFTS IN KNOWLEDGE MANAGEMENT TO ADDRESS NATURAL RESOURCES MANAGEMENT IMPERATIVES

Paper presented by Dr. Alexander G. Flor during the ADSS held July 07, 2009

Knowledge Management: An Overview

Historically speaking, the College of Development Communication (CDC), University of the Philippines Los Baños (UPLB) was the first institution to formally offer a regular course on knowledge management (KM) in the country. On the other hand, SEAMEO SEARCA was the first international agency in Southeast Asia to have a KM program. The focus of both institutions is aimed at KM for development (KM4D).

Leibmann (1997) defined KM as a nascent discipline that treats intellectual capital as a manageable asset. Its ultimate goal is the sharing and re-use of knowledge. In the past, the concept of knowledge sharing was not talked about particularly because knowledge is not something one creates or generates; it is something discovered.

However, the discovery of new knowledge is often left to scientists and researchers; but as future KM practitioners, one should not stop at the discovery stage because it is the sharing and re-use that is more important. In KM, the two types of knowledge comprise the knowledge base. These are 1) undocumented or tacit knowledge and 2) explicit knowledge captured in documents.

When looked at from an organizational perspective, KM has three prerequisites. These are 1) technology including hardware, software, and infrastructure; 2) documentation of workflows; and 3) a conducive organizational structure for the sharing and re-use of knowledge. In today's world, the most relevant ICT application is KM.

The Los Baños KM brand caters to the development sector. It adheres to the principle that sectoral knowledge may be leveraged within the development assistance community to address specific themes. Sectors refer to agriculture, education, among others while the theme may range from governance, gender, and environmentalism to name a few.

In the past, global knowledge resources have been used to address social problems. One specific case where KM was used is the 2002 SARS outbreak. Experts from the World Health Organization as well as local experts from the Philippine Department of Health and other country equivalents combined their expertise in order to understand the said disease.

For the purposes of this presentation, this paper is based on the natural resource management (NRM) sector where stakeholders pursue agenda and interests that may undermine the innate benefits of knowledge sharing and re-use.

Understanding the 2008 Global Food Crisis

Last year, Filipinos feared that there would not be enough rice to feed the country's population. It was a global fear and some countries even faced worse conditions. In Haiti, people were becoming violent because of the prolonged crisis.

Some FAO experts enumerated reasons behind the 2008 global food crisis. These include 1) poor harvests in major producing countries linked to extreme weather events, 2) decline of food stocks at the lowest level since 1970s, and 3) high oil and energy prices raising cost of inputs. All these may be attributed to natural phenomena.

However, there were also costs identified which are unrelated to any natural phenomena. These are 1) lack of investment in the agricultural sector, 2) subsidized biofuels production substituting food production, 3) speculative transactions that hedge future markets, and 4) imposition of export restrictions leading to hoarding and panic buying.

These causes may be attributed to societal entropy. Entropy is the tendency of all systems (environmental, social, and all other types of system) to break down. Primarily, the cause of entropy is wrong information. The founder of cybernetics said that entropy could be combated by information. Thus, the term "negentropy" is tantamount to information.

The question now is: can we leverage the existing global knowledge to address such social issues? Unfortunately, we still do not have enough knowledge and technology at our disposal.

One of the most popular KM models that may be used as a possible intervention is the *Community of Practice (CoP)*. It refers to a group of people sharing a common interest in a specific area of knowledge; a focused social network. It predates the very first manifestation of the Internet. The process of social learning occurs thru collaboration, sharing of ideas, finding solutions, and building innovations.

KM Model for NRM in SEAsia (Sompong and Flor, 2007)

Funded by SEARCA's Seed Fund for Research and Training (SFRT), this study identified issues associated with CoP. Findings show that barriers in language, culture, and incentives exist within the region.

CoPs are usually employed to generate solutions to agricultural problems; farmers engage in information and knowledge exchange. However, the CoP approach fails when it is applied to large-scale societal crises because it stops short from mobilizing sectors and does not go beyond information and knowledge sharing. CoPs should disseminate information to correct unsound policies, uninformed decisions, unwarranted practices, and inaccurate predictions and forecast.

CoP was a progression from what was then known as Communities of Interest (CoI). At the time when CoI was being applied, Internet usage was mainly for File Transfer Protocols (FTP) and possibly exchange of emails. CoI later evolved into CoP after the former has shown potential in solving certain problems.

Indeed, many CoPs offer solutions but solutions are not implemented. CoPs should engage in advocacy. Thus, CoPs should not just delve into the policy process; rather, it should progress into communities of champions (CoCs).

Since the Southeast Asian region is highly agricultural, it is fitting to focus KM's role in this respect. Electronic platforms dedicated to agriculture already exist. However, e-Agriculture problems often require policy interventions, not technological solutions. We have fully dealt out the technology card by engaging into GMO research and precision agriculture. What we need are CoCs that can mobilize the sector through information, knowledge, and advocacy.

Some of the most popular CoCs include the following:

- **Managing for development results (MfDR)** is MfDR is a management approach to improve planning, monitoring, and evaluating operations in order to achieve and sustain intended development results. MfDR aims to help managers answer three key questions, namely:
 - Are we being effective?
 - How do we know we are?
 - How do we use this information to determine future action?
(<http://www.adb.org/MfDR>)
- **e-Agriculture** is an emerging field focusing on the enhancement of agricultural and rural development through improved information and communication processes. More specifically, e-Agriculture involves the conceptualization, design, development, evaluation and application of innovative ways to use information and communication technologies (ICTs) in the rural domain, with a primary focus on agriculture. (<http://www.e-agriculture.org>)
- **Telecentre.org** is a global community of people and organizations committed to increasing the social and economic impact of grassroots telecentres. Working together, we provide the resources that telecentres need to succeed: locally relevant content and services, support and learning opportunities, and networks that help telecentre activists connect to each other. With these things in hand, tens of thousands of telecentres will be in a better position to enrich the communities they serve. (<http://www.telecentre.org>)
- **Solution Exchange**, an initiative of the United Nations Agencies in India, is harnessing the power and passion of Communities of Practice to help attain India's development objectives and the Millennium Development Goals by connecting the nation's development professionals and enabling them to share, learn from each other, and collaborate.

Today, eleven Communities are up and running: Maternal and Child Health, Water, Gender, Food & Nutrition Security, AIDS, Decentralization, Education, Work and Employment, Microfinance, ICT for Development, and Disaster Management. (<http://www.solutionexchange-un.net.in>)

- **BIOMODD** is an interactive and collaborative art project that integrates nature and technology. The aim of the project is to create an art installation in which different forms of plant life coexist with a fully functioning computer system. This system is built almost entirely from recycled computers, and the excess heat of the working electronics stimulates plant growth. Visitors can interact with the art installation by playing a multiplayer computer game that runs on this hybrid system. Conceived by Belgian artist Angelo Vermeulen and first developed in the USA, the idea is now being expanded and relaunched in the Philippines. (<http://www.biomodd.net>)

Many people look at the Internet as a physical structure; a conglomeration of computers and their link all over the world; while the World Wide Web is its content. But where are these things taking us? The World Systems Theory states that the world is but one organism; thus, the Net could be an "extra-biological evolution." Vint Cerf, a co-founder of Internet said during the 2005 web awards, "We all created the Internet."

Rural Mobile Communities

Considered as the ultimate CoC in the NRM sector, the Rural Mobile Communities refers to rural people making use of third generation mobile phones linked together to create a venue for knowledge sharing and re-use.

For the past decade, the main challenge is that there is no first mile/last mile linkage. The ICT use in rural areas has not reached enough numbers to meet agricultural productivity for which it was originally aimed at. Studies show that rural people rely on the intervention of agencies promoting the use of technologies introduced. Moreover, the universally accepted medium for knowledge sharing is still non-existent.

Apple i-phone has potentially solved this problem. Twenty years ago, it seemed impossible that ordinary people would find it a necessity to have cellular phones. But at present, almost everyone owns a mobile phone. In the next years or so, the cost of third generation mobile phones (with enhanced features) will go down. As stated by Moore's Law, the speed of CPU doubles every 18 months. And so it goes true for other commodities.

The medium has a potential to produce user-generated content that may be used by farmers to meet the goal of knowledge sharing and re-use. It is advantageous because it:

- Allows greater access and interactivity,
- Is non-intimidating and user-friendly, and
- Encourages user-generated content.

Under the Rural Mobile Communities, it is predicted that in the future, mobile phones will:

- Spell death of the telecenters and drive the final nail to the one laptop per child theory;
- Solve the first mile/last mile link challenge;
- Help create a critical mass (critical mass is created when 11-13% of target population engage in mutually reinforcing behavior);
- Lead to collaboration and networking and can possibly render intermediaries unnecessary;
- Efficiently address issues such as language medium, auto-translations, relevance, and lack of local knowledge;
- Provide e-agriculture community with an effective Web 2.0 platform

In conclusion, a significant part of NRM sector's future lies in CoCs and e-Advocacy, mobile device, and online mobile communities.

Open Forum:

In relation to KM, what will be the future of IPR and copyright? Are they going to be irrelevant later on?

The jury on the issue is still out. There is still no firm decision on how to go about this. KM is based on the assumption that is applied on an organization where knowledge sharing is conducive. Once knowledge assets are considered as something that generates advantage, then the problem starts. This concept is particularly difficult to push especially in private sectors. However, there are higher priorities if we look through the lens of KM for development.

How will you earn on KM?

On an organizational context, using general KM means applying expertise to develop products and save on other products. If KM is properly used, when human resources leave an organization, the knowledge he has acquired through the years of his stay should remain with the company. His knowledge assets then becomes the company's properties -- it is something that is managed to increase the 'bottom line.'

Have you captured the readiness of rural mobile users in using the device as a medium for KM?

Many papers have been written about the topic; microstudies also exist. Many success stories have been documented in Ghana. In 2005, Cambodia was the first country where the number of mobile users outnumbered landline owners.